

**PART 2**  
**OF THE**  
**AUGUST 1, 1996**  
**ADMINISTRATIVE REGISTER**

**Due to the size of the August 1, 1996, Administrative Register, it could not be stapled as one document, but is included in three separate stapled documents. This section is Part 2 of the August 1, 1996 Administrative Register.**





There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes including provisions that apply to hazardous waste containment facilities. The changes are necessary to maintain consistency between state and federal programs. Additions have been made to clarify the applicability of the standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. Agencies that manage hazardous waste will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 34:080. General financial requirements.

RELATES TO: KRS 224.10, 224.40, 224.46, 40 CFR 264 Subpart

H

STATUTORY AUTHORITY: KRS 224.46-505, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-505 and 224.46-520 and to establish general financial

requirements. Additionally, this administrative regulation supersedes and replaces the following: 401 KAR 34:140, Wording of the instruments for trust funds; 401 KAR 34:144, Wording of the instrument for a surety bond guaranteeing payment into a trust fund; 401 KAR 34:148, Wording of the instrument for a surety bond guaranteeing performance; 401 KAR 34:152, Wording of the instrument for a letter of credit; 401 KAR 34:156, Wording of the instrument for a certificate of insurance; 401 KAR 34:159, Wording of the instrument for financial test on closure or postclosure care; 401 KAR 34:162, Wording of the instrument for financial test on liability coverage and closure or postclosure care; 401 KAR 34:165, Wording of the instrument for a corporate guarantee; 401 KAR 34:168, Wording of the instrument for a cash account or certificate of deposit; 401 KAR 34:172, Wording of the instrument for a liability endorsement; and 401 KAR 34:176, Wording of the instrument for a certificate of liability insurance.

Section 1. Financial Requirement Definitions. The definitions previously found in this section have been relocated to the definition administrative regulation for this chapter, which is 401 KAR 34:005. ~~[(1) When used in this administrative regulation and 401 KAR 34:000 to 401 KAR 34:130, the following terms shall have the meanings indicated:~~

~~(a) "Closure plan" means the plan for closure prepared in accordance with the requirements of Section 3 of 401 KAR 34:070.~~

~~(b) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with Section 1(1), (2) and (3) of 401 KAR 34:000.~~

~~(c) "Current postclosure cost estimate" means the most recent of the estimates prepared in accordance with Section 1(1), (2) and (3) of 401 KAR 34:100.~~

~~(d) "Parent corporation" means a corporation which directly owns at least fifty (50) percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.~~

~~(e) "Postclosure plan" means the plan for postclosure care prepared in accordance with the requirements of Sections 8 to 11 of 401 KAR 34:070.~~

~~(2) The following terms are used in the specifications for the financial tests for closure, postclosure care and liability coverage. The definitions are intended to assist in the understanding of these administrative regulations and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices:~~

~~(a) "Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.~~

~~(b) "Current assets" means each or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.~~

~~(c) "Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.~~

~~(d) "Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with 40 CFR 144.62(a), (b), and (c).~~

~~(e) "Fiscal year" means a twelve (12) month period for accounting and other financial purposes.~~

~~(f) "Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.~~

~~(g) "Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.~~

~~(h) "Net working capital" means current assets minus current liabilities.~~

~~(i) "Net worth" means total assets minus total liabilities and is~~

equivalent to owner's equity.

(j) "Tangible net worth" means the tangible assets that remain after deducting liabilities; these assets would not include intangibles such as goodwill and rights to patents or royalties.

(3) The terms "bodily injury" and "property damage" do not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. The meanings of the other terms used in the liability insurance requirements are to be consistent with their common meanings within the insurance industry. The definitions of the terms given below are intended to assist in the understanding of these administrative regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage:

(a) "Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

(b) "Legal defence costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

(c) "Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.

(d) "Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature.

(4) "Substantial business relationship" means the extent of a business relationship necessary to make a guarantee contract issued incident to that relationship valid and enforceable. A "substantial business relationship" shall arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the cabinet.]

Section 2. Applicability. (1) The requirements of 401 KAR 34:090 to 401 KAR 34:130 apply to owners and operators of all hazardous waste sites or facilities, except as provided otherwise in this section or in Section 1 of 401 KAR 34:010.

(2) The requirements of 401 KAR 34:100 and 34:110 apply only to owners and operators of:

(a) Disposal facilities;

(b) Waste piles, and surface impoundments from which the owner or operator intends to remove the wastes at closure, to the extent that these sections are made applicable to such facilities in Section 6(1)(b), (2) and (3) of 401 KAR 34:200 and Section 8(2) and (3) of 34:210; [and]

(c) Tank systems that are required under Section 8 of 401 KAR 34:190 to meet the requirements of landfills;

(d) Containment buildings that are required under Section 2 of 401 KAR 34:245 to meet the requirements for landfills; and

(e) Drip pads that are required under Section 6 of 34:285 to meet the requirements for landfills.

(3) States and the federal government are exempt from the requirements of Section 1 of this administrative regulation.

Section 3. General Financial Requirements. (1) This administrative regulation and 401 KAR 34:090 to 401 KAR 34:130 inclusively contain the financial requirements to establish adequate financial responsibility as required by KRS 224.46-520(3) for hazardous waste sites or facilities. A reference to this section is a citation of this administrative regulation and 401 KAR 34:090 to 34:130.

(2) Except as specifically provided in this administrative regulation and 401 KAR 34:090 to 34:130, no variance (Section 2 of 401 KAR 30:020) or other waivers of these financial requirements shall be granted by the cabinet.

Section 4. Financial Instruments. (1) Incorporated herein by

reference are:

(a) Trust Agreement for Closure and Postclosure Assurance, DEP Form 6035A (February 10, 1994);

(b) Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care, DEP Form 6035B (February 10, 1994);

(c) Corporate Guarantee for Closure or Postclosure Care, DEP Form 6035H1 (February 10, 1994);

(d) Letter from Chief Financial Officer to Demonstrate Assurance of Closure or Postclosure Care, DEP Form 6035F (February 10, 1994);

(e) Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care, DEP Form 6035D (February 10, 1994) [with Cover Letter for Letter of Credit];

(f) Escrow Agreement to Demonstrate Closure and/or Postclosure Care, DEP Form 6035J (February 10, 1994) [account];

(g) Hazardous Waste Site or Facility Bond to Demonstrate Closure and/or Postclosure Care, DEP Form 6035I (February 10, 1994);

(h) Performance Bond to Demonstrate Closure and/or Postclosure Care, DEP Form 6035C (February 10, 1994);

(i) Letter from Chief Financial Officer to Demonstrate Liability Coverage or to Demonstrate [liability coverage or] Both Liability Coverage and Assurance of Closure or Postclosure Care, DEP Form 6035G (February 10, 1994);

(j) Corporate Guarantee for Liability Coverage, DEP Form 6035H2 (February 10, 1994);

(k) Hazardous Waste Facility Liability Endorsement, DEP Form 6035K (February 10, 1994);

(l) Hazardous Waste Facility Certificate of Liability Insurance, DEP Form 6035L (February 10, 1994);

(m) Certificate of Insurance for Closure or Postclosure Care, DEP Form 6035E (February 10, 1994);

(n) Irrevocable Standby Letter of Credit To Demonstrate Liability Coverage with Standby Trust Agreement, DEP Form 6035N (February 10, 1994);

(o) Standby Trust Agreement for Letter of Credit Demonstrating Liability Coverage, DEP Form 6035R (February 10, 1994);

(p) Payment Bond to Demonstrate Liability Coverage, DEP Form 6035O (February 10, 1994);

(q) Trust Agreement to Demonstrate Liability Coverage, DEP Form 6035P (February 10, 1994);

(r) Irrevocable Standby Letter of Credit to Demonstrate Liability Coverage, DEP Form 6035Q (February 10, 1994); and

(s) Cover Letter for a Letter of Credit for Closure and/or Postclosure Care, DEP Form 6035S (July 1996).

(2) These forms may be obtained from the Hazardous Waste Branch, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky, 40601, between the hours of 8 a.m. and 4:30 p.m., Monday through Friday. Call (502) 564-6716 for assistance.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments

## ADMINISTRATIVE REGISTER - 605

may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff of the agency will have an increase in their workload in order to get the newly regulated entities regulated.

2. Continuing costs or savings: Once the new entities are processed, there should not be any continuing costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are anticipated to be used for the implementation and enforcement of the regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: No alternatives were considered.

8. Assessment of expected benefits of the administrative regulation: These amendments are consistent with federal requirements and clearly incorporate the forms necessary to demonstrate financial assurance.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and environmental welfare will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap the regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes including provisions applied to the financial requirements of hazardous waste containment sites and landfills. The changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the financial requirements and their applicability. In addition, the regulation has been modified to reflect the requirements of the regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper

management of hazardous waste. Agencies that manage hazardous waste will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

**NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)**

**401 KAR 34:090. Closure financial requirements.**

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 264.142, 264.143

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-505, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-505 and KRS 224.46-520 and to establish closure financial requirements.

Section 1. Cost Estimate for Closure. (1) The owner or operator shall have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in Sections 2 to 6 of 401 KAR 34:070 and applicable closure requirements in Section 9 of 401 KAR 34:180, Section 8 of 401 KAR 34:190, Section 6 of 401 KAR 34:200, Section 8 of 401 KAR 34:210, Section 8 of 401 KAR 34:220, Section 6 of 401 KAR 34:230, Section 8 of 401 KAR 34:240, Section 3 of 401 KAR 34:245, ~~and~~ Sections 2 to 4 of 401 KAR 34:250, and Section 6 of 34:285.

(a) The estimate shall equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation will make closure the most expensive, as indicated by its closure plan (see Section 3(2) of 401 KAR 34:070); and

(b) The closure cost estimate shall be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in Section 1(1)(e) of 401 KAR 34:080.) The owner or operator may use costs for on-site disposal if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(c) The closure cost estimate shall not incorporate any salvage value that may be realized with the sale of hazardous wastes, or nonhazardous wastes if applicable under Section 4(4) of 401 KAR 34:070, facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.

(d) The owner or operator shall not incorporate a zero cost for hazardous wastes, or nonhazardous wastes if applicable under Section 4(4) of 401 KAR 34:070, that might have economic value.

(2) During the active life of the facility, the owner or operator shall adjust the closure cost estimate for inflation within sixty (60) days prior to the anniversary date of the establishment of the financial instrument used to comply with Section 2 of this administrative regulation. For owners and operators using the financial test or corporate guarantee, the closure cost estimate shall be updated for

inflation within thirty (30) days after the close of the firm's fiscal year and before submission of updated information to the cabinet as specified in Section 8(3) of this administrative regulation. The adjustment shall be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business as specified in paragraphs (a) and (b) of this subsection. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(a) The first adjustment shall be made by multiplying the closure cost estimate by the inflation factor. The result shall be the adjusted closure cost estimate.

(b) Subsequent adjustments shall be made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(3) During the active life of the facility, the owner or operator shall revise the closure cost estimate no later than thirty (30) days after the cabinet has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate shall be adjusted for inflation as specified in subsection (2) of this section.

(4) The owner or operator shall keep the following at the facility during the operating life of the facility:

(a) The latest closure cost estimate prepared in accordance with subsections (1) and (3) of this section; and

(b) When this estimate has been adjusted in accordance with subsection (2) of this section, the latest adjusted closure cost estimate.

Section 2. Financial Assurance for Facility Closure. An owner or operator of each facility shall establish financial assurance for closure of the facility. He shall choose from the options as specified in Sections 3 to 9 of this administrative regulation.

Section 3. Closure Trust Fund. (1) An owner or operator may satisfy the requirements of this administrative regulation by establishing a closure trust fund which conforms to the requirements of this section and submitting an originally signed duplicate of the trust agreement to the cabinet. An owner or operator of a new facility shall send the originally signed duplicate of the trust agreement to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, or disposal. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(2) The Trust Agreement for Closure and Postclosure Assurance, including the formal certification of acknowledgment, shall be executed on DEP Form 6035A ~~(the form)~~ incorporated by reference in Section 4 of 401 KAR 34:080. Schedule A of the Trust Agreement for Closure and Postclosure Assurance shall be updated within sixty (60) days after a change in the amount of the current closure cost estimate covered by the agreement.

(3) Payments to the trust fund shall be made annually by the owner or operator over the term of the initial permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the closure trust fund shall be made as follows:

(a) For a new facility, as defined in 401 KAR 34:005 ~~[30:010]~~, the first payment shall be made before the initial receipt of hazardous waste for treatment, storage, or disposal. A receipt from the trustee for this payment shall be submitted by the owner or operator to the cabinet before this initial receipt of hazardous waste. The first payment shall be at least equal to the current closure cost estimate (see Section 1 of this administrative regulation), except as provided in Section 10 of this administrative regulation, divided by the number of years in the pay-in period. Subsequent payments shall be made no

## ADMINISTRATIVE REGISTER - 607

later than thirty (30) days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{NEXT payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

Where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(b) If an owner or operator established a trust fund as specified in Section 3 of 401 KAR 35:090, and the value of that trust fund is less than the current closure cost estimate when a permit is awarded for the facility, the amount of the current closure cost estimate still to be paid into the trust fund shall be paid in over the pay-in period as defined in this subsection. Payments shall continue to be made no later than thirty (30) days after each anniversary date of the first payment made pursuant to 401 KAR Chapter 35. The amount of each payment shall be determined by this formula:

$$\text{NEXT payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

Where CE is the current closure cost estimate, CV is the current value of the trust fund and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the closure cost estimate at the time the fund is established. However, he shall maintain the value of the fund at no less than the value the fund would have been if annual payments were made as specified in subsection (3) of this section.

(5) If the owner or operator establishes a closure trust fund after having used one (1) or more alternate mechanisms specified in this administrative regulation or in 401 KAR 35:090, his first payment shall be at least the amount that the fund would have contained if the trust fund were established initially and annual payments made according to specifications of this section and Section 3 of 401 KAR 35:090, as applicable.

(6) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within sixty (60) days of the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the cabinet for release of the amount in excess of the current closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this administrative regulation for all or part of the trust fund, he may submit a written request to the cabinet for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(9) Within sixty (60) days after receiving a request from the owner or operator for release of funds as specified in subsections (7) and (8) of this section, the cabinet shall instruct the trustee to release to the owner or operator such funds as the cabinet specifies in writing.

(10) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the cabinet. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the

facility over its remaining operating life. Within sixty (60) days after receiving bills for partial or final closure activities, the cabinet shall instruct the trustee to make reimbursements in those amounts as the cabinet specifies in writing, if the cabinet determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the cabinet has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with Section 12 of this administrative regulation, that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the cabinet does not instruct the trustee to make such reimbursements, he shall provide the owner or operator with a detailed written statement of reasons.

(11) The cabinet shall agree to termination of the trust when:

(a) An owner or operator substitutes alternate financial assurance for closure as specified in this section; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation.

Section 4. Surety Bond Guaranteeing Payment into a Closure Trust Fund. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining a surety bond which conforms to the requirements of this section and submitting the bond to the cabinet. An owner or operator of a new facility shall submit the bond to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond shall be effective before this initial receipt of hazardous waste. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The Finance Guarantee Bond to Demonstrate Closure and/or Postclosure Care ~~[surety bond]~~ shall be executed on DEP Form 6035B [the form] incorporated by reference in Section 4 of 401 KAR 34:080.

(3) The owner or operator who uses a Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care ~~[surety bond]~~ to satisfy the requirements of this administrative regulation shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder shall be deposited by the surety directly into the standby trust fund in accordance with instructions from the cabinet. This standby trust fund shall meet the requirements specified in Section 3 of this administrative regulation, except that:

(a) An originally signed duplicate of the trust agreement shall be submitted to the cabinet with the Finance Guarantee Bond to Demonstrate Closure and/or Postclosure Care ~~[surety bond]~~; and

(b) Unless the standby trust fund is funded pursuant to the requirements of this administrative regulation, the following are not required by these administrative regulations:

1. Payments into the trust fund as specified in Section 3 of this administrative regulation;

2. Updating of Schedule A of the Trust Agreement for Closure and Postclosure Assurance ~~[(see Section 1 of 401 KAR 34:140)]~~ to show current closure cost estimates;

3. Annual valuations as required by the Trust Agreement for Closure and Postclosure Assurance; and

4. Notices of nonpayment as required by the Trust Agreement for Closure and Postclosure Assurance.

(4) The bond shall guarantee that the owner or operator will:

(a) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(b) Fund the standby trust fund in an amount equal to the penal sum within fifteen (15) days after an order to begin final closure issued by the cabinet becomes final, or within fifteen (15) days after

## ADMINISTRATIVE REGISTER - 608

an order to begin final closure is issued by a circuit court or other court of competent jurisdiction pursuant to KRS 224.46-520, or within fifteen (15) days after issuance of a notice of termination of the permit pursuant to 401 KAR Chapter 38; or

(c) Provide alternate financial assurance as specified in this administrative regulation and obtain the cabinet's written approval of the assurance provided, within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice of cancellation of the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care [bond] from the surety.

(5) Under the terms of the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care [bond], the surety shall become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond shall be in an amount at least equal to the amount of the current closure cost estimate, except as provided in Section 10 of this administrative regulation.

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the penal sum, the owner or operator within sixty (60) days after the increase, shall either cause the penal sum of the bond to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the cabinet.

(8) Under the terms of the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care [bond], the surety may cancel the bond by sending a notice of cancellation by certified mail to the owner or operator and to the cabinet. Cancellation shall not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by return receipt.

(9) The owner or operator may cancel the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care if the cabinet has given prior written consent. The cabinet shall provide such written consent when:

(a) An owner or operator substitutes alternate financial assurance for closure as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation. [The owner or operator may cancel the bond if the cabinet has given prior written consent based on the cabinet's receipt of evidence of alternate financial assurance as specified in this administrative regulation.]

Section 5. Surety Bond Guaranteeing Performance of Closure. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining a surety bond which conforms to the requirements of this section and by submitting the Performance Bond to Demonstrate Closure and/or Postclosure Care [bond] to the cabinet. An owner or operator of a new facility shall submit the Performance Bond to Demonstrate Closure and/or Postclosure Care [bond] to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond shall be effective before this initial receipt of hazardous waste. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The Performance Bond to Demonstrate Closure and/or Postclosure Care [surety-bond] shall be executed on DEP Form 6035C [the form] incorporated by reference in Section 4 of 401 KAR 34:080.

(3) The owner or operator who uses a Performance Bond to Demonstrate Closure and/or Postclosure Care [surety-bond] to satisfy the requirements of this administrative regulation shall also establish

a standby trust fund. Under the terms of the Performance Bond to Demonstrate Closure and/or Postclosure Care [bond], all payments made thereunder shall be deposited by the surety directly into the standby trust fund in accordance with the instructions of the cabinet. This standby trust shall meet the requirements specified in Section 3 of this administrative regulation, except that:

(a) An originally signed duplicate of the Trust Agreement for Closure and Postclosure Assurance shall be submitted to the cabinet with the Performance Bond to Demonstrate Closure and/or Postclosure Care [surety-bond]; and

(b) Unless the standby trust fund is funded pursuant to the requirements of this administrative regulation, the following are not required by these administrative regulations:

1. Payments into the trust fund as specified in Section 3 of this administrative regulation;

2. Updating of Schedule A of the Trust Agreement for Closure and Postclosure Assurance ~~(see 401 KAR 34:140)~~ to show current closure cost estimates;

3. Annual valuations as required by the Trust Agreement for Closure and Postclosure Assurance; and

4. Notices of nonpayment as required by the Trust Agreement for Closure and Postclosure Assurance.

(4) The bond shall guarantee that the owner or operator shall:

(a) Perform final closure in accordance with the closure plan and other requirements in the permit for the facility whenever required to do so; or

(b) Provide alternate financial assurance as specified in this administrative regulation and obtain the cabinet's written approval of the assurance provided, within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice of cancellation of the Performance Bond to Demonstrate Closure and/or Postclosure Care [bond] from the surety.

(5) Under the terms of the Performance Bond to Demonstrate Closure and/or Postclosure Care [bond], the surety shall become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to KRS 224.46-520 that the owner or operator has failed to perform final closure in accordance with the approved closure plan and other permit requirements when required to do so, under the terms of the Performance Bond to Demonstrate Closure and/or Postclosure Care [bond] the surety shall perform final closure as guaranteed by the bond or shall deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the Performance Bond to Demonstrate Closure and/or Postclosure Care [bond] shall be in an amount at least equal to the amount of the current closure cost estimate.

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the penal sum of the bond, the owner or operator, within sixty (60) days after the increase, shall either cause the penal sum of the bond to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the cabinet.

(8) Under the terms of the Performance Bond to Demonstrate Closure and/or Postclosure Care [bond], the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the cabinet. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by the return receipts.

(9) The owner or operator may cancel the Performance Bond to Demonstrate Closure and/or Postclosure Care [bond] if the cabinet has given prior written consent. The cabinet shall provide such written consent when:



(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation.

(10) The surety shall not be liable for deficiencies in the performance of closure by the owner or operator after the cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation.

Section 6. Closure Letter of Credit. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining an irrevocable standby letter of credit which conforms to the requirements of this section and by submitting the letter to the cabinet. An owner or operator of a new facility shall have submitted the letter of credit to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, or disposal. The letter of credit shall be effective before the initial receipt of hazardous waste. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(2) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ shall be executed on DEP Form 6035D ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080. The owner or operator may use his own document, provided the language is identical to that specified in DEP Form 6035D. However, the Trust Agreement for Closure and Postclosure Assurance required to be filed with the letter of credit shall be executed on DEP Form 6035A ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080.

(3) An owner or operator who uses the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[a letter of credit]~~ to satisfy the requirements of this administrative regulation shall also establish a standby trust fund. Under the terms of the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~, all amounts paid pursuant to a draft by the cabinet shall be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the cabinet. The standby trust fund shall meet the requirements of the trust fund specified in Section 3 of this administrative regulation, except that:

(a) An originally signed duplicate of the Trust Agreement for Closure and Postclosure Assurance shall be submitted to the cabinet with the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~; and

(b) Unless the standby trust fund is funded pursuant to the requirements of this administrative regulation, the following are not required by these administrative regulations:

1. Payments into the trust fund as specified in Section 3 of this administrative regulation;

2. Updating the Schedule A of the Trust Agreement for Closure and Postclosure Assurance to show current closure cost estimates;

3. Annual valuations as required by the Trust Agreement for Closure and Postclosure Assurance; and

4. Notices of nonpayment as required by the Trust Agreement for Closure and Postclosure Assurance.

(4) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ shall be accompanied by a letter from the owner or operator referring to the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ by number, issuing institution, and date, and providing the following information: the EPA identification number, name, and address of the facility, and the amounts of funds assured for closure of the facility by the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~.

(5) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ shall be irrevocable and issued for

a period of at least one (1) year. The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ shall provide that the expiration date will be automatically extended for a period of at least one (1) year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the cabinet by certified mail of a decision not to extend the expiration date. Under the terms of the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~, the 120 days shall begin on the date when both the owner or operator and the cabinet have received the notice, as evidenced by the return receipts.

(6) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ shall be issued for at least the amount of the current closure cost estimate except as provided in Section 10 of this administrative regulation.

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within sixty (60) days of the increase, shall either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the adjusted closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the cabinet.

(8) Following a final administrative determination pursuant to KRS 224.46-520 that the owner or operator has failed to perform final closure in accordance with the approved closure plan and other permit requirements when required to do so, the cabinet may draw on the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~.

(9) If the owner or operator does not establish alternate financial assurance as specified in this administrative regulation and obtain written approval of such alternate assurance from the cabinet within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice from the issuing institution that it has decided not to extend the letter of the credit beyond the current expiration date, the cabinet shall draw on the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~. The cabinet may delay the drawing if the issuing institution grants an extension of the term of credit. During the last thirty (30) days of any such extension, the cabinet shall draw on the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ if the owner or operator has failed to provide alternate financial assurance as specified in this administrative regulation and obtain written approval of such assurance from the cabinet.

(10) The cabinet shall return the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ to the issuing institution for termination when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation.

Section 7. Closure Insurance. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining closure insurance which conforms to the requirements of this section and by submitting a certificate of such insurance to the cabinet. An owner or operator of a new facility shall submit the certificate of insurance to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance shall be effective before this initial receipt of hazardous waste. Except as KRS 304.11-030 provides otherwise. Each insurance policy providing primary coverage shall be issued by an insurer who is authorized to transact insurance in Kentucky. Each insurance policy providing excess coverage shall be issued by an

insurer who is authorized to transact insurance in a state.

(2) The Certificate of Insurance for Closure or Postclosure shall be executed on DEP Form 6035E ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080.

(3) The closure insurance policy shall be issued for a face amount at least equal to the current closure cost estimate, except as provided in Section 10 of this administrative regulation. ~~[The term "face amount" means the total amount the insurer is obligated to pay under the policy.]~~ Actual payments by the insurer shall not change the face amount, although the insurer's future liability shall be lowered by the amount of the payments.

(4) The closure insurance policy shall guarantee that funds will be available to close a facility whenever final closure occurs. The policy shall also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the cabinet to such party or parties as the cabinet specifies.

(5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the cabinet. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within sixty (60) days after receiving bills for closure activities, the cabinet shall instruct the insurer to make reimbursements in such amounts as the cabinet specifies in writing, if the cabinet determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the cabinet has reason to believe that the maximum cost of closure over the remaining life of the facility shall be significantly greater than the face amount of the policy, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with Section 12 of this administrative regulation, that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the cabinet does not instruct the trustee to make such reimbursements, he shall provide the owner or operator with a detailed written statement of reasons.

(6) The owner or operator shall maintain the policy in effect until the cabinet consents to termination of the policy by the owner or operator as specified in subsection (10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this administrative regulation, shall constitute a significant violation of these administrative regulations, warranting such remedy as the cabinet deems necessary. Such violation shall be deemed to begin upon receipt by the cabinet of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer provided such consent is not unreasonably refused.

(8) The policy shall provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the cabinet. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the cabinet and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy shall remain in effect in the event that on or before the date of expiration:

(a) The cabinet deems the facility abandoned; or

(b) The permit is terminated or revoked or a new permit is denied;

or

(c) Closure is ordered by the cabinet or a circuit court or other court of competent jurisdiction; or

(d) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(e) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within sixty (60) days of the increase, shall either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the cabinet.

(10) The cabinet shall give written consent to the owner or operator that he may terminate the insurance policy when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation.

#### Section 8. Financial Test and Corporate Guarantee for Closure.

(1) An owner or operator may satisfy the requirements of this administrative regulation by demonstrating that he passes a financial test as specified in this section. To pass this test the owner or operator shall meet the criteria of either paragraph of this subsection:

(a) The owner or operator shall have:

1. Two (2) of the following three (3) ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

2. Net working capital and tangible net worth each at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

3. Tangible net worth of at least \$10 million; and

4. Assets located in the United States amounting to at least ninety (90) percent of total assets or at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(b) The owner or operator shall have:

1. A current rating for his most recent bond issuance of AAA, AA, A or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

2. Tangible net worth at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

3. Tangible net worth of at least \$10 million; and

4. Assets located in the United States amounting to at least ninety (90) percent of total assets or at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and postclosure cost estimates" as used in subsection (1) of this section refers to the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer. The phrase "current plugging and abandonment cost estimates" as used in subsection (1) of this section refers to the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer (see 40 CFR 144.70(f)).

(3) To demonstrate that he meets this test, the owner or operator shall submit the following three (3) items to the cabinet:

(a) A Letter from Chief Financial Officer executed on DEP Form 6035F or DEP Form 6035G, ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080 provided by the cabinet, signed by the



owner's or operator's chief financial officer; and

(b) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(c) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

1. He has compared the data which the Letter from ~~the~~ Chief Financial Officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

2. In connection with that procedure, no matters came to his attention which caused him to believe that the specified data will be adjusted.

(4) An owner or operator of a new facility shall submit the items specified in subsection (3) of this section to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, or disposal.

(5) After the initial submission of items specified in subsection (3) of this section, the owner or operator shall send updated information to the cabinet within ninety (90) days after the close of each succeeding fiscal year. This information shall consist of all three (3) items specified in subsection (3) of this section.

(6) If the owner or operator no longer meets the requirements of subsection (1) of this section, he shall send notice to the cabinet of intent to establish alternate financial assurance as specified in this administrative regulation. The notice shall be sent by certified mail within ninety (90) days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator shall provide alternate financial assurance within 120 days after the end of such fiscal year.

(7) The cabinet may, based on a reasonable belief that the owner or operator may no longer meet the requirements of subsection (1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in subsection (3) of this section. If the cabinet finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of subsection (1) of this section, the owner or operator shall provide alternate financial assurance as specified in this administrative regulation within thirty (30) days after notification of such a finding.

(8) The cabinet may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see subsection (3)(c) of this section). An adverse opinion or a disclaimer of opinion shall be cause for disallowance. The cabinet shall evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this administrative regulation within thirty (30) days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in subsection (3) of this section when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation;

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation by terminating the financial requirements in accordance with Section 12 of this administrative regulation.

(10) An owner or operator may meet the requirements of this administrative regulation by obtaining a written guarantee. ~~[hereafter referred to as the "corporate guarantee"]~~ The guarantor shall be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor shall meet the requirements for owners or operators in subsections (1) to (8) of this section and shall comply with the terms of the corporate guarantee. The Corporate Guarantee for Closure or Postclosure Care shall be executed on DEP

Form 6035H1 ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080. A certified copy of the Corporate Guarantee for Closure or Postclosure Care shall accompany the items sent to the cabinet as specified in subsection (3) of this section. One (1) of these items shall be the Letter from ~~the Guarantor's~~ Chief Financial Officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the Letter from Chief Financial Officer shall describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this Letter from Chief Financial Officer shall describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the corporate guarantee shall provide that:

(a) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plans and other permit requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in Section 3 of this administrative regulation in the name of the owner or operator.

(b) The corporate guarantee shall remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the cabinet. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by the return receipts.

(c) If the owner or operator fails to provide alternate financial assurance as specified in this administrative regulation and obtain the written approval of such alternate assurance from the cabinet within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor shall provide such alternate financial assurance in the name of the owner or operator.

Section 9. Cash Account and Certificates of Deposit. (1) An owner or operator may satisfy the requirements of this administrative regulation by submitting to the cabinet by certified mail, a bond guaranteeing compliance with KRS Chapter 224 and administrative regulations promulgated pursuant thereto. The bond is to be supported by a cash account or certificate of deposit. The cash account or the certificate of deposit are to be held in escrow pursuant to an escrow agreement. An owner or operator of a new facility shall submit the bond to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bank or financial institution holding the cash account or certificate of deposit in escrow shall be regulated and examined by a federal or state agency.

(2) The Hazardous Waste Site or Facility Bond to Demonstrate Closure and/or Postclosure Care ~~[bond]~~ shall be executed on DEP Form 6035I ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080. The Escrow Agreement to Demonstrate Closure and/or Postclosure Care for the cash account or certificate of deposit shall be executed on DEP Form 6035J ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080.

(3) The cabinet shall be the beneficiary of the Escrow Agreement to Demonstrate Closure and/or Postclosure Care for the cash account or certificate of deposit. The cabinet shall be empowered to draw upon the funds if the owner or operator fails to perform closure or postclosure care in accordance with the closure plan and other permit requirements.

(4) The sum of the cash account or certificate of deposit shall be in an amount at least equal to the amount of the current closure cost estimate, except as provided in Section 10 of this administrative regulation.

(5) After each interest period is completed, whenever the current closure cost estimate changes, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the cash accounts or the certificate of deposit. If the value of the cash

accounts or certificate of deposit is less than the amount of the new estimate, the owner or operator, within sixty (60) days of the change in the cost estimate, shall either deposit an amount into the cash accounts or the certificate of deposit so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(6) If the value of the cash account or the certificate of deposit is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the cabinet for release of the amount in excess of the current closure cost estimate.

(7) Under the terms of the cash account or certificate of deposit, the bank or financial institution may cancel the cash account or certificate of deposit by sending a notice of cancellation by certified mail to the owner or operator and to the cabinet. Cancellation cannot occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by return receipt.

(8) The owner or operator may cancel the cash account or certificate of deposit when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation. [The owner or operator may terminate the cash account or certificate of deposit if the cabinet has given prior written consent based on the cabinet's receipt of evidence of alternate financial assurance as specified in this administrative regulation.]

(9) An owner or operator or any other person authorized to perform closure may request reimbursement for closure expenditures by submitting itemized bills to the cabinet. Within sixty (60) days after receiving bills for closure activities, the cabinet shall determine whether the closure expenditures are in accordance with the closure plan or otherwise justified, and if so, the cabinet may instruct the bank or financial institution to make reimbursements in those amounts as the cabinet specifies in writing if the cabinet determines that the closure expenditures are in accordance with the closure plan or otherwise justified.

Section 10. Use of Multiple Financial Mechanisms. An owner or operator may satisfy the requirements of this administrative regulation by establishing more than one (1) financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, insurance, certificates of deposit and cash. The mechanisms shall be as specified in Sections 3, 4, 6, 7, and 9, respectively, of this administrative regulation, except that it is the combination of mechanisms rather than each single mechanism, which shall provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for other mechanisms. A single standby trust fund may be established for two (2) or more mechanisms. The cabinet may use any or all of the mechanisms to provide for closure of the facility.

Section 11. Use of a Financial Mechanism for Multiple Facilities. An owner or operator may use a financial assurance mechanism specified in this administrative regulation to meet the requirements of this administrative regulation for more than one (1) facility. Evidence of financial assurance submitted to the cabinet shall include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. The amount of funds available through the mechanism shall be no less than the sum of funds that will be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure

of any of the facilities covered by the mechanism, the cabinet may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

Section 12. Release of the Owner or Operator from the Requirements of this Administrative Regulation. Within sixty (60) days after approving certifications from the owner or operator and an engineer that final closure has been completed in accordance with the approved closure plan, the cabinet shall notify the owner or operator in writing that he is no longer required by this administrative regulation to maintain financial assurance for final closure of the facility, unless the cabinet has reason to believe that final closure has not been in accordance with the approved closure plan. The cabinet shall provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste sites who must submit closure financial assurance.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

## ADMINISTRATIVE REGISTER - 613

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff at the agency will have increased workloads in order to process the newly regulated entities.

2. Continuing costs or savings: Once the new entities are processed, there will not be any extra work.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are anticipated to be used for the implementation and enforcement of the regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: No alternatives were considered.

8. Assessment of expected benefits of the administrative regulation: These amendments maintain consistency with federal requirements and clarify the procedure for demonstrating closure financial assurance.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: Not applicable.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was applied. This administrative regulation applies to owners and operators of hazardous waste facilities who must demonstrate closure financial assurance.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air

pollution.

2. State compliance standards: The proposed amendments adopt changes including provisions applicable to closure and postclosure, and trust agreements for owners and operators of hazardous waste sites. The changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste sites who must submit closure financial assurance.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. Agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 34:100. Postclosure financial requirements.

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 264.144, 264.145

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-505, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish postclosure financial requirements.

Section 1. Cost Estimate for Postclosure Care. (1) The owner or

operator of a disposal surface impoundment, disposal miscellaneous unit, land treatment unit, or landfill unit, or of a surface impoundment or waste pile required under Section 6 of 401 KAR 34:200 and Section 8 of 401 KAR 34:210 to prepare a contingent closure and postclosure plan, shall have a detailed written estimate, in current dollars, of the annual cost of postclosure monitoring and maintenance of the facility in accordance with the applicable postclosure administrative regulations in Sections 8 to 11 of 401 KAR 34:070, Section 6 of 401 KAR 34:200, Section 8 of 401 KAR 34:210, Section 8 of 401 KAR 34:220 and Section 6 of 401 KAR 34:230 and Section 4 of 401 KAR 34:250.

(a) The postclosure cost estimate shall be based on the costs to the owner or operator of hiring a third party to conduct postclosure care activities. A third party is a party who is neither a parent nor a subsidiary of the owner or operator (see definition of parent corporation in Section 1(1)(d) of 401 KAR 34:080).

(b) The postclosure cost estimate is calculated by multiplying the annual postclosure cost estimate by the number of years of postclosure care required under 401 KAR 34:070.

(2) During the active life of the facility, the owner or operator shall adjust the postclosure cost estimate for inflation within sixty (60) days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with Section 2 of this administrative regulation. For owners or operators using the financial test or corporate guarantee, the postclosure cost estimate shall be updated for inflation within thirty (30) days after the close of the firm's fiscal year and before the submission of updated information to the cabinet as specified in Section 8(5) of this administrative regulation. The adjustment may be made by recalculating the postclosure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its Survey of Current Business as specified in Section 4(1) and (2) of this administrative regulation. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(a) The first adjustment is made by multiplying the postclosure cost estimate by the inflation factor. The result is the adjusted postclosure cost estimate.

(b) Subsequent adjustments are made by multiplying the latest adjusted postclosure cost estimate by the latest inflation factor.

(3) During the active life of the facility, the owner or operator shall revise the postclosure cost estimate within thirty (30) days after the cabinet has approved the request to modify the postclosure plan, if the change in the postclosure plan increases the cost of postclosure care. The revised postclosure cost estimate shall be adjusted for inflation as specified in subsection (2) of this section.

(4) The owner or operator shall keep the following at the facility during the operating life of the facility: the latest postclosure cost estimate prepared in accordance with subsections (1) and (3) of this section and, when this estimate has been adjusted in accordance with subsection (2) of this section, the latest adjusted postclosure cost estimate.

**Section 2. Financial Assurance for Postclosure Care.** The owner or operator of a hazardous waste management unit subject to the requirements in Section 1 of this administrative regulation shall establish financial assurance for postclosure care in accordance with the approved postclosure plan for the facility sixty (60) days prior to the initial receipt of hazardous waste or the effective date of this administrative regulation, whichever is later. He shall choose from the options in Sections 3 to 11 of this administrative regulation.

**Section 3. Postclosure Trust Fund.** (1) An owner or operator may satisfy the requirements of this administrative regulation by establishing a postclosure trust fund which conforms to the requirements of this section and by submitting an originally signed duplicate of the trust agreement to the cabinet. An owner or operator of a new facility

shall submit the originally signed duplicate of the trust agreement to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for disposal. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(2) The Trust Agreement for Closure and Postclosure Assurance shall be executed on DEP Form 6035A ~~(the form)~~ incorporated by reference in Section 4 of 401 KAR 34:080. Schedule A of the Trust Agreement for Closure and Postclosure Assurance shall be updated within sixty (60) days after a change in the amount of the current postclosure cost estimate covered by the agreement.

(3) Payments into the trust fund shall be made annually by the owner or operator over the term of the initial permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the postclosure trust fund shall be made as follows:

(a) For a new facility, the first payment shall be made before the initial receipt of hazardous waste for disposal. A receipt from the trustee for this payment shall be submitted by the owner or operator to the cabinet before this initial receipt of hazardous waste. The first payment shall be at least equal to the current postclosure cost estimate, except as provided in Section 10 of this administrative regulation, divided by the number of years in the pay-in period. Subsequent payments shall be made no later than thirty (30) days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{NEXT payment} = \frac{\text{CE} - \text{CV}}{Y}$$

where CE is the current postclosure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(b) If an owner or operator establishes a trust fund as specified in this section, and the value of that trust fund is less than the current postclosure cost estimate when a permit is awarded for the facility, the amount of the current postclosure cost estimate still to be paid into the fund shall be paid in over the pay-in period as defined in subsection (3) of this section. Payments shall continue to be made no later than thirty (30) days after each anniversary date of the first payment made pursuant to 401 KAR Chapter 35. The amount of each payment shall be determined by this formula:

$$\text{NEXT payment} = \frac{\text{CE} - \text{CV}}{Y}$$

where CE is the current postclosure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current postclosure cost estimate at the time the fund is established. However, he shall maintain the value of the fund at no less than the value that the fund would have been if annual payments were made as specified in subsection (3) of this section.

(5) If the owner or operator establishes a postclosure trust fund after having used one (1) or more alternate mechanisms specified in this administrative regulation or in 401 KAR 35:100, his first payment shall be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and Section 3 of 401 KAR 35:100, as applicable.

(6) After the pay-in period is completed, whenever the current postclosure cost estimate changes during the operating life of the facility, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or

operator, within sixty (60) days after the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current postclosure cost estimate, or obtain other financial assurance as specified in this administrative regulation to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current postclosure cost estimate, the owner or operator may submit a written request to the cabinet for release of the amount in excess of the current postclosure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this administrative regulation for all or part of the trust fund, he may submit a written request to the cabinet for release of the amount in excess of the current postclosure cost estimate covered by the trust fund.

(9) Within sixty (60) days after receiving a request from the owner or operator for release of funds as specified in subsections (7) and (8) of this section, the cabinet shall instruct the trustee to release to the owner or operator such funds as the cabinet specifies in writing.

(10) During the period of postclosure care, the cabinet may approve a release of funds if the owner or operator demonstrates to the cabinet that the value of the trust fund exceeds the remaining cost of postclosure care.

(11) An owner or operator or any other person authorized to conduct postclosure care may request reimbursement for postclosure care expenditures by submitting itemized bills to the cabinet. Within sixty (60) days after receiving bills for postclosure activities, the cabinet shall instruct the trustee to make reimbursement in those amounts as the cabinet specifies in writing, if the cabinet determines that the postclosure care expenditures are in accordance with the approved postclosure plan or otherwise justified. If the cabinet does not instruct the trustee to make such reimbursements, he shall provide the owner or operator with a detailed written statement of reasons.

(12) The cabinet shall agree to termination of the trust when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation.

**Section 4. Surety Bond Guaranteeing Payment into a Postclosure Trust Fund.** (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining a surety bond which conforms to the requirements of this section and submitting the bond to the cabinet. An owner or operator of a new facility shall submit the bond to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for disposal. The bond shall be effective before this initial receipt of hazardous waste. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care [surety bond] shall be executed on DEP Form 6035B [the form] incorporated by reference in Section 4 of 401 KAR 34:080.

(3) The owner or operator who uses a surety bond to satisfy the requirements of this administrative regulation shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder shall be deposited by the surety directly into the standby trust fund in accordance with instructions from the cabinet. This standby trust fund shall meet the requirements specified in Section 3 of this administrative regulation, except that:

(a) An originally signed duplicate of the Trust Agreement for Closure and Postclosure Assurance shall be submitted to the cabinet with the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care [surety bond]; and

(b) Until the standby trust fund is funded pursuant to the requirements of this administrative regulation, the following are not required by these administrative regulations:

1. Payments into the trust fund as specified in Section 3 of this administrative regulation;

2. Updating of Schedule A of the Trust Agreement for Closure and Postclosure Assurance (see 401 KAR 34:140) to show current postclosure cost estimates;

3. Annual valuations as required by the Trust Agreement for Closure and Postclosure Assurance; and

4. Notices of nonpayment as required by the Trust Agreement for Closure and Postclosure Assurance.

(4) The bond shall guarantee that the owner or operator will:

(a) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(b) Fund the standby trust fund in an amount equal to the penal sum within fifteen (15) days after an order to begin final closure issued by the cabinet becomes final, or within fifteen (15) days after an order to begin final closure is issued by a circuit court or other court of competent jurisdiction; or

(c) Provide alternate financial assurance as specified in this administrative regulation, and obtain the cabinet's written approval of the assurance provided, within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety shall become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond shall be in an amount at least equal to the amount of the current postclosure cost estimate, except as provided in Section 10 of this administrative regulation.

(7) Whenever the current postclosure cost estimate increases to an amount greater than the penal sum, the owner or operator, within sixty (60) days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current postclosure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the current postclosure cost estimate decreases, the penal sum may be reduced to the amount of the current postclosure cost estimate following written approval by the cabinet.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to both the owner or operator and to the cabinet. Cancellation cannot occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by return receipt.

(9) The owner or operator may cancel the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care if the Cabinet has given prior written consent. The cabinet shall provide such written consent when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation. [The owner or operator may cancel the bond if the cabinet has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this administrative regulation.]

**Section 5. Surety Bond Guaranteeing Performance of Postclosure.** (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining a Performance Bond to Demonstrate Closure and/or Postclosure Care [surety bond] which conforms to the requirements of this section and submitting the bond to the cabinet. An owner or operator of a new facility shall submit the

bond to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for disposal. The bond shall be effective before this initial receipt of hazardous waste. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The Performance Bond to Demonstrate Closure and/or Postclosure Care ~~[surety bond]~~ shall be executed on the form incorporated by reference in Section 4 of 401 KAR 34:080.

(3) The owner or operator who uses a Performance Bond to Demonstrate Closure and/or Postclosure Care ~~[surety bond]~~ to satisfy the requirements of this administrative regulation shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder shall be deposited by the surety directly into the standby trust fund in accordance with the instructions of the cabinet. This standby trust shall meet the requirements specified in Section 3 of this administrative regulation, except that:

(a) An originally signed duplicate of the Trust Agreement for Closure and Postclosure Assurance shall be submitted to the cabinet with the Performance Bond to Demonstrate Closure and/or Postclosure Care ~~[surety bond]~~; and

(b) Unless the standby trust fund is funded pursuant to the requirements of this administrative regulation, the following are not required by these administrative regulations:

1. Payments into the trust fund as specified in Section 3 of this administrative regulation;

2. Updating of Schedule A of the Trust Agreement for Closure and Postclosure Assurance to show current postclosure cost estimates;

3. Annual valuations as required by the Trust Agreement for Closure and Postclosure Assurance; and

4. Notices of nonpayment as required by the Trust Agreement for Closure and Postclosure Assurance.

(4) The bond shall guarantee that the owner or operator shall:

(a) Perform postclosure care in accordance with the postclosure plan and other requirements of the permit for the facility; or

(b) Provide alternate financial assurance as specified in this administrative regulation and obtain the cabinet's written approval of the assurance provided, within ninety (90) days of receipt by both the owner or operator and the cabinet of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety shall become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to KRS 224.46-520 that the owner or operator has failed to perform postclosure care in accordance with the postclosure plan and other permit requirements, under the terms of the bond the surety shall perform postclosure care in accordance with the approved postclosure plan and other permit requirements or shall deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the bond shall be in an amount at least equal to the amount of the current postclosure cost estimate.

(7) Whenever the current postclosure cost estimate increases to an amount greater than the penal sum during the operating life of the facility, the owner or operator, within sixty (60) days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current postclosure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation. Whenever the current postclosure cost estimate decreases during the operating life of the facility, the penal sum may be reduced to the amount of the current postclosure cost estimate following written approval by the cabinet.

(8) During the period of postclosure care, the cabinet may approve a decrease in the penal sum if the owner or operator demonstrates to the cabinet that the amount exceeds the remaining cost of postclosure care.

(9) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the cabinet. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by the return receipts.

(10) The owner or operator may cancel the bond if the cabinet has given prior written consent. The cabinet shall provide such written consent when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation.

(11) The surety shall not be liable for deficiencies in the performance of postclosure care by the owner or operator after the cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation.

Section 6. Postclosure Letter of Credit. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining an irrevocable standby letter of credit which conforms to the requirements of this section and by submitting the letter to the cabinet. An owner or operator of a new facility shall submit the letter of credit to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for disposal. The letter of credit shall be effective before this initial receipt of hazardous waste. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(2) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ shall be executed on DEP Form 6035D ~~[the form]~~ incorporated by reference in Section 4 ~~[13]~~ of 401 KAR 34:080 ~~[34:090 and in accordance with Section 2 of 401 KAR 34:152]~~. The owner or operator may use his own document, provided the language is identical to that specified in DEP Form 6035D ~~[401 KAR 34:152]~~. However, the Trust Agreement for Closure and Postclosure Assurance required to be filed with the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ shall be executed on DEP Form 6035A ~~[the form]~~ incorporated by reference in Section 4 ~~[13]~~ of 401 KAR 34:080 ~~[34:090 and in accordance with 401 KAR 34:140]~~.

(3) An owner or operator who uses a Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ to satisfy the requirements of this administrative regulation shall also establish a standby trust fund. Under the terms of the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~, all amounts paid pursuant to a draft by the cabinet shall be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the cabinet. The standby trust fund shall meet the requirements of the trust fund specified in Section 3 of this administrative regulation, except that:

(a) An originally signed duplicate of the Trust Agreement for Closure and Postclosure Assurance shall be submitted to the cabinet with the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~; and

(b) Unless the standby trust fund is funded pursuant to the requirements of this administrative regulation, the following are not required by these administrative regulations:

1. Payments into the trust fund as specified in Section 3 of this administrative regulation;

2. Updating the Schedule A of the Trust Agreement for Closure and Postclosure Assurance to show current postclosure cost estimates;

3. Annual valuations as required by the Trust Agreement for Closure and Postclosure Assurance; and



4. Notices of nonpayment as required by the Trust Agreement for Closure and Postclosure Assurance.

(4) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ shall be accompanied by a letter from the owner or operator referring to the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ by number, issuing institution, and date, and providing the following information: the EPA identification number, name and address of the facility, and the amount of funds assured for postclosure care of the facility by the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~.

(5) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ shall be irrevocable and issued for a period of at least one (1) year. The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ shall provide that the expiration date will be automatically extended for a period of at least one (1) year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the cabinet by certified mail of a decision not to extend the expiration date. Under the terms of the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ the 120 days shall begin on the date when both the owner or operator and the cabinet have received the notice, as evidenced by the return receipts.

(6) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ shall be issued in an amount at least equal to the current postclosure cost estimate, except as provided in Section 10 of this administrative regulation.

(7) Whenever the current postclosure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within sixty (60) days after the increase, shall either cause the amount of the credit to be increased so that it at least equals the current postclosure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the current postclosure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current postclosure cost estimate following written approval by the cabinet.

(8) During the period of postclosure care, the cabinet may approve a decrease in the amount of the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ if the owner or operator demonstrates to the cabinet that the amount exceeds the remaining cost of postclosure care.

(9) Following a final administrative determination pursuant to KRS 224.46-520 that the owner or operator has failed to perform postclosure care in accordance with the approved postclosure plan and other permit requirements, the cabinet may draw on the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~.

(10) If the owner or operator does not establish alternate financial assurance as specified in this administrative regulation and obtain written approval of such alternate assurance from the cabinet within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice from the issuing institution that it has decided not to extend the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ beyond the current expiration date, the cabinet shall draw on the letter of credit. The cabinet may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last thirty (30) days of any such extension, the cabinet shall draw on the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ if the owner or operator has failed to provide alternate financial assurance as specified in this administrative regulation and obtain written approval of such financial assurance from the cabinet.

(11) The cabinet shall return the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ to the

issuing institution for termination when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation.

Section 7. Postclosure Insurance. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining postclosure insurance which conforms to the requirements of this section and submitting a certificate of such insurance to the cabinet. An owner or operator of a new facility shall submit a certificate of insurance to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for disposal. The insurance shall be effective before this initial receipt of hazardous waste. Each insurance policy providing primary coverage shall be issued by an insurer who is authorized to transact insurance in Kentucky except as KRS 304.11-030 provides otherwise. Each insurance policy providing excess coverage shall be issued by an insurer who is authorized to transact insurance in a state.

(2) The Certificate of Insurance for Closure and Postclosure Care shall be executed on DEP Form 6035E ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080.

(3) The postclosure insurance policy shall be issued for a face amount at least equal the current postclosure cost estimate, except as provided in Section 10 of this administrative regulation. ~~[The term "face amount" means the total amount the insurer is obligated to pay under the policy.]~~ Actual payments by the insurer shall not change the face amount, although the insurer's future liability shall be lowered by the amount of the payments.

(4) The postclosure insurance policy shall guarantee that funds will be available to provide postclosure care of the facility whenever the postclosure care period begins. The policy shall also guarantee that once postclosure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the cabinet to such party or parties as the cabinet specifies.

(5) An owner or operator or any other person authorized to conduct postclosure care may request reimbursement for postclosure care expenditures by submitting itemized bills to the cabinet. Within sixty (60) days after receiving bills for postclosure care activities, the cabinet shall instruct the insurer to make reimbursements in those amounts as the cabinet specifies in writing, if the cabinet determines that the postclosure care expenditures are in accordance with the approved postclosure plan or otherwise justified. If the cabinet does not instruct the insurer to make such reimbursements, he shall provide the owner or operator with a detailed written statement of reasons.

(6) The owner or operator shall maintain the policy in effect until the cabinet consents to termination of the policy by the owner or operator as specified in subsection (11) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this administrative regulation, shall constitute a significant violation of these administrative regulations, warranting such remedy as the cabinet deems necessary. Such violation shall be deemed to begin upon receipt by the cabinet of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer provided such consent is not unreasonably refused.

(8) The policy shall provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer

may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the cabinet. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by the cabinet and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy shall remain in effect in the event that on or before the date of expiration:

- (a) The cabinet deems the facility abandoned; or
- (b) The permit is terminated or revoked or a new permit is denied; or
- (c) Closure is ordered by the cabinet or a circuit court or other court of competent jurisdiction; or
- (d) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or
- (e) The premium due is paid.

(9) Whenever the current postclosure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within sixty (60) days after the increase, shall either cause the face amount to be increased to an amount at least equal to the current postclosure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the current postclosure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current postclosure cost estimate following written approval by the cabinet.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer shall thereafter annually increase the face amount of the policy. Such increase shall be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to eighty-five (85) percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for twenty-six (26) week Treasury securities.

(11) The cabinet shall give written consent to the owner or operator that he may terminate the insurance policy when:

- (a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or
- (b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation.

Section 8. Financial Test with Corporate Guarantee for Postclosure Care. (1) An owner or operator may satisfy the requirements of this administrative regulation by demonstrating that he passes a financial test as specified in this section. To pass this test the owner or operator shall meet the criteria of either paragraph (a) or (b) of this subsection:

(a) The owner or operator shall have:

- 1. Two (2) of the three (3) ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and
- 2. Net working capital and tangible net worth each at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and
- 3. Tangible net worth of at least \$10 million; and
- 4. Assets in the United States amounting to at least ninety (90) percent of his total assets or at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(b) The owner or operator shall have:

- 1. A current rating for his most recent bond issuance of AAA, AA, A or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and
- 2. Tangible net worth at least six (6) times the sum of the current

closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

3. Tangible net worth of at least \$10 million; and

4. Assets located in the United States amounting to at least ninety (90) percent of his total assets or at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and postclosure cost estimates" as used in subsection (1) of this section refers to the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer. The phrase "current plugging and abandonment cost estimates" as used in subsection (1) of this section refers to the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer (see 40 CFR 144.70(f)).

(3) To demonstrate that he meets this test, the owner or operator shall submit the following three (3) items to the cabinet:

(a) A Letter from Chief Financial Officer executed on DEP Form 6035F or DEP Form 6035G, [the form] provided by the cabinet and incorporated by reference in Section 4 of 401 KAR 34:080, signed by the owner's or operator's chief financial officer; and

(b) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(c) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

1. He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

2. In connection with that procedure, no matters came to his attention which caused him to believe that the specified data will be adjusted.

(4) An owner or operator of a new facility shall submit the items specified in subsection (3) of this section to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage, or disposal.

(5) After the initial submission of items specified in subsection (3) of this section, the owner or operator shall send updated information to the cabinet within ninety (90) days after the close of each succeeding fiscal year. This information shall consist of all three (3) items specified in subsection (3) of this section.

(6) If the owner or operator no longer meets the requirements of subsection (1) of this section, he shall send notice to the cabinet of intent to establish alternate financial assurance as specified in this administrative regulation. The notice shall be sent by certified mail within ninety (90) days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator shall provide alternate financial assurance within 120 days after the end of such fiscal year.

(7) The cabinet may, based on a reasonable belief that the owner or operator may no longer meet the requirements of subsection (1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in subsection (3) of this section. If the cabinet finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of subsection (1) of this section, the owner or operator shall provide alternate financial assurance as specified in this administrative regulation within thirty (30) days after notification of such a finding.

(8) The cabinet may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see subsection (3) of this section). An adverse opinion or a disclaimer of opinion shall be cause for disallowance. The cabinet shall evaluate other qualifications on an individual basis. The owner or operator shall provide alternate



financial assurance as specified in this administrative regulation within thirty (30) days after notification of the disallowance.

(9) During the period of postclosure care, the cabinet may approve a decrease in the current postclosure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the cabinet that the amount of the cost estimate exceeds the remaining cost of postclosure care.

(10) The owner or operator is no longer required to submit the items specified in subsection (3) of this section when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation;

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation by terminating the financial requirements in accordance with Section 12 of this administrative regulation.

(11) An owner or operator may meet the requirements of this administrative regulation by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor shall be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator [as defined in Section 1 of 401 KAR 34:080]. The guarantor shall meet the requirements for owners or operators in subsections (1) to (9) of this section and shall comply with the terms of the corporate guarantee. The Corporate Guarantee for Closure or Postclosure Care shall be executed on DEP Form 6035H1 [the form] incorporated by reference in Section 4 of 401 KAR 34:080. A certified copy of the [corporate] guarantee shall accompany the items sent to the cabinet as specified in subsection (3) of this section. One (1) of these items shall be the Letter from [the guarantor's] Chief Financial Officer, executed on DEP Form 6035F. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter shall describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter shall describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the corporate guarantee shall provide that:

(a) If the owner or operator fails to perform postclosure care of a facility covered by the corporate guarantee in accordance with the postclosure plan and other permit requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in Section 3 of this administrative regulation in the name of the owner or operator.

(b) The corporate guarantee shall remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the cabinet. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by the return receipts.

(c) If the owner or operator fails to provide alternate financial assurance as specified in this administrative regulation and obtain the written approval of such alternate assurance from the cabinet within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor shall provide such alternate financial assurance in the name of the owner or operator.

Section 9. Cash and Certificates of Deposit. (1) An owner or operator may satisfy the requirements of this administrative regulation by submitting to the cabinet a bond guaranteeing compliance with KRS Chapter 224 and administrative regulations promulgated pursuant thereto. The bond is to be supported by a cash account or certificate(s) of deposit. The cash account or the certificate(s) of deposit are to be held in escrow pursuant to an escrow agreement. An owner or operator of a new facility shall submit the bond to the cabinet at least sixty (60) days before the date on which hazardous

waste is first received for disposal. The bank or other financial institution holding the cash account or certificate of deposit in escrow shall be regulated and examined by a federal or state agency.

(2) The Hazardous Waste Site or Facility Bond to Demonstrate Closure and/or Postclosure Care [bond] shall be executed on DEP Form 6035I [the form] incorporated by reference in Section 4 of 401 KAR 34:080. The Escrow Agreement to Demonstrate Closure and/or Postclosure Care for the cash account or certificate(s) of deposit shall be executed on DEP Form 6035J [the form] incorporated by reference in Section 4 [43] of 401 KAR 34:080 [34:090 and in accordance with Section 2 of 401 KAR 34:168].

(3) The cabinet shall be the beneficiary of the Escrow Agreement to Demonstrate Closure and/or Postclosure Care for the cash account or certificate(s) of deposit. The cabinet shall be empowered to draw upon the funds if the owner or operator fails to perform postclosure care in accordance with the postclosure care plan and other permit requirements.

(4) The sum of the cash account or certificate of deposit shall be in an amount at least equal to the amount of the current postclosure cost estimate, except as provided in Section 10 of this administrative regulation.

(5) Whenever the current postclosure cost estimate increases to an amount greater than the sum of the cash account or certificate(s) of deposit, the owner or operator, within sixty (60) days after the increase, shall either cause the sum of the deposit to be increased to an amount at least equal to the current postclosure cost estimate and submit evidence of such increase to the cabinet or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the current postclosure cost estimate decreases, the sum of the deposit may be reduced to the amount of the current postclosure cost estimate following written approval by the cabinet.

(6) If the value of the cash account or the certificate of deposit is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the cabinet for release of the amount in excess of the current closure cost estimate.

(7) Under the terms of the cash account or certificate of deposit, the bank or financial institution may cancel the cash account or certificate of deposit by sending notice of cancellation by certified mail to the owner or operator and to the cabinet. Cancellation cannot occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by return receipt.

(8) The owner or operator may cancel the cash account or certificate or deposit if the cabinet has given prior written consent. The cabinet shall provide such written consent when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation. [The owner or operator may terminate the cash account or certificate of deposit in accordance with Section 12 of this administrative regulation if the cabinet has given prior written consent on his receipt of evidence of alternate financial assurance as specified in this administrative regulation.]

(9) An owner or operator or any other person authorized to conduct postclosure may request reimbursement for postclosure expenditures by submitting itemized bills to the cabinet. Within sixty (60) days after receiving bills for postclosure activities, the cabinet may instruct the bank or financial institution to make reimbursements in those amounts as the cabinet specifies in writing if the cabinet determines that the postclosure expenditures are in accordance with the postclosure plan or otherwise justified.

Section 10. Use of Multiple Financial Mechanisms. An owner or operator may satisfy the requirements of this administrative regulation by establishing more than one (1) financial mechanism per facility.

## ADMINISTRATIVE REGISTER - 620

These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, insurance and cash. The mechanisms shall be as specified in Sections 3, 4, 6, 7, and 9 of this administrative regulation, respectively, except that it is the combination of mechanisms rather than the single mechanism which shall provide financial assurance for an amount at least equal to the current postclosure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two (2) or more mechanisms. The cabinet may use any or all of the mechanisms to provide for postclosure care of the facility.

**Section 11. Use of a Financial Mechanism or Multiple Facilities.**  
An owner or operator may use a financial assurance mechanism specified in this administrative regulation to meet the requirements of this administrative regulation for more than one (1) facility of which he is the owner or operator provided the facilities are all within the Commonwealth. Evidence of financial assurance submitted to the cabinet shall include a list showing for each facility the EPA Identification Number, name, address, and the amount of funds for postclosure care assured by the mechanism. The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for postclosure care of any of the facilities covered by the mechanism, the cabinet may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

**Section 12. Release of the Owner or Operator from the Requirements of this Administrative Regulation.** Within sixty (60) days after approving certifications from the owner or operator and an engineer that the postclosure care period has been completed for a hazardous waste disposal unit in accordance with the approved plan, the cabinet shall notify the owner or operator that he is no longer required to maintain financial assurance for postclosure care of that unit, unless the cabinet has reason to believe that postclosure care has not been in accordance with the approved postclosure plan. The cabinet shall provide the owner or operator with a detailed written statement of any such reason to believe that postclosure care has not been in accordance with the approved postclosure plan.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

**PUBLIC HEARING:** A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated,

should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

**CONTACT PERSON:** James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

## REGULATORY IMPACT ANALYSIS

**CONTACT PERSON:** James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: Not applicable.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There will be no direct or indirect costs or savings.

2. Continuing costs or savings: There are no continuing costs or savings.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no extra paperwork or reporting requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of the regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: There were no other alternatives. These changes are consistent with federal standards. These amendments clarify the process for demonstrating postclosure financial assurance.

8. Assessment of expected benefits of the administrative regulation: These amendments clarify the process for demonstrating postclosure financial assurance.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: Not applicable.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

## ADMINISTRATIVE REGISTER - 621

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate the regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners operators of hazardous waste facilities required to demonstrate postclosure financial assurance.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to postclosure financial requirements of hazardous waste facilities. The changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. Agencies that manage hazardous waste will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to

compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 34:120. Liability requirements.

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 264.147

STATUTORY AUTHORITY: KRS 224.46-505, 224.46-520, 224.46-530

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-505, 224.46-520, and 224.46-530 and to establish the liability requirements for hazardous waste sites or facilities.

Section 1. Coverage for Sudden Accidental Occurrences. An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for sudden or accidental occurrences in the amount of at least \$1,000,000 per occurrence with an annual aggregate of at least \$2,000,000, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in subsections (1) to (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this section.

(a) Each insurance policy shall be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Hazardous Waste Facility Certificate of Liability Insurance. The Hazardous Waste Facility Liability Endorsement shall be executed on DEP Form 6035K incorporated by reference in Section 4 of 401 KAR 34:080. The Certificate of Liability Insurance shall be on DEP Form 6035L [using the forms by these titles] incorporated by reference in Section 4 of 401 KAR 34:080. The owner or operator shall submit an originally signed duplicate of the endorsement or the certificate of insurance to the cabinet. If requested by the cabinet, the owner or operator shall provide an originally signed duplicate of the insurance policy. An owner or operator of a new facility shall submit the originally signed duplicate of the Hazardous Waste Facility Liability Endorsement or the Hazardous Waste Facility Certificate of Liability Insurance to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage or disposal. The insurance shall be effective before this initial receipt of hazardous waste.

(b) Each primary insurance policy shall be issued by an insurer which, at a minimum, is authorized to transact primary insurance in Kentucky except as KRS 304.11-030 provides otherwise. Each excess insurance policy shall be issued by an insurer which, at a minimum, is authorized to provide insurance as an excess or surplus lines insurer in one (1) state.

(2) An owner or operator may meet the requirements of this administrative regulation by passing a financial test or using the corporate guarantee for liability coverage as specified in Section 7 of this administrative regulation.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in Section 8 of this administrative regulation.

(4) An owner or operator may meet the requirements of this

section by obtaining a surety bond for liability coverage as specified in Section 9 of this administrative regulation.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in Section 10 of this administrative regulation.

(6) An owner or operator may demonstrate the required liability coverage through use of combinations of the financial test, insurance, the corporate guarantee, of insurance, financial test, guarantee, fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated shall total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this subsection, the owner or operator shall specify at least one (1) such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(7) An owner or operator shall notify the cabinet in writing within thirty (30) days whenever:

(a) ~~[A claim for bodily injury or property damages caused by the operation of a hazardous waste treatment, storage, or disposal facility is made against the owner or operator;~~

~~(b) Whenever~~ A claim results in a [the] reduction in [of] the amount of financial assurance for liability coverage [under this section] provided by a financial instrument authorized by subsection (1) to (6) of this section; [or]

(b) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or nonsudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under subsections (1) through (6) of this section; or

(c) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or nonsudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or against an instrument that is providing financial assurance for liability coverage under subsection (1) to (6) of this section.

(8) Notwithstanding any other provisions of this chapter, an owner or operator using liability insurance to satisfy the requirements of this administrative regulation may use, until October 16, 1982, a hazardous waste facility liability endorsement or certificate of liability insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one (1) or more states.

Section 2. Coverage for Nonsudden Accidental Occurrences. An owner or operator of a surface impoundment, landfill, land treatment facility, facility for land disposal as specified in KRS 224.01-010 or miscellaneous unit for disposal that is used to manage hazardous waste, or a group of such facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain additional liability coverage for nonsudden accidental occurrences in the amount of at least \$3,000,000 per occurrence with an annual aggregate of at least \$6,000,000, exclusive of legal defense costs. An owner or operator who is required to comply with the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners and operators who combine coverage levels for sudden and nonsudden accidental occurrences must maintain liability coverage in the amount of at least \$4 million per occurrence and \$8 million annual

aggregate. This liability coverage may be demonstrated as specified in subsections (1) to (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this section.

(a) Each insurance policy shall be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Hazardous Waste Facility Certificate of Liability Insurance. The Hazardous Waste Facility Liability Endorsement shall be executed on DEP Form 6035K incorporated by reference in Section 4 of 401 KAR 34:080. The Certificate of Liability Insurance shall be on DEP Form 6035L ~~(using the forms by these titles)~~ incorporated by reference in Section 4 of 401 KAR 34:080. The owner or operator shall submit an originally signed duplicate of the endorsement or the certificate of insurance to the cabinet. If requested by the cabinet, the owner or operator shall provide an originally signed duplicate of the insurance policy. An owner or operator of a new facility shall submit the originally signed duplicate of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage or disposal. The insurance shall be effective before this initial receipt of hazardous waste.

(b) Each primary insurance policy shall be issued by an insurer which, at a minimum, is authorized to transact primary insurance in Kentucky except as KRS 304.11-030 provides otherwise. Each excess insurance policy shall be issued by an insurer which, at a minimum, is authorized to provide insurance as an excess or surplus lines insurer in one (1) state.

(2) An owner or operator may meet the requirements of this administrative regulation by passing a financial test or using the corporate guarantee for liability coverage as specified in Sections 6 and 7 of this administrative regulation.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in Section 8 of this administrative regulation.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in Section 9 of this administrative regulation.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in Section 10 of this administrative regulation.

(6) An owner or operator may demonstrate the required liability coverage through use of combinations of the financial test, insurance, the corporate guarantee, letter of credit, surety bond, and trust bond, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated shall total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this subsection, the owner or operator shall specify at least one (1) such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(7) An owner or operator shall notify the cabinet in writing within thirty (30) days whenever:

(a) ~~[A claim for bodily injury or property damages caused by the operation of a hazardous waste treatment, storage, or disposal facility is made against the owner or operator;~~

~~(b) Whenever~~ A claim results in a [the] reduction in [of] the amount of financial assurance for liability coverage [under this section] provided by a financial instrument authorized by subsections (1) to (6) of this section; [or]

(b) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or nonsudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under subsections (1) through (6)

of this section; or

(c) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or nonsudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or ~~against~~ an instrument that is providing financial assurance for liability coverage under subsections (1) to (6) of this section.

(8) For existing facilities, the required liability coverage for nonsudden accidental occurrences shall be demonstrated by the dates listed below. The total sales or revenues of the owner or operator in all lines of business, in the fiscal year preceding the effective date of these administrative regulations, shall determine which of the dates apply. If the owner and operator of a facility are two (2) different parties, or if there is more than one (1) owner or operator, the sales or revenues of the owner or operator with the largest sales or revenues shall determine the date by which the coverage shall be demonstrated. The dates are as follows:

(a) For an owner or operator with sales or revenues totaling \$10,000,000 or more, February 24, 1983.

(b) For an owner or operator with sales or revenues greater than \$5,000,000 but less than \$10,000,000, February 24, 1984.

(c) All other owners or operators, February 24, 1985.

(9) Notwithstanding any other provisions of this chapter, an owner or operator using liability insurance to satisfy the requirements of this administrative regulation may use, until October 16, 1982, a hazardous waste facility liability endorsement or certificate of liability insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one (1) or more states.

Section 3. Adjustments by the Cabinet. If the cabinet determines that the levels of financial responsibility required by Sections 1 and 2 of this administrative regulation are not consistent with the degree and duration of risks associated with treatment, storage, or disposal at any facility or group of facilities, the cabinet may increase the level of financial responsibility required under Sections 1 and 2 of this administrative regulation as may be necessary to protect human health and the environment. This adjusted level shall be based on the cabinet's assessment of the degree and duration of risks associated with the ownership or operation of each facility or group of such facilities. If the cabinet determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, the cabinet may require that the owner or operator of the facility comply with Section 2 of this administrative regulation. An owner or operator shall furnish to the cabinet, within a reasonable time, any information which the cabinet requests to determine whether cause exists for such adjustments of the level or type of coverage. Any adjustment of the level of required coverage for a facility that has a permit shall be treated as a permit modification under Section 2(1)(e) of 401 KAR 38:040 and Section 2 of 401 KAR 38:050.

Section 4. Request for a Variance. If an owner or operator can demonstrate to the satisfaction of the cabinet that the increased level of financial responsibility required by Section 1 or 2 of this administrative regulation is not consistent with the degree and duration of risk associated with the treatment, storage, or disposal at each facility or group of facilities, the owner or operator may obtain a variance from the cabinet. The cabinet shall not grant any requests for a variance which seek to decrease the level of financial responsibility below the minimums required by KRS 224.46-520(3)(c). If granted, the variance shall take the form of an adjusted level of required liability coverage, such level to be based on the cabinet's assessment of the degree and duration of risk associated with the ownership or operation of each facility or group of facilities. The cabinet may require an owner or operator who requests a variance to provide such technical and

engineering information as is deemed necessary by the cabinet to determine a level of financial responsibility other than that required by Sections 1 and 2 of this administrative regulation. Any request for a variance for a permitted facility shall be treated as a request for a permit modification under Section 2(1)(e) of 401 KAR 38:040 and Section 2 of 401 KAR 38:050.

Section 5. Period of Coverage. An owner or operator shall continuously provide liability coverage for a facility as required by this administrative regulation until certification of termination pursuant to the requirements of KRS 224.46-520.

Section 6. Liability Self-insurance. (1) An owner or operator may satisfy the requirements of this administrative regulation by demonstrating that he passes a financial test as specified in this section. To pass this test the owner or operator shall demonstrate that the level of self-insurance does not exceed ten (10) percent of equity and shall meet the criteria of either paragraph (a) or (b) of this subsection:

(a) The owner or operator shall have:

1. Net working capital and tangible net worth each at least six (6) times the amount of liability coverage to be demonstrated by this test; and

2. Tangible net worth of at least \$10 million; and

3. Assets in the United States amounting to either, at least, ninety (90) percent of his total assets or at least six (6) times the sum of the appropriate liability coverage to be demonstrated by this test.

(b) The owner or operator shall have:

1. A current rating for his most recent bond issuance of AAA, AA, A or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

2. Tangible net worth of at least \$10 million; and

3. Tangible net worth at least six (6) times the amount of the liability coverage to be demonstrated by this test; and

4. Assets located in the United States amounting to either, at least, ninety (90) percent of his total assets or at least six (6) times the amount of the liability coverage to be demonstrated by this test.

(2) The phrase "amount of liability coverage" as used in subsection (1) of this section refers to the annual aggregate amounts for which coverage is required under Sections 1 and 2 of this administrative regulation.

(3) To demonstrate that he meets this test, the owner or operator shall submit the following three (3) items to the cabinet:

(a) A letter signed by the owner's or operator's chief financial officer and executed on the form entitled Letter from Chief Financial Officer to Demonstrate Liability Coverage or to Demonstrate Liability Coverage and Assurance of Closure or Postclosure Care, DEP Form 6035G, as incorporated by reference in Section 14 of 401 KAR 34:080. If the owner or operator is using the financial test to demonstrate both assurance for closure or postclosure as specified in Section 8 of 401 KAR 34:090, Section 8 of 401 KAR 34:100, Section 7 of 401 KAR 35:090 or Section 7 of 401 KAR 35:100 and liability coverage, he shall submit the letter on the form entitled Letter from Chief Financial Officer to Demonstrate Liability Coverage or to Demonstrate Liability Coverage and Assurance of Closure or Postclosure Care, DEP Form 6035G, as incorporated by reference in Section 4 of 401 KAR 34:080 to cover both forms of financial responsibility;

(b) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(c) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

1. He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

2. In connection with that procedure, no matters came to his

attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility shall submit the items specified in subsection (3) of this section to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage or disposal.

(5) After the initial submission of items specified in subsection (3) of this section, the owner or operator shall send updated information to the cabinet within ninety (90) days after the close of each succeeding fiscal year. This information shall consist of all three (3) items specified in subsection (3) of this section.

(6) If the owner or operator no longer meets the requirements of subsection (1) of this section, he shall obtain insurance, a letter of credit, a surety bond, a trust fund, or a corporate guarantee for the entire amount of required liability coverage as specified in this administrative regulation. Evidence of liability coverage [insurance] shall be submitted to the cabinet within ninety (90) days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(7) The cabinet may, based on a reasonable belief that the owner or operator may no longer meet the requirements of subsection (1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in subsection (3) of this section. If the cabinet finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of subsection (1) of this section, the owner or operator shall provide liability insurance as specified in this administrative regulation within thirty (30) days after notification of such a finding.

(8) The cabinet may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see subsection (3)(c) of this section). An adverse opinion or a disclaimer of opinion shall be cause for disallowance. The cabinet shall evaluate other qualifications on an individual basis. The owner or operator shall provide liability insurance for the entire amount of liability coverage as specified in this administrative regulation within thirty (30) days after notification of the disallowance.

Section 7. Corporate Guarantee for Liability Coverage. (1) Subject to subsection (2) of this section, an owner or operator may meet the requirements of this administrative regulation by obtaining a written guarantee, referred to as Corporate Guarantee for Liability Coverage. The guarantor shall be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" as defined in Section 1 of 401 KAR 34:005 [34:080] with the owner or operator. The guarantor shall meet the requirements for owners or operators in Section 6(1) to (8) of this administrative. The ~~wording of the~~ Corporate Guarantee for Liability Coverage shall be executed on DEP Form 6035H2 [the form entitled "Corporate Guarantee for Closure or Postclosure Care", as] incorporated by reference in Section 4 of 401 KAR 34:080. A certified copy of the Corporate Guarantee for Liability Coverage shall accompany the items sent to the cabinet as specified in Section 6(3) of this administrative regulation. One (1) of these items shall be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter shall describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter shall describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the Corporate Guarantee for Liability Coverage shall provide that:

(a) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or

both as the case may be), arising from the operation of facilities covered by this Corporate Guarantee for Liability Coverage, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor shall do so up to the limits of coverage.

(b) The Corporate Guarantee for Liability Coverage shall remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the cabinet. This guarantee may not be terminated unless and until the cabinet approves alternate liability coverage complying with this administrative regulation or 401 KAR 35:120.

(2)(a) In the case of corporations incorporated in the United States, a Corporate Guarantee for Liability Coverage may be used to satisfy the requirements of this administrative regulation only if the Attorney General or insurance commissioner of the state in which the guarantor is incorporated, each state in which a facility covered by the guarantee is located and in the state in which it has its principle place of business, have submitted a written statement to the director that a Corporate Guarantee for Liability Coverage executed as described in this administrative regulation and incorporated by reference in Section 4 of 401 KAR 34:080 is a legally valid and enforceable obligation in that state and in Kentucky.

(b) In the case of corporations incorporated outside of the United States, a Corporate Guarantee for Liability Coverage may be used to satisfy the requirements of this section only if the non-United States corporation has identified a registered agent for service of process in each state in which a facility covered by the guarantee is located and in the state in which it has its principle place of business, and the attorney general or insurance commissioner of each state in which a facility covered by the guarantee is located, and the state in which the guarantor corporation has its principle place of business, and the Department of Law or the Insurance Commissioner of the Commonwealth of Kentucky has submitted a written statement to the director that a Corporate Guarantee for Liability Coverage executed as described in this section ~~[and Section 1(2) of 401 KAR 34:166]~~ is a legally valid and enforceable obligation in that state and in Kentucky.

(c) A corporate guarantee may be used to satisfy the requirements of this administrative regulation only if the assets to be collected are located in the United States. Failure to provide the written statement referenced in paragraphs (a) and (b) of this subsection shall be grounds for denial of the instrument.

Section 8. Letter of Credit for Liability Coverage. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining an irrevocable stand-by letter of credit that conforms to the requirements of this section and submitting a copy of the letter of credit to the cabinet. The irrevocable standby letter of credit may be submitted on either DEP Form 6035Q or DEP 6035N. The Irrevocable Standby Letter of Credit to Demonstrate Liability Coverage, DEP Form 6035Q and the Irrevocable Standby Letter of Credit to Demonstrate Liability Coverage with Standby Trust Agreement, DEP Form 6035N are incorporated by reference in Section 4 of 401 KAR 34:080. The owner or operator may use his own document, provided the language is identical to that specified in either DEP Form 6035Q or 6035N. If the owner or operator chooses to establish a trust fund as described in subsection (4) of this section, DEP Form 6035N should be submitted along with the standby trust agreement as specified in subsection (5) of this section.

(2) The financial institution issuing the letter of credit shall be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(3) A letter of credit may be used to satisfy the requirements of this administrative regulation only if the assets to be collected are located in the United States. Failure to provide the written statement referenced in subsections (1) and (2) of this section shall be grounds for denial of the instrument.



## ADMINISTRATIVE REGISTER - 625

(4) An owner or operator who uses a letter of credit to satisfy the requirements of this section may also establish a standby trust fund. Under the terms of such a letter of credit all amounts paid pursuant to a draft by the trustee of the standby trust shall be deposited by the issuing institution into the standby trust in accordance with instructions from the trustee. The trustee of the standby trust fund shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(5) The standby trust shall be submitted on DEP Form 6036R [the form] entitled "~~Irrevocable~~ Standby Trust Agreement for Letter of Credit Demonstrating Liability Coverage ~~[with Cover Letter for Letter of Credit]~~", as incorporated by reference in Section 4 of 401 KAR 34:080, and submitted with the Irrevocable Standby Letter of Credit to Demonstrate Liability Coverage with Standby Trust Agreement, DEP Form 6035N.

Section 9. Surety Bond for Liability Coverage. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining a Payment Bond to Demonstrate Liability Coverage [surety bond] that conforms to the requirements of this section and submitting a copy of the bond to the cabinet.

(2) The surety company issuing the bond shall be among those listed as acceptable sureties on federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.

(3) A Payment Bond to Demonstrate Liability Coverage [surety bond] may be used to satisfy the requirements of this administrative regulation only if the assets to be collected are located in the United States. Failure to provide the written statement referenced in subsection (4) of this section shall be grounds for denial of the instrument.

(4) A Payment Bond to Demonstrate Liability Coverage [surety bond] may be used to satisfy the requirements of this section only if the attorney general or insurance commissioner of the state in which the surety is incorporated, and each state in which a facility covered by the Payment Bond to Demonstrate Liability Coverage [surety bond] is located have provided a written statement to the cabinet that a Payment Bond to Demonstrate Liability Coverage [surety bond] executed as described in this section and executed on DEP Form 6035O [the form] incorporated by reference in Section 4 of 401 KAR 34:080 is legally valid and enforceable obligation in that state.

Section 10. Trust Fund for Liability Coverage. (1) An owner or operator may satisfy the requirements of this administrative regulation by establishing a trust fund that conforms to the requirements of this section and submitting an originally signed duplicate of the Trust Agreement to Demonstrate Liability Coverage, executed on DEP Form 6035P, incorporated by reference in Section 4 of 401 KAR 34:080. [to the cabinet.]

(2) The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(3) The trust fund for liability coverage shall be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the fund must either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this section to cover the difference. ~~[For purposes of this subsection, "the full amount of the liability coverage to be provided" means the amount of coverage for sudden and/or nonsudden occurrences required to be provided by the owner or operator by this section, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.]~~

(4) A trust fund may be used to satisfy the requirements of this administrative regulation only if the assets to be collected are located in the United States. ~~[Notwithstanding any other provisions of this part, an owner or operator using liability insurance to satisfy the requirements of this section may use, until October 16, 1982, a hazardous waste facility liability endorsement or certificate of liability insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one or more states.]~~

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were

## ADMINISTRATIVE REGISTER - 626

received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff will have an increased workload in order to process the newly regulated entities. The increase in workload will also increase costs.

2. Continuing costs or savings: Once the new entities are processed, there should not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no extra reporting requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of the regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: No alternatives were considered. These changes are consistent with federal standards and clarify the procedure for demonstrating liability coverage.

8. Assessment of expected benefits of the administrative regulation: These changes are consistent with federal standards and clarify the procedure for demonstrating liability coverage.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: Not applicable.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to hazardous waste facilities, consistent with federal standards, to protect human health and the environment.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes including hazardous waste sites or facilities. The changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of the standards. In addition, the regulation has been modified to reflect the requirements of regulation construction

specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. Agencies that manage hazardous waste facilities will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 34:180. Use and management of containers.

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.70, 224.99

STATUTORY AUTHORITY: KRS 224.01-100, 224.46-520

NECESSITY AND FUNCTION: KRS 224.46-520 requires that persons engaging in the storage, treatment, and disposal of hazardous waste obtain a permit. KRS 224.46-520 requires the Cabinet to establish standards for these permits, to require adequate financial responsibility, to establish minimum standards for closure for all facilities and the postclosure monitoring and maintenance of hazardous waste disposal facilities. This chapter establishes minimum standards for new hazardous waste sites or facilities. This administrative regulation establishes minimum standards for the use and management of containers.

Section 1. Applicability. This administrative regulation applies to owners and operators of all hazardous waste sites or facilities that



## ADMINISTRATIVE REGISTER - 627

store containers of hazardous waste, except as Section 1 of 401 KAR 34:010 provides otherwise.

Section 2. Condition of Containers. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some other way that complies with the requirements of this chapter.

Section 3. Compatibility of Waste with Containers. The owner or operator must use a container made of or lined with materials which will not react with and are otherwise compatible with the hazardous waste to be stored so that the ability of the container to contain the waste is not impaired.

Section 4. Management of Containers. (1) A container holding hazardous waste must always be closed during storage except when it is necessary to add or remove waste.

(2) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

(3) A container holding hazardous waste shall be labeled "Hazardous Waste" upon the date that hazardous waste is first added to the container.

Section 5. Inspections. At least weekly, the owner or operator must inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.

Section 6. Containment. (1) Container storage areas must have a containment system that is designed and operated in accordance with subsection (2) of this section except as otherwise provided in subsection (3) of this section.

(2) A containment system must be designed and operated as follows:

(a) A base must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(b) The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;

(c) The containment system must have sufficient capacity to contain ten (10) percent of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;

(d) Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in paragraph (c) of this subsection to contain any run-on which might enter the system; and

(e) Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as necessary to prevent overflow of the collection system.

(3) Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system defined by subsection (2) of this section, except as provided by subsection (4) of this section or provided that:

(a) The storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation; or

(b) The containers are elevated or otherwise protected from contact with accumulated liquid.

(4) Storage areas that store containers holding the wastes listed in this subsection that do not contain free liquids must have a

containment system as defined by subsection (2) of this section: F020, F021, F022, F023, F026, and F027 (chlorinated dioxins, dibenzofurans, and phenols).

Section 7. Special Requirements for Ignitable or Reactive Waste. Containers holding ignitable or reactive waste must be located at least fifteen (15) meters (approximately fifty (50) feet) from the facility's property line.

Section 8. Special Requirements for Incompatible Wastes. (1) Incompatible wastes, or incompatible wastes and materials (see 401 KAR 34:330 for examples), must not be placed in the same container, unless Section 8(2) of 401 KAR 34:020 is complied with.

(2) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material.

(3) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

Section 9. Closure. At closure, all hazardous waste and hazardous waste residues must be removed from the containment system. Remaining containers, liners, bases and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed.

Section 10. Air Emission Standards. The owner or operator shall manage all hazardous waste placed in a container in accordance with the requirements of 401 KAR 34:281.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225,

ext. 221

# REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators who store hazardous waste in containers.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff will have an increased workload in order to process the newly regulated entities. The increase in workload will also increase costs.

2. Continuing costs or savings: Once the new entities are processed, there should not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no extra paperwork or reporting requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of the regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: No alternatives were considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and environmental welfare will be better protected and improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, the environment and public health would be jeopardized.

c. If detrimental effect would result, explain detrimental effect: These amendments provide air emission standards for containers. Hazardous air emissions could pose a detrimental effect to human health or the environment.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are

no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to hazardous waste facilities that store hazardous waste in containers, consistent with federal standards, to protect human health and the environment.

## FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes applicable to the storage of hazardous waste. The changes are necessary to maintain consistency between state and local programs. Additions have been to clarify applicability of the standard. In addition, the regulation has been modified to reflect the requirements of the regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

## FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that stores hazardous waste in containers.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)

401 KAR 34:190. Tanks.

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 CFR 264 Subpart J  
STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520  
NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish minimum standards for tanks.

Section 1. Applicability. The requirements of this administrative regulation apply to owners and operators of hazardous waste sites or facilities that use tank systems for storing or treating hazardous waste, except as otherwise provided in subsections (1) to (3) of this section or in Section 1 of 401 KAR 34:010.

(1) Tank systems that are used to store or treat hazardous waste which contains no free liquids and are situated inside a building with an impermeable floor are exempted from the requirements in Section 4 of this administrative regulation. To demonstrate the absence or presence of free liquids in the stored or treated waste, the following test shall be used: EPA Method 9095 (paint filter liquids test) as described in "Test Methods for Evaluating Solid Wastes: Physical Chemical Methods" (EPA Publication No. SW-846) referenced in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010 [shall be used].

(2) Tank systems, including sumps, as defined in Section 1 of 401 KAR 34:190 [30:040], that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in Section 4(1) of this administrative regulation.

(3) Tanks, sumps, and other collection devices or systems used in conjunction with drip pads, as defined in 401 KAR 34:005 [30:040], and regulated under 401 KAR 34:285, shall meet the requirements of this administrative regulation.

Section 2. Assessment of Existing Tank System's Integrity. (1) For each existing tank system that does not have secondary containment meeting the requirements of Section 4 of this administrative regulation, the owner or operator shall determine that the tank system is not leaking or is unfit for use. Except as provided in subsection (3) of this section, the owner or operator shall obtain and keep on file at the facility a written assessment reviewed and certified by an engineer, in accordance with Section 7(4) of 401 KAR 38:070, that attests to the tank system's integrity no later than 180 days from the date of promulgation of this administrative regulation.

(2) This assessment shall determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated, to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment shall consider the following:

- (a) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;
- (b) Hazardous characteristics of the waste(s) that have been and will be handled;
- (c) Existing corrosion protection measures;
- (d) Documented age of the tank system, if available (otherwise, an estimate of the age); and
- (e) Results of a leak test, internal inspection, or other tank integrity examination such that:

1. For nonenterable underground tanks, the assessment shall include a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects; and

2. For other than nonenterable underground tanks and for ancillary equipment, this assessment shall include either a leak test, as described above, or other integrity examination, that is certified by an engineer, in accordance with Section 7(4) of 401 KAR 38:070, that addresses cracks, leaks, corrosion, and erosion.

(3) Tank systems that store or treat materials that become hazardous wastes subsequent to the date of promulgation of this administrative regulation, shall conduct the assessment within twelve (12) months after the date that the waste becomes a hazardous waste.

(4) If, as a result of the assessment conducted in accordance with subsection (1) of this section, a tank system is found to be leaking or unfit for use, the owner or operator shall comply with the requirements of Section 7 of this administrative regulation.

Section 3. Design and Installation of New Tank Systems or Components. (1) Owners or operators of new tank systems or components shall obtain and submit to the cabinet, at the time of submittal of Part B information, a written assessment, reviewed and certified by an engineer, in accordance with Section 7(4) of 401 KAR 38:070, attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The assessment shall show that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail. This assessment, which shall be used by the cabinet to review and approve or disapprove the acceptability of the tank system design, shall include, at a minimum, the following information:

(a) Design standards according to which tanks or the ancillary equipment are constructed;

(b) Hazardous characteristics of the wastes to be handled;

(c) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, a determination by a corrosion expert of:

1. Factors affecting the potential for corrosion, including but not limited to:

- a. Soil moisture content;
- b. Soil pH;
- c. Soil sulfides level;
- d. Soil resistivity;
- e. Structure to soil potential;
- f. Influence of nearby underground metal structures (for example, piping);

g. Existence of stray electric current;

h. Existing corrosion-protection measures (for example, coating, cathodic protection); and

2. The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one (1) or more of the following:

- a. Corrosion-resistant materials of construction such as special alloys, and fiberglass reinforced plastic;
- b. Corrosion-resistant coating (such as epoxy and fiberglass) with cathodic protection (for example, impressed current or sacrificial anodes); and
- c. Electrical isolation devices such as insulating joints and flanges.

(d) For underground tank system components that are likely to be adversely affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

(e) Design considerations to ensure that:

- 1. Tank foundations are able to maintain the load of a full tank;
- 2. Tank systems will be anchored to prevent flotation or dislodg-

ment where the tank system is placed in a saturated zone, or is located within a seismic fault zone subject to the standards of Section 9(1) of 401 KAR 34:020; and

3. Tank systems will withstand the effects of frost heave.

(2) The owner or operator of a new tank system shall ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or an engineer, either of whom is trained and experienced in the proper installation of tank systems or components, shall inspect the system for the presence of any of the following items:

- (a) Weld breaks;
- (b) Punctures;
- (c) Scrapes of protective coatings;
- (d) Cracks;
- (e) Corrosion; or
- (f) Other structural damage or inadequate construction and installation.

All discrepancies (for example, structural damage or inadequate construction and installation) shall be remedied before the tank system is covered, enclosed, or placed in use.

(3) New tank systems or components, that are placed underground and that are backfilled shall be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(4) All new tanks and ancillary equipment shall be tested for tightness prior to being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system shall be performed prior to the tank system being covered, enclosed, or placed into use.

(5) Ancillary equipment shall be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.

(6) The owner or operator shall provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided under subsection (1)(c) of this section, or other corrosion protection if the cabinet believes other corrosion protection is necessary to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated shall be supervised by an independent corrosion expert to ensure proper installation.

(7) The owner or operator shall obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of subsections (2) to (6) of this section, that attest that the tank system was properly designed and installed and that repairs, pursuant to subsections (2) and (4) of this section, were performed. These written statements shall also include the certification statement as required in Section 7(4) of 401 KAR 38:070.

Section 4. Containment and Detection of Releases. (1) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section shall be provided (except as provided in subsections (6) and (7) of this section):

(a) For all new tank systems or components, prior to their being put into service;

(b) For all existing tank systems used to store or treat EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027, by January 12, 1991;

(c) For those existing tank systems of known and documented age, by January 12, 1991 or when the tank system has reached fifteen (15) years of age, whichever comes later;

(d) For those existing tank systems for which the age cannot be documented, within eight (8) years of January 12, 1987, but if the age of the facility is greater than seven (7) years, secondary containment shall be provided by the time the facility reaches fifteen (15) years of age, or within two (2) years of January 12, 1987, whichever comes later; and

(e) For tank systems that store or treat materials that become hazardous wastes subsequent to the date of promulgation of this administrative regulation within the time intervals required in paragraphs (a) to (d) of this subsection, except that the date that a material becomes a hazardous waste shall be used in place of the date of promulgation of this administrative regulation.

(2) Secondary containment systems shall be:

(a) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater, or surface water at any time during the use of the tank system; and

(b) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(3) To meet the requirements of subsection (2) of this section, secondary containment systems shall be at a minimum:

(a) Constructed of or lined with materials that are compatible with the waste(s) to be placed in the tank system and shall have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic);

(b) Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

(c) Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within twenty-four (24) hours, or at the earliest practicable time if the owner or operator can demonstrate to the cabinet that existing detection technologies or site conditions will not allow detection of a release within twenty-four (24) hours; and

(d) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation shall be removed from the secondary containment system within twenty-four (24) hours, or in as timely a manner as is possible to prevent harm to human health and the environment, if the owner or operator can demonstrate to the cabinet that removal of the released waste or accumulated precipitation cannot be accomplished within twenty-four (24) hours.

(e) If the collected material is a hazardous waste under 401 KAR Chapter 31 it is subject to management as a hazardous waste in accordance with all applicable requirements of 401 KAR Chapters 32 to 35. If the collected material is discharged through a point source to waters of the Commonwealth, it is subject to the requirements of KRS Chapter 224 and 401 KAR Chapter 5. If discharged to a publicly owned treatment works (POTW), it is subject to the requirements of KRS Chapter 224 and 401 KAR Chapter 5. If the collected material is released to the environment it may be subject to the reporting requirements of 40 CFR Part 302 and KRS 224.01-400.

(4) Secondary containment for tanks shall include one (1) or more of the following devices:

- (a) A liner (external to the tank);
- (b) A vault;
- (c) A double-walled tank; or
- (d) An equivalent device as approved by the cabinet.

(5) In addition to the requirements of subsections (2), (3), and (4) of this section, secondary containment systems shall satisfy the following requirements:

(a) External liner systems shall be:

1. Designed and operated to contain 100 percent of the capacity of the largest tank within its boundary;

2. Designed and operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity shall be sufficient to contain precipitation from a twenty-five (25) year, twenty-four (24) hour rainfall event;

3. Free of cracks or gaps; and

4. Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank(s) (that is, capable of preventing lateral as well as vertical migration of the waste).

(b) Vault systems shall be:

1. Designed and operated to contain 100 percent of the capacity of the largest tank within its boundary;

2. Designed and operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity shall be sufficient to contain precipitation from a twenty-five (25) year, twenty-four (24) hour rainfall event;

3. Constructed with chemical-resistant water stops in place at all joints (if any);

4. Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

5. Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

a. Meets the definition of ignitable waste under Section 2 of 401 KAR 31:030; or

b. Meets the definition of reactive waste under Section 4 of 401 KAR 31:030 and may form an ignitable or explosive vapor.

6. Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(c) Double-walled tanks shall be:

1. Designed as an integral structure (that is, an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell;

2. Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell; and

3. Provided with a built-in continuous leak detection system capable of detecting a release within twenty-four (24) hours, or at the earliest practicable time, if the owner or operator can demonstrate to the cabinet, and the cabinet concludes, that the existing detection technology or site conditions would not allow detection of a release within twenty-four (24) hours.

(6) Ancillary equipment shall be provided with secondary containment (for example, trench, jacketing, double-walled piping) that meets the requirements of subsections (2) and (3) of this section except for:

(a) Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;

(b) Welded flanges, welded joints, and welded connections, that are visually inspected for leaks on a daily basis;

(c) Sealless or magnetic coupling pumps and all sealless valves, that are visually inspected for leaks on a daily basis; and

(d) Pressurized aboveground piping systems with automatic shutoff devices (for example, excess flow check valves, flow metering shutdown devices, or loss of pressure actuated shutoff devices) that are visually inspected for leaks on a daily basis.

(7) The owner or operator may obtain a variance from the requirements of this section if the cabinet finds, as a result of a demonstration by the owner or operator that alternative design and

operating practices, together with location characteristics, will prevent the migration of any hazardous waste or hazardous constituents into the groundwater or surface water at least as effectively as secondary containment during the active life of the tank system; or that in the event of a release that does migrate to groundwater or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with paragraph (b) of this subsection, be exempted from the secondary containment requirements of this section.

(a) In deciding whether to grant a variance based on a demonstration of equivalent protection of groundwater and surface water, the cabinet will consider:

1. The nature and quantity of the wastes;

2. The proposed alternate design and operation;

3. The hydrogeologic setting of the facility, including the thickness of soils between the tank system and groundwater; and

4. All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to groundwater or surface water.

(b) In deciding whether to grant a variance based on a demonstration of no substantial present or potential hazard, the cabinet will consider:

1. The potential adverse effects on groundwater, surface water and land quality taking into account:

a. The physical and chemical characteristics of the waste in the tank system, including its potential for migration;

b. The hydrogeological characteristics of the facility and surrounding land;

c. The potential for health risks caused by human exposure to waste constituents;

d. The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

e. The persistence and permanence of the potential adverse effects;

2. The potential adverse effects of a release on groundwater quality, taking into account:

a. The quantity and quality of groundwater and the direction of groundwater flow;

b. The proximity and withdrawal rates of groundwater in the area;

c. The current and future uses of groundwater in the area; and

d. The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

3. The potential adverse effects of a release on surface water quality taking into account:

a. The quantity and quality of groundwater and the direction of groundwater flow;

b. The patterns of rainfall in the region;

c. The proximity of the tank system to surface waters;

d. The current and future uses of surface waters in the area and any water quality standards established for those surface waters; and

e. The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality; and

4. The potential adverse effects of a release on the land surrounding the tank system, taking into account:

a. The patterns of rainfall in the region; and

b. The current and future uses of the surrounding land;

(c) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (a) of this subsection, at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), shall:

1. Comply with the requirements of Section 7 of this administrative regulation except subsection (4) of that section; and

2. Decontaminate or remove contaminated soil to the extent

necessary to:

a. Enable the tank system for which the variance was granted to resume operation with the capability for the detection of releases at least equivalent to the capability it had prior to the release; and

b. Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water; and

3. If contaminated soil cannot be removed or decontaminated in accordance with subparagraph 2 of this paragraph, comply with the requirement of Section 8(2) of this administrative regulation.

(d) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (a) of this subsection, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), shall:

1. Comply with the requirements of Sections 7(1) to (4) of this administrative regulation; and

2. Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed or if groundwater has been contaminated, the owner or operator shall comply with the requirements of Section 8(2) of this administrative regulation; and

3. If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of subsections (1) to (6) of this section or reapply for a variance from secondary containment and meet the requirements for new tank systems in Section 3 of this administrative regulation if the tank system is replaced. The owner or operator shall comply with these requirements even if contaminated soil can be decontaminated or removed and groundwater or surface water has not been contaminated.

(8) The following procedures shall be followed in order to request a variance from secondary containment:

(a) The owner or operator shall notify the cabinet in writing that he intends to conduct and submit a demonstration for a variance from secondary containment as allowed in subsection (7) according to the following schedule:

1. For existing tank systems, at least twenty-four (24) months prior to the date that secondary containment will be provided in accordance with subsection (1) of this section.

2. For new tank systems, at least thirty (30) days prior to entering into a contract for installation.

(b) As part of the notification, the owner or operator shall also submit to the cabinet a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration shall address each of the factors listed in subsection (7)(a) or (b) of this section.

(c) The demonstration for a variance shall be completed within 180 days after notifying the cabinet of an intent to conduct the demonstration; and

(d) If a variance is granted under this subsection, the cabinet will require the permittee to construct and operate the tank system in the manner that was demonstrated to meet the requirements for the variance.

(9) All tank systems, until such time as secondary containment that meets the requirements of this section is provided, shall comply with the following:

(a) For nonenterable underground tanks, a leak test that meets the requirements of Section 2(1) of this administrative regulation or other tank integrity method, as approved or required by the cabinet shall be conducted at least annually.

(b) For other than nonenterable underground tanks, the owner or operator shall either conduct a leak test as in paragraph (a) of this subsection or develop a schedule and procedure for an assessment of the overall condition of the tank system by an engineer. The schedule and procedure shall be adequate to detect obvious cracks,

leaks, and corrosion or erosion that may lead to cracks and leaks. The owner or operator shall remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed. The frequency of these assessments shall be based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection, and the characteristics of the waste being stored or treated.

(c) For ancillary equipment, a leak test or other integrity assessment as approved by the cabinet shall be conducted at least annually.

(d) The owner or operator shall maintain on file at the facility a record of the results of the assessments conducted in accordance with subsection (1)(a) to (c) of this section.

(e) If a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment in paragraphs (a) to (c) of this subsection, the owner or operator shall comply with the requirements of Section 7 of this administrative regulation.

Section 5. General Operating Requirements. (1) Hazardous wastes or treatment reagents shall not be placed in a tank system if they may cause the tank, its ancillary equipment, or the secondary containment system to rupture, leak, corrode, or otherwise fail.

(2) The owner or operator shall use appropriate controls and practices to prevent spills and overflows from tank or secondary containment systems. These include at a minimum:

(a) Spill prevention controls (for example, check valves or dry disconnect couplings);

(b) Overfill prevention controls (for example, level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

(c) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(3) The owner or operator shall comply with the requirements of Section 7 of this administrative regulation if a leak or spill occurs in the tank system.

Section 6. Inspections. (1) The owner or operator shall develop and follow a schedule and procedure for inspecting overfill controls.

(2) The owner or operator shall inspect at least once each operating day:

(a) Aboveground portions of the tank system, if any, to detect corrosion or releases of waste;

(b) Data gathered from monitoring and leak detection equipment (for example, pressure or temperature gauges, and monitoring wells) to ensure that the tank system is being operated according to its design; and

(c) The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (for example, dikes) to detect erosion or signs of releases of hazardous waste (for example, wet spots or dead vegetation).

(3) The owner or operator shall inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly:

(a) The proper operation of the cathodic protection system shall be confirmed within six (6) months after initial installation and annually thereafter; and

(b) All sources of impressed current shall be inspected and tested as appropriate, at least every other month.

(4) The owner or operator shall document in the operating record of the facility an inspection of those items in subsections (1) to (3) of this section.

Section 7. Response to Leaks or Spills and Disposition of Leaking or Unfit-for-use Tank Systems. A tank system or secondary containment system from which there has been a leak or spill, or which is



unfit for use shall be removed from service immediately, and the owner or operator shall satisfy the following requirements:

(1) Cessation of use: prevent flow or addition of wastes. The owner or operator shall immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(2) Removal of waste from tank system or secondary containment system.

(a) If the release was from the tank system, the owner or operator shall, within twenty-four (24) hours after detection of the leak or, if the owner or operator demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(b) If the material released was to a secondary containment system all released materials shall be removed within twenty-four (24) hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(3) Containment of visible releases to the environment. The owner or operator shall immediately conduct a visual inspection of the release and based upon that inspection shall:

(a) Prevent further migration of the leak or spill to soils or surface water; and

(b) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(4) Notifications and reports.

(a) Any release to the environment except as provided in paragraph (b) of this subsection, shall be reported to the cabinet within twenty-four (24) hours of its detection. If the release has been reported pursuant to 40 CFR Part 302 that report will satisfy this requirement.

(b) A leak or spill of hazardous waste is exempted from the requirements of this subsection if it is:

1. Less than or equal to a quantity of one (1) pound; and
2. Immediately contained and cleaned up.

(c) Within thirty (30) days of detection of a release to the environment, a report containing the following information shall be submitted to the cabinet:

1. Likely route of migration of the release;
2. Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);
3. Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within thirty (30) days, these data shall be submitted to the cabinet as soon as they become available;
4. Proximity to downgradient drinking water, surface water, and populated areas; and
5. Description of response actions taken or planned.

(5) Provision of secondary containment, repair or closure.

(a) Unless the owner or operator satisfies the requirements of paragraphs (b) to (d) of this subsection, the tank system shall be closed in accordance with Section 8 of this administrative regulation.

(b) If the cause of the release was a spill that has not damaged the integrity of the system, the owner or operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(c) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system shall be repaired prior to returning the tank system to service.

(d) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner or operator shall provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of Section 4 of this administrative regulation before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected

visually, the component shall be repaired and may be returned to service without secondary containment as long as the requirements of subsection (6) of this section are satisfied. If a component is replaced to comply with the requirements of this paragraph that component shall satisfy the requirements for new tank systems or components in Sections 3 and 4 of this administrative regulation. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (for example, the bottom of an in-ground or on-ground tank), the entire component shall be provided with secondary containment in accordance with Section 4 of this administrative regulation prior to being returned to use.

(6) Certification of major repairs. If the owner or operator has repaired a tank system in accordance with subsection (5) of this section, and the repair has been extensive (for example, installation of an internal liner, repair of a ruptured primary containment or secondary containment vessel), the tank system shall not be returned to service unless the owner or operator has obtained a certification by an engineer, in accordance with Section 7(4) of 401 KAR 38:070 that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification shall be submitted to the cabinet within seven (7) days after returning the tank system to use.

Section 8. Closure and Postclosure Care. (1) At closure of a tank system, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components (for example, liners), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless Section 3(4) of 401 KAR 31:010 applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems shall meet all of the requirements specified in 401 KAR 34:070 to 34:176.

(2) If the owner or operator demonstrates that not all contaminated soil can be practicably removed or decontaminated as required in subsection (1) of this section, then the owner or operator shall close the tank system and perform postclosure care in accordance with the closure and postclosure care requirements that apply to landfills (Section 6 of 401 KAR 34:230). In addition, for the purposes of closure, postclosure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator shall meet all of the requirements for landfills specified in 401 KAR 34:070 to 34:176.

(3) If an owner or operator has a tank system that does not have secondary containment that meets the requirements of Section 4(2) to (6) of this administrative regulation and it is not exempt from the secondary containment requirements in accordance with Section 4(7) of this administrative regulation then:

(a) The closure plan for the tank system shall include both a plan for complying with subsection (1) of this section and a contingent plan for complying with subsection (2) of this section;

(b) A contingent postclosure plan for complying with subsection (2) of this section shall be prepared and submitted as part of the permit application;

(c) The cost estimates calculated for closure and postclosure care shall reflect the costs of complying with the contingent closure plan and the contingent postclosure plan, if those costs are greater than the costs of complying with the closure plan prepared for the expected closure under subsection (1) of this section;

(d) Financial assurance shall be based on the cost estimates in paragraph (c) of this subsection;

(e) For the purposes of the contingent closure and postclosure plans, such a tank system is considered to be a landfill, and the contingent plans shall meet all of the closure, postclosure, and financial responsibility requirements for landfills under 401 KAR 34:070 to 34:176; and

(f) For new tank systems that will close in accordance with

## ADMINISTRATIVE REGISTER - 634

subsection (2) of this section, the owner or operator shall demonstrate compliance with 401 KAR 38:500.

### Section 9. Special Requirements for Ignitable or Reactive Wastes.

(1) Ignitable or reactive waste shall not be placed in a tank unless:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the tank so that:

1. The resulting waste, mixture or dissolved material no longer meets the definition of ignitable or reactive waste under Section 2 or 4 of 401 KAR 31:030; and

2. Section 8(2) of 401 KAR 34:020 is complied with; or

(b) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(c) The tank system is used solely for emergencies.

(2) The owner or operator of a facility where ignitable or reactive waste is stored or treated in a tank shall comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 to 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1977 or 1981), referenced in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010.

Section 10. Special Requirements for Incompatible Wastes. (1) Incompatible wastes, or incompatible wastes and materials, shall not be placed in the same tank system unless Section 8(2) of 401 KAR 34:020 is complied with.

(2) Hazardous waste shall not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless Section 8(2) of 401 KAR 34:020 is complied with.

Section 11. Air Emission Standards. The owner or operator shall manage all hazardous waste placed in a tank in accordance with the requirements of 401 KAR 34:281.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal

opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities that use tank systems for storing or treating hazardous waste.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff will have an increased workload in order to process the newly regulated entities. The increase in workload will also increase costs.

2. Continuing costs or savings: Once the new entities are processed, there should not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork or reporting requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants will be used to implement and enforce the regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with existing federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The implementation of this regulation will improve public health and the environmental welfare across the commonwealth.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, a detrimental effect could occur if this regulation is not implemented.

c. If detrimental effect would result, explain detrimental effect: The



tanks could leak and have a negative effect on human health and/or the environment if they are not tested to be leak proof.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap the regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to hazardous waste facilities that store or treat hazardous waste in tanks, consistent with federal standards, to protect human health and the environment.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to hazardous waste facilities that use tank systems. The changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of the standards. In addition, the regulation has been modified to reflect the requirements of the regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities which use tank systems for storing or treating hazardous waste.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or

local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 34:200. Surface impoundments.

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 CFR 264 Subpart K

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 relative to surface impoundments.

Section 1. Applicability. This administrative regulation applies to owners and operators of hazardous waste sites or facilities that use surface impoundments to treat, store or dispose of hazardous waste, except as Section 1 of 401 KAR 34:010 provides otherwise.

Section 2. Design and Operating Requirements. (1) Any surface impoundment that is not covered by subsection (3) of this section or Section 1 of 401 KAR 35:200 shall have a liner for all portions of the impoundment (except for existing portions of such impoundments). The liner shall be designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but not into the adjacent subsurface soil or ground water or surface water) during the active life of the facility, provided that the impoundment is closed in accordance with Section 6(1)(a) of this administrative regulation. For impoundments that will be closed in accordance with Section 6(1)(b) of this administrative regulation, the liner shall be constructed of materials that can prevent wastes from migrating into the liner during the active life of the facility. The liner shall be:

(a) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, geological conditions including, where applicable, karst features, the stress of installation, and the stress of daily operation; and

(b) Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(2) The owner or operator may be exempted from the requirements of subsection (1) of this section if the cabinet finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see Section 4 of 401 KAR 34:060) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the cabinet shall consider:

(a) The nature and quantity of the wastes;

(b) The proposed alternate design and operation;

(c) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the impoundment and ground water or surface water; and

(d) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground

water or surface water.

(3) The owner or operator of each new surface impoundment unit on which construction commences after January 29, 1992, each lateral expansion of a surface impoundment unit on which construction commences after July 29, 1992 and each replacement of an existing surface impoundment unit that is to commence reuse after July 29, 1992 shall install two (2) or more liners and a leachate collection and removal system between such liners. "Construction commences" is defined in Section 1(89) 401 KAR 34:005 ~~[30:040 under "existing facility"]~~.

(a)1. The liner system shall include:

a. A top liner designed and constructed of materials (for example, a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and postclosure care period; and

b. A composite bottom liner, consisting of at least two (2) components. The upper component shall be designed and constructed of materials (for example, a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and postclosure care period. The lower component shall be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component shall be constructed of at least three (3) feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/sec.

2. The liners shall comply with subsection (1)(a) and (b) of this section.

(b) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, shall also be a leak detection system. This leak detection system shall be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and postclosure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum:

1. Constructed with a bottom slope of one (1) percent or more;

2. Constructed of granular drainage materials with a hydraulic conductivity of  $1 \times 10^{-1}$  cm/sec or more and a thickness of twelve (12) inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of  $3 \times 10^{-4}$  m<sup>2</sup>/sec or more;

3. Constructed of materials that are chemically resistant to the waste managed in the surface impoundment and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes and any waste cover materials or equipment used at the surface impoundment;

4. Designed and operated to minimize clogging during the active life and postclosure care period; and

5. Constructed with sumps and liquid removal methods (for example, pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit shall have its own sump(s). The design of each sump and removal system shall provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed from the sump.

(c) The owner or operator shall collect and remove pumpable liquids in the sumps to minimize the head on the bottom liner.

(d) Surface impoundments for the disposal of hazardous waste shall be located entirely above the seasonal high-water table in accordance with Section 9(2) of 401 KAR 34:020.

(4) The cabinet may approve alternative design or operating practices to those specified in subsection (3) of this section if the owner or operator demonstrates to the cabinet that such design and operating practices, together with location characteristics:

(a) Will prevent the migration of any hazardous constituent into the groundwater or surface water at least as effectively as the liners

and leachate collection and removal system specified in subsection (3) of this section; and

(b) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.

(5) The double liner requirement set forth in subsection (3) of this section may be waived by the cabinet for any monofill, if:

(a) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristics in Section 5 of 401 KAR 31:030; and

(b)1.a. The monofill has at least one (1) liner, as defined in 401 KAR 34:005, for which there is no evidence that such liner is leaking. ~~[For the purposes of this subsection the term "liner" means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility.]~~ In the case of any surface impoundment which has been exempted from the requirements of subsection (3) of this section on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment, the owner or operator shall remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such impoundment shall comply with appropriate postclosure requirements, including but not limited to ground water monitoring and corrective action;

b. The monofill is located more than one-fourth (1/4) mile from an underground source of drinking water (as that term is defined in Section 1 of 401 KAR 34:005 ~~[30:040]~~); and

c. The monofill is in compliance with generally applicable ground water monitoring requirements for facilities with permits under KRS 224.40-310 and 224.46-520; or

2. The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(6) The owner or operator of any replacement surface impoundment unit is exempt from subsection (3) of this section if:

(a) The existing unit was constructed in compliance with design standards of this administrative regulation; and

(b) There is no reason to believe that the liner is not functioning as designed.

(7) A surface impoundment shall be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error.

(8) A surface impoundment shall have dikes that are designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes. In insuring structural integrity, it shall not be presumed that the liner system will function without leakage during the active life of the unit.

(9) A new surface impoundment shall not be constructed in a floodway in accordance with Section 9(2) of 401 KAR 34:020.

(10) A surface impoundment (including its underlying liners) for the treatment or storage of hazardous waste shall be protected from inundation by waters of the 100-year flood in accordance with Section 9(2) of 401 KAR 34:020.

(11) New surface impoundments for the disposal of hazardous waste shall be located entirely above the seasonal high-water table, in accordance with Section 9(2) of 401 KAR 34:020.

(12) The cabinet shall specify in the permit all design and operating practices that are necessary to ensure that the require-

ments of this section are satisfied.

Section 3. Action Leakage Rate. (1) The cabinet shall approve an action leakage rate for surface impoundment units subject to Section 2(3) or (4) of this administrative regulation. The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding one (1) foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design (for example, slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (for example, the action leakage rate shall consider decreases in the flow capacity of the system over time resulting from factors including siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures).

(2) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly or monthly flow rate from the monitoring data obtained under Section 4(4) of this administrative regulation to an average daily flow rate (gallons per acre per day) for each sump. Unless the cabinet approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period, and if the unit is closed in accordance with Section 6(2) of this administrative regulation, monthly during the postclosure care period when monthly monitoring is required under Section 4(4) of this administrative regulation.

(3) 401 KAR 34:060 Ground water protection requirements apply to all surface impoundments including those with double-liner systems.

Section 4. Monitoring and Inspection. (1) During construction and installation, liners (except in the case of existing portions of surface impoundments exempt from Section 2 of this administrative regulation) and cover systems (e.g., membranes, sheets, or coatings) shall be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(a) Synthetic liners and covers shall be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(b) Soil-based and admixed liners and covers shall be inspected for imperfections including lenses, cracks, channels, root holes, or other structural nonuniformities that may cause an increase in the permeability of the liner or cover.

(2) While a surface impoundment is in operation, it shall be inspected weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions, or improper operation of overtopping control systems;

(b) Sudden drops in the level of the impoundment's contents as computed by the water balance calculations required in 401 KAR 34:050 and as observed by flow measuring devices; and

(c) Severe erosion or any other signs of deterioration in dikes or other containment devices.

(3) Prior to the issuance of a permit, and after any extended period of time (at least six (6) months) during which the impoundment was not in service, the owner or operator shall obtain a certification from a qualified engineer registered in Kentucky that the impoundment's dike, including that portion of any dike which provides freeboard, has structural integrity. The certification shall establish, in particular, that the dike:

(a) Will withstand the stress of the pressure exerted by the types and amounts of wastes to be placed in the impoundment; and

(b) Will not fail due to scouring or piping, without dependence on any liner system included in the surface impoundment construction.

(4)(a) An owner or operator required to have a leak detection

system under Section 2(3) or (4) of this administrative regulation shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(b) The amount of liquids removed from each leak detection system sump shall be recorded at least monthly throughout the postclosure care period.

Section 5. Emergency Repairs; Contingency Plans. (1) A surface impoundment shall be removed from service in accordance with subsection (2) of this section when:

(a) The level of liquids in the impoundment suddenly drops and the drop is not known to be caused by changes in the flows into or out of the impoundment; or

(b) The dike leaks.

(2) When a surface impoundment is removed from service as required by subsection (1) of this section, the owner or operator shall:

(a) Immediately shut off the flow or stop the addition of wastes into the impoundment;

(b) Immediately contain any surface leakage which has occurred or is occurring;

(c) Immediately stop the leak;

(d) Take any other necessary steps to stop or prevent catastrophic failure;

(e) If a leak cannot be stopped by any other means, empty the impoundment; and

(f) Notify the cabinet of the problem in writing within seven (7) days after detecting the problem.

(3) As part of the contingency plan required in 401 KAR 34:040 the owner or operator shall specify a procedure for complying with the requirements of this section.

(4) No surface impoundment that has been removed from service in accordance with the requirements of this section may be restored to service unless the portion of the impoundment which was failing is repaired and the following steps are taken:

(a) If the impoundment was removed from service as the result of actual or imminent dike failure, the dike's structural integrity shall be recertified in accordance with Section 4(3) of this administrative regulation.

(b) If the impoundment was removed from service as the result of a sudden drop in the liquid level, then:

1. For any existing portion of the impoundment, a liner shall be installed in compliance with Section 2 of this administrative regulation; and

2. For any other portion of the impoundment, the repaired liner system shall be certified by a qualified engineer as meeting the design specifications approved in the permit.

3. Determine, using water balance calculations in accordance with 401 KAR 34:050, how much liquid was lost, where the liquid went and take appropriate actions.

(5) A surface impoundment that has been removed from service in accordance with the requirements of this section and that is not being repaired within six (6) months time, as specified by the cabinet, shall be closed in accordance with the provisions of Section 6 of this administrative regulation.

Section 6. Closure and Postclosure Care. (1) At closure, the owner or operator shall:

(a) Remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless Section 3 of 401 KAR 31:010 applies; or

(b) Treat in such a manner so as to:

1. Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

2. Stabilize remaining wastes to a bearing capacity sufficient to

support final cover; and

3. Cover the surface impoundment with a final cover designed and constructed to:

- a. Provide long-term minimization of the migration of liquids through the closed impoundment;
- b. Function with minimum maintenance;
- c. Promote drainage and minimize erosion or abrasion of the final cover;
- d. Accommodate settling and subsidence so that the cover's integrity is maintained; and
- e. Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(2) If some waste residues or contaminated materials are left in place at final closure, the owner or operator shall comply with all postclosure requirements contained in Sections 8 to 11 of 401 KAR 34:070, including maintenance and monitoring throughout the postclosure care period (specified in the permit under Section 9 of 401 KAR 34:070). The owner or operator shall:

(a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(b) Maintain and monitor the leak detection system in accordance with Sections 2(3)(b)4 and (c) and 4(4)(a) and (b) of this administrative regulation, and comply with all other applicable leak detection system requirements of this chapter;

(c) Maintain and monitor the ground water monitoring system and comply with all other applicable requirements of 401 KAR 34:060; and

(d) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

(3)(a) If an owner or operator plans to close a surface impoundment in accordance with subsection (1)(a) of this section, and the impoundment does not comply with the liner requirements of Section 2(1) of this administrative regulation and is not exempt from them in accordance with Section 2(2) of this administrative regulation, then:

1. The closure plan for the impoundment under Section 3 of 401 KAR 34:070 shall include both a plan for complying with subsection (1)(a) of this section and a contingent plan for complying with subsection (1)(b) of this section, which is also in compliance with 401 KAR 38:500 and KRS 224.40-310(3), in case not all contaminated subsoils can be practicably removed at closure; and

2. The owner or operator shall prepare a contingent postclosure plan under Section 9 of 401 KAR 34:070 for complying with subsection (2) of this section, which is also in compliance with 401 KAR 38:500 and KRS 224.855(3), in case not all contaminated subsoils can be practicably removed at closure.

(b) The cost estimates calculated under Section 1 of 401 KAR 34:090 and Section 1 of 401 KAR 34:100 for closure and postclosure care of an impoundment subject to this paragraph shall include separate analyses of the cost of complying with the contingent closure plan and the contingent postclosure plan in addition to the cost of expected closure under subsection (1)(a) of this section.

Section 7. Special Requirements for Ignitable or Reactive Waste. Ignitable or reactive waste shall not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of 401 KAR Chapter 37 and:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

(a) The resulting waste no longer meets the definition of ignitable or reactive waste under 401 KAR Chapter 31; and

(b) Section 8 of 401 KAR 34:020 is complied with; or

(2) The surface impoundment is used solely for emergencies.

Section 8. Special Requirements for Incompatible Wastes. Incompatible wastes, or incompatible wastes and materials (see 401 KAR 34:330 for examples) shall not be placed in the same surface impoundment.

Section 9. Special Requirements for Hazardous Wastes F020, F021, F022, F023, F026, and F027. (1) Hazardous wastes F020, F021, F022, F023, F026, and F027 (chlorinated dioxins, chlorinated dibenzofurans, and chlorinated phenols) shall not be placed in surface impoundment unless the owner or operator operates the surface impoundment in accordance with a management plan for these wastes that is approved by the cabinet pursuant to the standards set out in this section, and in accordance with all other applicable requirements of this chapter. The factors to be considered are:

(a) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(b) The attenuative properties of underlying and surrounding soils or other materials;

(c) The mobilizing properties of other materials codisposed with these wastes; and

(d) The effectiveness of additional treatment, design, or monitoring techniques.

(2) The cabinet may determine that additional design, operating, and monitoring requirements are necessary for surface impoundments managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

Section 10. Response Actions. (1) The owner or operator of surface impoundment units subject to Section 2(3) or (4) of this administrative regulation shall have an approved response action plan before receipt of waste. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in subsection (2) of this section.

(2) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall:

(a) Notify the cabinet in writing of the excess within seven (7) days of the determination;

(b) Submit a preliminary written assessment to the cabinet within fourteen (14) days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(c) Determine to the extent practicable the location, size, and cause of any leak;

(d) Determine whether waste receipt shall cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(e) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(f) Within thirty (30) days after the notification that the action leakage rate has been exceeded, submit to the cabinet the results of the analyses specified in paragraphs (c), (d), and (e) of this subsection, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the cabinet a report summarizing the results of any remedial actions taken and actions planned.

(3) To make the leak and remediation determinations in subsection (2)(c), (d), and (e) of this section, the owner or operator shall:

(a)1. Assess the source of liquids and amounts of liquids by source;

2. Conduct a fingerprint, hazardous constituent, or other analysis of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

3. Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(b) Document why such assessments are not needed.

Section 11. Air Emission Standards. The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the requirements of 401 KAR 34:281.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities that use surface impoundments to treat, store, or dispose of hazardous waste.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff of the agency will have an increase in workload in order to process the newly regulated entities.

2. Continuing costs or savings: There will be no extra costs once the new entities are processed.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork or reporting requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are anticipated to pay for the implementation and enforcement of the regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: The anticipated benefit is that these amendments provide consistency with existing federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and environmental welfare will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: A detrimental effect could occur without the implementation of this regulation.

c. If detrimental effect would result, explain detrimental effect: Air emissions originating from a surface impoundment could affect human health or the environment.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap with this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste facilities that place waste in a surface impoundment, consistent with federal standards, to protect human health and the environment.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to owners and operators of hazardous waste facilities that use surface impoundments. The changes are necessary to maintain consistency between state and federal programs. Additions have been made to clarify the applicability of the standards. In addition, the regulation has been modified to reflect the requirements of the regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal

mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities which use surface impoundments to treat, store, or dispose of hazardous waste.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 34:210. Waste piles.

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 CFR 264 Subpart L

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish minimum standards for waste piles.

Section 1. Applicability. (1) This administrative regulation applies to owners and operators of hazardous waste sites or facilities that store or treat hazardous waste in piles, except as Section 1 of 401 KAR 34:010 provides otherwise.

(2) This administrative regulation does not apply to owners or operators of waste piles that are closed with wastes left in place. Such waste piles are subject to administrative regulation under 401 KAR 34:230 (Landfills).

(3) The owner or operator of any waste pile that is inside or under a structure that provides protection from precipitation so that neither run-off nor leachate is generated is not subject to administrative

regulation under Section 2 of this administrative regulation or under 401 KAR 34:060, provided that:

(a) Liquids or materials containing free liquids are not placed in the pile;

(b) The pile is protected from surface water run-on by the structure or in some other manner;

(c) The pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting; and

(d) The pile will not generate leachate through decomposition or other reactions.

Section 2. Design and Operating Requirements. (1) A waste pile (except for an existing portion of a waste pile) shall have:

(a) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the pile into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the waste pile. The liner may be constructed of materials that may allow waste to migrate into the liner itself (but not into the adjacent subsurface soil or groundwater or surface water) during the active life of the facility. The liner shall be:

1. Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation; and

2. Placed upon a foundation or base capable of providing support to the liner and resistant to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

3. Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(b) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the pile. The cabinet shall specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed thirty (30) cm (approximately one (1) foot). The leachate collection and removal system shall be:

1. Constructed of materials that are:

a. Chemically resistant to the waste managed in the pile and the leachate expected to be generated; and

b. Of sufficient strength and thickness to prevent collapse under the pressures exerted by waste placement, overlying wastes, waste cover materials, and by any equipment used at the pile; and

2. Designed and operated to function without clogging through the scheduled closure of the waste pile.

(2) The owner or operator may be exempted from the requirements of subsection (1) of this section if the cabinet finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see Section 4 of 401 KAR 34:060) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the cabinet shall consider:

(a) The nature and quantity of the wastes;

(b) The proposed alternate design and operation;

(c) The hydrogeologic setting of the facility, including attenuative capacity and thickness of the liners and soils present between the pile and groundwater or surface water; and

(d) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(3) The owner or operator of each new waste pile unit on which construction commences after January 29, 1992, each lateral expansion of a waste pile unit on which construction commences after July 29, 1992, and each replacement of an existing waste pile unit that is to commence reuse after July 29, 1992 shall install two (2) or



more liners and a leachate collection and removal system above and between such liners. "Construction commences" is defined in Section 1(89) of 401 KAR 34:005 [30:010 under "existing facility"].

(a)1. The liner system shall include:

a. A top liner designed and constructed of materials (for example, a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and postclosure care period; and

b. A composite bottom liner, consisting of at least two (2) components. The upper component shall be designed and constructed of materials (for example, a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and postclosure care period. The lower component shall be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component shall be constructed of at least three (3) feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/sec.

2. The liners shall comply with subsection (1)(a)1, 2, and 3 of this section.

(b) The leachate collection and removal system immediately above the top liner shall be designed, constructed, operated, and maintained to collect and remove leachate from the waste pile during the active life and postclosure care period. The cabinet shall specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed thirty (30) cm (one (1) foot). The leachate collection and removal system shall comply with paragraph (c)3 and 4 of this subsection.

(c) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, shall also be a leak detection system. This leak detection system shall be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and postclosure care period. The requirements for a leak detection system in this administrative regulation are satisfied by installation of a system that is, at a minimum:

1. Constructed with a bottom slope of one (1) percent or more;

2. Constructed of granular drainage materials with a hydraulic conductivity of  $1 \times 10^{-2}$  cm/sec or more and a thickness of twelve (12) inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of  $3 \times 10^{-5}$  m<sup>2</sup>/sec or more;

3. Constructed of materials that are chemically resistant to the waste managed in the waste pile and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the waste pile;

4. Designed and operated to minimize clogging during the active life and postclosure care period; and

5. Constructed with sumps and liquid removal methods (for example, pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit shall have its own sump(s). The design of each sump and removal system shall provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed from the sump.

(d) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.

(e) A leak detection system shall be located completely above the seasonal high water table.

(4) The cabinet may approve alternative design or operating practices to those specified in subsection (3) of this section if the owner or operator demonstrates to the cabinet that such design and operating practices, together with location characteristics:

(a) Will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners

and leachate collection and removal systems specified in subsection (3) of this section; and

(b) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.

(5) Subsection (3) of this section does not apply to monofills that are granted a waiver by the cabinet in accordance with Section 2(5) of 401 KAR 34:200.

(6) The owner or operator of any replacement waste pile unit is exempt from subsection (3) of this section if:

(a) The existing unit was constructed in compliance with the design standards of this administrative regulation; and

(b) There is no reason to believe that the liner is not functioning as designed.

(7) The owner or operator shall design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a twenty-five (25) year storm.

(8) The owner or operator shall design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a twenty-four (24) hour, twenty-five (25) year storm.

(9) Collection and holding facilities (tanks or basins for example) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(10) If the pile contains any particulate matter which may be subject to wind dispersal, the owner or operator shall cover or otherwise manage the pile to control wind dispersal.

(11) A new waste pile shall not be constructed in a floodway in accordance with Section 9(2) of 401 KAR 34:020.

(12) Any waste pile (including its underlying liners) for the treatment or storage of hazardous waste shall be protected from inundation by waters of the 100-year flood in accordance with Section 9(2) of 401 KAR 34:020.

(13) The cabinet shall specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

Section 3. Action Leakage Rate. (1) The cabinet shall approve an action leakage rate for waste piles subject to Section 2(3) or (4) of this administrative regulation. The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding one (1) foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design (for example, slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (for example, the action leakage rate shall consider decreases in the flow capacity of the system over time resulting from factors including siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures).

(2) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly flow rate from the monitoring data obtained under Section 5(3) of 401 KAR 34:210 to an average daily flow rate (gallons per acre per day) for each sump. Unless the cabinet approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period. The owner or operator of a double-lined waste pile is subject to administrative regulation under 401 KAR 34:060.

Section 4. Response Actions. (1) The owner or operator of waste pile units subject to Section 2(3) or (4) of this administrative regulation shall have an approved response action plan before receipt of waste. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in subsection (2) of

this section.

(2) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall:

(a) Notify the cabinet in writing of the exceedance within seven (7) days of the determination;

(b) Submit a preliminary written assessment to the cabinet within fourteen (14) days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(c) Determine to the extent practicable the location, size, and cause of any leak;

(d) Determine whether waste receipt shall cease or be curtailed, whether any waste shall be removed from the unit for inspection, repairs, or controls, and whether or not the unit shall be closed;

(e) Determine any other short-term and long-term actions to be taken to mitigate or stop any leaks; and

(f) Within thirty (30) days after the notification that the action leakage rate has been exceeded, submit to the cabinet the results of the analyses specified in paragraphs (c), (d), and (e) of this subsection, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the cabinet a report summarizing the results of any remedial actions taken and actions planned.

(3) To make the leak and remediation determinations in subsection (2)(c), (d), and (e) of this section, the owner or operator shall:

(a) 1. Assess the source of liquids and amounts of liquids by source;

2. Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

3. Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(b) Document why such assessments are not needed.

Section 5. Monitoring and Inspection. (1) During construction or installation, liners (except in the case of existing portions of piles exempt from Section 2(1) of this administrative regulation) and cover systems (membranes, sheets, or coatings for example) shall be inspected for uniformity, damage and imperfections (examples are, holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(a) Synthetic liners and covers shall be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(b) Soil-based and admixed liners and covers shall be inspected for imperfections including lenses, cracks, channels, root holes, or other structural nonuniformities that may cause an increase in the permeability of the liner or cover.

(2) While a waste pile is in operation, it shall be inspected at least weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(b) Proper functioning of wind dispersal control systems, where present; and

(c) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(3) An owner or operator required to have a leak detection system under Section 2(3) of this administrative regulation shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

Section 6. Special Requirements for Ignitable or Reactive Waste.

(1) Ignitable or reactive waste shall not be placed in a waste pile unless the waste and waste pile satisfy all applicable requirements of 401 KAR Chapter 37; and

(2) The waste is treated, rendered or mixed before placement in the pile so that:

(a) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under Section 2 or 4 of 401 KAR 31:030; and

(b) Section 8(2) of 401 KAR 34:020 is complied with.

Section 7. Special Requirements for Incompatible Wastes. (1) Incompatible wastes, or incompatible wastes and materials (see 401 KAR 34:330 for examples), shall not be placed in the same pile.

(2) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, other piles, open tanks, or surface impoundments shall be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

(3) Hazardous waste shall not be piled on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to ensure compliance with Section 8(2) of 401 KAR 34:020.

Section 8. Closure and Postclosure Care. (1) At closure, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless Section 3(4) of 401 KAR 31:010 applies.

(2) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in subsection (1) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he shall close the facility and perform postclosure care in accordance with the closure and postclosure care requirements that apply to landfills (Section 6 of 401 KAR 34:230).

(3)(a) The owner or operator of a waste pile that does not comply with the liner requirements of Section 2(1)(a) of this administrative regulation and is not exempt from them in accordance with Section 1(3) or 2(2) of this administrative regulation shall:

1. Include in the closure plan for the pile under Section 3 of 401 KAR 34:070 both a plan for complying with subsection (1) of this section and a contingent plan for complying with subsection (2) of this section which is subject to the requirements of 401 KAR 38:500 in case not all contaminated subsoils can be practicably removed at closure; and

2. Prepare a contingent postclosure plan under Section 9 of 401 KAR 34:070 for complying with subsection (2) of this section in case not all contaminated subsoils can be practicably removed at closure, which is subject to the requirements of 401 KAR 38:500.

(b) The cost estimates calculated under Section 1 of 401 KAR 34:090 and Section 1 of 401 KAR 34:100 for closure and postclosure care of a pile subject to this section shall include both a cost estimate for complying with the contingent closure plan and the cost estimate for complying with the contingent postclosure plan and the cost of expected closure under subsection (1) of this section.

Section 9. Special Requirements for Hazardous Wastes F020, F021, F022, F023, F026, and F027. (1) Hazardous waste numbers F020, F021, F022, F023, F026, and F027 (chlorinated dioxins, chlorinated dibenzofurans, and chlorinated phenols) shall not be placed in waste piles that are not enclosed (as defined in Section 1(3) of this administrative regulation) unless the owner or operator operates the waste pile in accordance with a management plan for these wastes that is approved by the cabinet pursuant to the standards set out in this section, and in accordance with all other applicable requirements of this chapter. The factors to be considered are:

(a) The volume, physical, and chemical characteristics of the

wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(b) The attenuative properties of underlying and surrounding soils or other materials;

(c) The mobilizing properties of other materials codisposed with these wastes; and

(d) The effectiveness of additional treatment, design, or monitoring techniques.

(2) The cabinet may determine that additional design, operating, and monitoring requirements are necessary for piles managing hazardous waste numbers F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities that use waste piles.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public

comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There will be no additional costs or savings.

2. Continuing costs or savings: There will be no continuing costs or savings.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There is no additional paperwork or reporting requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on the state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants will be used for the implementation and enforcement of the regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: No alternatives were considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments will provide consistency with existing federal requirements.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The implementation of this regulation will improve the health and environment across the commonwealth.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, detrimental effects could occur without the implementation of this regulation.

c. If detrimental effect would result, explain detrimental effect: The health and environment could be polluted without the implementation of this regulation.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste facilities that use waste piles, consistent with federal standards, to protect human health and the environment.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

## ADMINISTRATIVE REGISTER - 644

2. State compliance standards: The proposed amendments adopt changes that apply to hazardous waste facilities that store or treat waste in piles. The changes are necessary to maintain consistency between state and federal programs. Additions have been made to clarify the applicability of the standards. In addition, the regulation has been modified to reflect the requirements of the regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste and uses waste piles.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 34:230. Landfills.

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 CFR 264 Subpart N, 49 CFR Subpart C ~~(473, 478, 479 (1999))~~

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish the minimum standards for hazardous waste landfills.

Section 1. Applicability. This administrative regulation applies to owners and operators of facilities that dispose of hazardous waste in

landfills, except as Section 1 of 401 KAR 34:010 provides otherwise.

Section 2. Design and Operating Requirements. (1) Any landfill that is not covered by subsection (3) of this section or Section 10(1) of 401 KAR 35:230 shall have a liner system for all portions of the landfill (except for portions in existence prior to November 8, 1984). The liner system shall have:

(a) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or groundwater or surface water at anytime during the active life (including the closure period) of the landfill. The liner shall be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner shall be:

1. Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

2. Placed upon a foundation or base capable of providing support to the liner and resistant to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift. At a minimum, synthetic liners shall be placed upon a one (1) foot thick soil liner of  $1 \times 10^{-7} \text{cm/sec}$  permeability; and

3. Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(b) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The cabinet shall specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed thirty (30) cm (approximately one (1) foot). The leachate collection and removal system shall be:

1. Constructed of materials that are:

a. Chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and

b. Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

2. Designed and operated to function without clogging through the scheduled closure of the landfill.

(2) The owner or operator shall be exempted from the requirements of subsection (1) of this section if the cabinet finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see Section 4 of 401 KAR 34:060) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the cabinet shall consider:

(a) The nature and quantity of the wastes;

(b) The proposed alternate design and operation;

(c) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and groundwater or surface water; and

(d) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(3) The owner or operator of each new landfill on which construction commences after January 29, 1992, each lateral expansion of a landfill on which construction commences after July 29, 1992, and each replacement of an existing landfill unit that is to commence reuse after July 29, 1992 shall install two (2) or more liners and a leachate collection and removal system above and between such liners. "Construction commences" is as defined in Section 1(89) of 401 KAR 34:005. ~~[401 KAR 34:010 under "existing facility"]~~

(a)1. The liner system shall include:

a. A top liner designed and constructed of materials (such as a geomembrane) to prevent the migration of hazardous constituents

into the liner during the active life and postclosure care period; and

b. A composite bottom liner, consisting of at least two (2) components. The upper component shall be designed and constructed of materials (such as a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and postclosure care period. The lower component shall be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component occurs. The lower component shall be constructed of at least three (3) feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/sec.

2. The liners shall comply with subsections (1)(a)1, 2, and 3. of this section.

(b) The leachate collection and removal system immediately above the top liner shall be designed, constructed, operated, and maintained to collect and remove leachate from the landfill during the active life and postclosure care period. The cabinet shall specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed thirty (30) cm (one (1) foot). The leachate collection and removal system shall comply with paragraph (c)3 and 4 of this subsection.

(c) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system shall be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and postclosure care period. The requirements for a leak detection system in this administrative regulation are satisfied by installation of a system that is, at a minimum:

1. Constructed with a bottom slope of one (1) percent or more;

2. Constructed of granular drainage materials with a hydraulic conductivity of  $1 \times 10^{-2}$  cm/sec or more and a thickness of twelve (12) inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of  $3 \times 10^{-5}$  m<sup>2</sup>/sec or more;

3. Constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the landfill.

4. Designed and operated to minimize clogging during the active life and postclosure care period; and

5. Constructed with sumps and liquid removal methods (for example, pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit shall have its own sump(s). The design of each sump and removal system shall provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(d) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.

(e) A leak detection system shall be located completely above the seasonal high water table.

(4) The cabinet may approve alternative design or operating practices to those specified in subsection (3) of this section if the owner or operator demonstrates to the cabinet that such design and operating practices, together with location characteristics:

(a) Will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection and removal systems specified in subsection (3) of this section; and

(b) Will allow detection of leaks of hazardous constituents through the top line at least as effectively.

(5) The double liner requirement set forth in subsection (3) of this section may be waived by the cabinet for any monofill, if:

(a) The monofill contains only hazardous wastes from foundry

furnace emission controls or metal casting molding sand, and the wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristic in Section 5 of 401 KAR 31:030, with EPA hazardous waste numbers D004 through D017; and

(b)1.a. The monofill has at least one (1) liner for which there is no evidence that the liner is leaking;

b. The monofill is located more than one-fourth (1/4) mile from an underground source of drinking water (as that term is defined in Section 1 of 401 KAR 34:005 ~~(30:040)~~); and

c. The monofill is in compliance with generally applicable ground water monitoring requirements for facilities with permits under KRS 224.40-310 and 224.46-520; or

2. The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(6) The owner or operator of any replacement landfill unit is exempt from subsection (3) of this section if:

(a) The existing unit was constructed in compliance with the design standards of 401 KAR 34:200, Section 2(1) and (3), or 401 KAR 34:230, Section 2(1) and (3); and

(b) There is no reason to believe that the liner is not functioning as designed.

(7) The owner or operator shall design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a twenty-five (25) year storm.

(8) The owner or operator shall design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a twenty-four (24) hour, twenty-five (25) year storm.

(9) Collection and holding facilities (tanks or basins for example) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(10) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator shall cover or otherwise manage the landfill to control wind dispersal.

(11) A new landfill shall not be constructed in a floodway, the 100-year flood plain or in an area of seasonal high water table in accordance with Section 9(2) of 401 KAR 34:020.

(12) Existing landfills within the 100-year flood plain shall be protected from inundation by waters of the 100-year flood in accordance with Section 9(2) of 401 KAR 34:020.

(13) The cabinet shall specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

Section 3. Action Leakage Rate. (1) The cabinet shall approve an action leakage rate for landfill units subject to Section 2(3) or (4) of this administrative regulation. The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding one (1) foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design (such as slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions. (The action leakage rate shall consider decreases in the flow capacity of the system over time resulting from such factors as siltation and clogging, rib layover and creep of synthetic components of the system, and overburden pressures.)

(2) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly or monthly flow rate from the monitoring data obtained under Section 4(3) of this administrative regulation, to an average daily flow rate (gallons per acre per

day) for each sump. Unless the cabinet approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period, and monthly during the postclosure care period when monthly monitoring is required under Section 4(3) of this administrative regulation.

Section 4. Monitoring and Inspection. (1) During construction or installation, liners (except in the case of existing portions of landfills exempt from Section 2(1) of this administrative regulation) and cover systems (membranes, sheets, or coatings for example) shall be inspected for uniformity, damage, and imperfections (for example, holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(a) Synthetic liners and covers shall be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(b) Soil-based and admixed liners and covers shall be inspected for imperfections including lenses, cracks, channels, root holes, or other structural nonuniformities that may cause an increase in the permeability of the liner or cover.

(2) While a landfill is in operation, it shall be inspected weekly and after storms to detect evidence of any of the following:

(a) Deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(b) Proper functioning of wind dispersal control systems, where present; and

(c) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(3) The owner or operator of landfill units subject to Section 2(3) or (4) of this administrative regulation shall have an approved response action plan before receipt of waste. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in Section 13 of this administrative regulation.

Section 5. Surveying and Recordkeeping. The owner or operator of a landfill shall maintain the following items in the operating record required under Section 4 of 401 KAR 34:050:

(1) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks;

(2) The contents of each cell and the approximate location of each hazardous waste type within each cell; and

(3) Any other information specified by the cabinet in the permit.

Section 6. Closure and Postclosure Care. (1) At final closure of the landfill or upon closure of any cell, the owner or operator shall cover the landfill or cell with a final cover designed and constructed to:

(a) Provide long-term minimization of migration of liquids through the closed landfill;

(b) Function with minimum maintenance;

(c) Promote drainage and minimize erosion or abrasion of the cover;

(d) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(e) Have a permeability less than or equal to  $1 \times 10^{-7}$  centimeters per second.

(2) After final closure, the owner or operator shall comply with all postclosure requirements contained in Sections 8 to 11 of 401 KAR 34:070, including maintenance and monitoring throughout the postclosure care period (specified in the permit under Section 8 of 401 KAR 34:070). The owner or operator shall:

(a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(b) Continue to operate the leachate collection and removal

system until leachate is no longer detected;

(c) Maintain and monitor the leak detection system in accordance with Sections 2(3)(c)4 and (4) and 4(3) of this administrative regulation, and comply with all other applicable leak detection system requirements;

(d) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of this administrative regulation;

(e) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(f) Protect and maintain surveyed benchmarks used in complying with Section 5 of this administrative regulation.

(3) In the closure and postclosure plans, the owner or operator shall address the following objectives and indicate how they shall be achieved:

(a) Control of pollutant migration from the facility via ground water, surface water and air;

(b) Control of surface water infiltration, including prevention of pooling; and

(c) Prevention of erosion.

(4) The owner or operator shall consider at least the following factors in addressing the closure and postclosure care objectives of subsection (3) of this section.

(a) Type and amount of hazardous waste and hazardous waste constituents in the landfill;

(b) The mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;

(c) Site location, topography and surrounding land use, with respect to the potential effects of pollutant migration (proximity to ground water, surface water, and drinking water sources for example);

(d) Climate, including amount, frequency and pH of precipitation;

(e) Characteristics of the cover including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope and type of vegetation on the cover; and

(f) Geological and soil profiles, and surface and subsurface hydrology of the site.

(5) In addition to the requirements of Section 8 of 401 KAR 34:070, during the postclosure care period, the owner or operator of a hazardous waste landfill shall:

(a) Maintain and monitor the gas collection and control system (if there is one present in the landfill) to control the vertical and horizontal escape of gases; and

(b) Restrict access to the landfill as appropriate for its postclosure use.

Section 7. Special Requirements for Ignitable or Reactive Waste. Except as provided in subsection (2) of this section, and in Section 11 of this administrative regulation, ignitable or reactive waste shall not be placed in a landfill, unless the waste and landfill meet all applicable requirements of 401 KAR Chapter 37 and:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under Section 2 or 4 of 401 KAR 31:030; and

(2) Section 8 of 401 KAR 34:020 is complied with.

Section 8. Special Requirements for Incompatible Wastes. Incompatible wastes, or incompatible wastes and materials, (see 401 KAR 34:330 for examples) shall not be placed in the same landfill cell.

Section 9. Special Requirements for Bulk and Containerized Liquids (Whether or Not Absorbents Have Been Added). (1) Bulk or noncontainerized liquid waste or waste containing free liquids shall not be placed in a landfill.

(2) ~~After May 8, 1985, liquid waste or waste containing free liquids whether or not absorbents have been added, shall not be placed in landfills.~~



~~(3)~~ Containers holding free liquids shall not be placed in a landfill unless:

- (a) All freestanding liquid:
  1. Has been removed by decanting, or other methods; or
  2. Has been mixed with sorbent or solidified so that free-standing liquid is no longer observed; or
  3. Has been otherwise eliminated; or
- (b) The container is very small, such as an ampule; or
- (c) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or
- (d) The container is a lab pack as defined in Section 11 of this administrative regulation and is disposed ~~(e)~~ in accordance with Section 11 of this administrative regulation.

~~(3)~~ ~~(4)~~ To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test shall be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846, which is incorporated in 40 CFR 260.11, which is adopted ~~(referenced)~~ in Section 3 of 401 KAR 30:010.

(4) Sorbents used to treat free liquids to be disposed of in landfills must be nonbiodegradable. Nonbiodegradable sorbents are: materials listed or described in paragraph (a) of this subsection; materials that pass one of the tests in paragraph (b) of this subsection; or materials that are determined by the cabinet to be nonbiodegradable through the petition process of Section 6 in 401 KAR 31:060.

(a) Nonbiodegradable sorbents.

1. Inorganic minerals, other inorganic materials, and elemental carbon (for example, aluminosilicates, clays, smectites, Fuller's earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites; calcium carbonate (organic free limestone); oxides or hydroxides, alumina, lime, silica (sand), diatomaceous earth; perlite (volcanic glass); expanded volcanic rock; volcanic ash; cement kiln dust; fly ash; rice hull ash; activated charcoal or activated carbon; or

2. High molecular weight synthetic polymers (for example, polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorbornene, polyisobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers). This does not include polymers derived from biological material or polymers specifically designed to be degradable; or

3. Mixtures of these nonbiodegradable materials.

(b) Tests for nonbiodegradable sorbents.

1. The sorbent material is determined to be nonbiodegradable under ASTM Method G21-70 Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi; or

2. The sorbent material is determined to be nonbiodegradable under ASTM Method G22-76 Standard Practice for Determining Resistance of Plastics to Bacteria; or

3. The sorbent material is determined to be non-biodegradable under OECD test 301B: CO<sub>2</sub> Evolution (modified Sturm Test).

(5) Effective November 8, 1985, the placement of any liquid, that is not a hazardous waste, in a hazardous waste landfill is prohibited unless the owner or operator of such landfill demonstrates to the cabinet or the cabinet determines that:

(a) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste;

(b) Placement in such owner's or operator's landfill will not present a risk of contamination of any underground source of drinking water; and

(c) Placement in such owner's or operator's landfill is in compliance with the applicable provisions of KRS Chapter 224.

Section 10. Special Requirements for Containers. Unless they are very small, such as an ampule, containers shall be either:

- (1) At least ninety (90) percent full when placed in the landfill; or
- (2) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

Section 11. Disposal of Small Containers of Hazardous Waste in Overpacked Drums (Lab Packs). Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

(1) Hazardous waste shall be packaged in nonleaking inside containers. The inside containers shall be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the contained waste. Inside containers shall be tightly and securely sealed. The inside containers shall be of the size and type specified in the U.S. Department of Transportation (DOT) hazardous materials regulations (49 CFR Subpart C ~~[Parts 173, 178, and 179, 1990]~~), if those regulations specify a particular inside container for the waste.

(2) The inside containers shall be overpacked in an open head DOT-specification metal shipping container (49 CFR Subpart C ~~[Parts 178 and 179, 1990]~~) of no more than 416-liter (approximately 110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of ~~(a)~~ sorbent material, determined to be nonbiodegradable in accordance with Section 9(4) of this administrative regulation, to completely ~~(a)~~ sorb all of the liquid contents of the inside containers. The metal outer container shall be full after packing with inside containers and ~~(a)~~ sorbent material.

(3) The ~~(a)~~ sorbent material used shall not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers in accordance with Section 8(2) of 401 KAR 34:020.

(4) Incompatible wastes, as defined in 401 KAR 34:005 ~~[30:040]~~, shall not be placed in the same outside container.

(5) Reactive wastes, other than cyanide-bearing or sulfide-bearing waste as defined in Section 4 of 401 KAR 31:030 shall be treated or rendered nonreactive prior to packaging in accordance with subsections (1) to (4) of this section. Cyanide-bearing and sulfide-bearing reactive waste may be packed in accordance with subsections (1) to (4) of this section upon approval of the cabinet without first being treated or rendered nonreactive.

(6) Such disposal shall be in compliance with the requirements of 401 KAR Chapter 37. Persons who incinerate lab packs according to the requirements of 401 KAR 37:040 may use fiber drums in place of metal outer containers. The fiber drums shall meet the U.S. Department of Transportation specifications in 49 CFR Subpart C ~~[43:42]~~ and be overpacked according to the requirements in subsection 2 of this section.

Section 12. Special Requirements for Hazardous Wastes F020, F021, F022, F023, F026, and F027. (1) Hazardous waste numbers F020, F021, F022, F023, F026, and F027 (chlorinated dioxins, chlorinated dibenzofurans, and chlorinated phenols) shall not be placed in a landfill unless the owner or operator operates the landfill in accordance with a management plan for these wastes that is approved by the cabinet pursuant to the standards in this section, and in accordance with all other applicable requirements of this chapter. The factors to be considered are:

(a) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(b) The attenuative properties of underlying and surrounding soils or other materials;

(c) The mobilizing properties of other materials codisposed with these wastes; and

(d) The effectiveness of additional treatment, design, or monitoring requirements.

(2) The cabinet may determine that additional design, operating, and monitoring requirements are necessary for landfills managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

Section 13. Response Actions. (1) The owner or operator of landfill units subject to Section 2(3) or (4) of this administrative regulation shall have an approved response action plan before receipt of waste. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in subsection (2) of this section.

(2) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall:

(a) Notify the cabinet in writing of the exceedance within seven (7) days of the determination;

(b) Submit a preliminary written assessment to the cabinet within fourteen (14) days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(c) Determine to the extent practicable the location, size, and cause of any leak;

(d) Determine whether waste receipt shall cease or be curtailed, whether any waste shall be removed from the unit for inspection, repairs, or controls, and whether or not the unit shall be closed;

(e) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(f) Within thirty (30) days after the notification that the action leakage rate has been exceeded, submit to the cabinet the results of the analyses specified in paragraph (c), (d), and (e) of this subsection, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the cabinet reports summarizing the results of any remedial actions taken and actions planned.

(3) To make the leak and remediation determinations in subsections (2)(c), (d), and (e) of this section, the owner or operator shall:

(a) 1. Assess the source of liquids and amounts of liquids by source;

2. Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

3. Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(b) Document why such assessments are not needed.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation.

Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities that dispose of waste in landfills.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff will have an increase in workload in order to process the newly regulated entities.

2. Continuing costs or savings: Once the new entities are processed, there will not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork or reporting requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are anticipated to pay for the implementation and enforcement of the regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments will provide consistency with existing federal requirements.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and environmental welfare will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, detrimental effects could occur.

c. If detrimental effect would result, explain detrimental effect: These amendments clarify which types of wastes may be properly disposed of in a landfill. Wastes that are not compatible with a landfill could pose a detrimental effect to human health or the environment.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no policies, regulations, or statutes that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of facilities that dispose of hazardous waste in landfills, consistent with federal standards, to protect human health and the environment.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to hazardous waste facilities that dispose of waste in landfills. The changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of the regulation. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that disposes of hazardous waste in landfills.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that

the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 34:240. Incinerators.

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 CFR 264 Subpart O

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish minimum standards for incinerators.

Section 1. Applicability. (1) This administrative regulation applies to owners or operators of hazardous waste sites or facilities as defined in 401 KAR 34:005 ~~[30:040]~~ that incinerate hazardous waste, except as Section 1 of 401 KAR 34:010 provides otherwise.

(2) After consideration of the waste analysis included with Part B of the permit application, the cabinet, in establishing the permit conditions, shall exempt the applicant from all requirements of this administrative regulation except Sections 2 and 8:

(a) If the cabinet finds that the waste to be burned is:

1. Listed as a hazardous waste in 401 KAR 31:040 solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

2. Listed as a hazardous waste in 401 KAR 31:040 solely because it is reactive (Hazard Code R) for characteristics other than those listed in Section 4(1)(d) and (e) of 401 KAR 31:030, and will not be burned when other hazardous wastes are present in the combustion zone; or

3. A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under 401 KAR 31:030; or

4. A hazardous waste solely because it possesses any of the reactivity characteristics described by Section 4(1)(a), (b), (c), (f), (g), and (h) of 401 KAR 31:030, and will not be burned when other hazardous wastes are present in the combustion zone; and

(b) If the waste analysis shows that the waste contains none of the hazardous constituents listed in 401 KAR 31:170, which would reasonably be expected to be in the waste.

(3) If the waste to be burned is one which is described by subsection (2)(a) 1, 2, 3, or 4 of this section and contains insignificant concentrations of the hazardous constituents listed in 401 KAR 31:170, then the cabinet may, but is not required to in establishing the permit conditions, exempt the applicant from all requirements of this administrative regulation except Section 2 and 8 of this administrative regulation, after consideration of the waste analysis included with Part B of the permit application, unless the cabinet finds that the waste

poses a threat to human health and the environment when burned in an incinerator.

(4) The owner or operator of an incinerator may conduct trial burns, subject only to the requirements of Section 3 of 401 KAR 38:060.

Section 2. Waste Analysis. (1) As a portion of a trial burn plan required by Section 3 of 401 KAR 38:060 or with Part B of his permit application, the owner or operator shall have included an analysis of his waste feed sufficient to provide all information required by 401 KAR 38:060 or 401 KAR 38:090. Owners or operators of new hazardous waste incinerators shall provide the information required by Section 3(2) of 401 KAR 38:060 and 401 KAR 38:090. If an owner or operator demonstrates to the satisfaction of the cabinet that any information required in 401 KAR 38:060 or 401 KAR 38:090 cannot reasonably be attained, the cabinet may waive the requirement to submit the information in accordance with Section 2 of 401 KAR 30:020.

(2) Throughout normal operation the owner or operator shall conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical composition limits specified in his permit under Section 6(2) of this administrative regulation.

Section 3. Principal Organic Hazardous Constituents (POHCs).

(1) Principal organic hazardous constituents (POHCs) in the waste feed shall be treated to the extent required by the performance standards of Section 4 of this administrative regulation.

(2)(a) One (1) or more POHCs shall be specified in the facility's permit from among those constituents listed in 401 KAR 31:170, for each waste feed to be burned. This specification shall be based on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with Part B of the facility's permit application. Organic constituents which represent the greatest degree of difficulty of incineration shall be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities or concentrations in the waste.

(b) Trial POHCs shall be designated for performance of trial burns in accordance with the procedures specified in 401 KAR 38:060, for obtaining trial burn permits.

Section 4. Performance Standards. An incinerator burning hazardous waste shall be designed, constructed, and maintained so that, when operated in accordance with operating requirements specified under Section 6 of this administrative regulation, it will meet the following performance standards:

(1)(a) Except as provided in paragraph (b) of this subsection, an incinerator burning hazardous waste shall achieve a destruction and removal efficiency (DRE) of 99.99 percent for each principal organic hazardous constituent (POHC) designated (under Section 3 of this administrative regulation) in its permit for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \frac{(W_{in} - W_{out}) \times 100\%}{W_{in}}$$

Where:  $W_{in}$  = Mass feed rate of one (1) principal organic hazardous constituent (POHC) in the waste stream feeding the incinerator; and

$W_{out}$  = Mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(b) An incinerator burning hazardous wastes F020, F021, F022, F023, F026, or F027 (chlorinated dioxins, chlorinated dibenzofurans, chlorinated phenols) shall achieve a destruction and removal efficiency (DRE) of 99.9999 percent for each principal organic

hazardous constituent (POHC) designated (under Section 3 of this administrative regulation) in its permit. This performance shall be demonstrated on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in paragraph (a) of this subsection. In addition, the owner or operator of the incinerator shall notify the secretary of his intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(2) An incinerator burning hazardous waste and producing stack emissions of more than one and eight-tenths (1.8) kilograms per hour (four (4) pounds per hour) of hydrogen chloride (HCl) shall control HCl emissions such that the rate of emission is no greater than the larger of either one and eight-tenths (1.8) kilograms per hour or one (1) percent of the HCl in the stack gas prior to entering any pollution control equipment.

(3) An incinerator burning hazardous waste shall not emit particulate matter exceeding 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \times \frac{14}{21 - Y}$$

When  $P_c$  is the corrected concentration of particulate matter,  $P_m$  is the measured concentration of particulate matter, and  $Y$  is the measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas, presented in 401 KAR 59:020, "new incinerators." This correction procedure is to be used by all hazardous waste incinerators except those operating under conditions of oxygen enrichment. For these facilities the cabinet shall select an appropriate correction procedure to be specified in the facility permit.

(4) For purposes of permit enforcement, compliance with the operating requirements specified in the permit (under Section 6 of this administrative regulation) shall be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the performance requirements of this section may be "information" justifying modification, revocation, or reissuance of a permit under Section 2 of 401 KAR 38:040.

Section 5. Hazardous Waste Incinerator Permits. (1) The owner or operator of a hazardous waste incinerator may burn only wastes specified in his permit and only under operating conditions specified for those wastes under Section 6 of this administrative regulation except:

(a) In approved trial burns under Section 3 of 401 KAR 38:060; or

(b) Under exemptions created by Section 1 of this administrative regulation.

(2) Other hazardous wastes may be burned only after operating conditions have been specified in a new permit or a permit modification as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with Part B of a permit application under 401 KAR 38:090.

(3) The permit for a new hazardous waste incinerator shall establish appropriate conditions for each of the applicable requirements of this administrative regulation, including but not limited to allowable waste feeds and operating conditions necessary to meet the requirements of Section 6 of this administrative regulation, sufficient to comply with the following standards:

(a) For the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in paragraph (b) of this subsection, not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements shall be those most likely to ensure compliance with the performance standards of Section 4 of this administrative

tive regulation, based on the cabinet's engineering judgment. The cabinet may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

(b) For the duration of the trial burn, the operating requirements shall be sufficient to demonstrate compliance with the performance standards of Section 4 of this administrative regulation and shall be in accordance with the approved trial burn plan;

(c) For the period immediately following completion of the trial burn and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant and review of the trial burn results and modification of the facility permit by the cabinet, the operating requirements shall be those most likely to ensure compliance with the performance standards of Section 4 of this administrative regulation based on the cabinet's engineering judgment.

(d) For the remaining duration of the permit, the operating requirements shall be those demonstrated, in a trial burn or by alternative data specified in Section 2(3) of 401 KAR 38:190, as sufficient to ensure compliance with the performance standards of Section 4 of this administrative regulation.

Section 6. Operating Requirements. (1) An incinerator shall be operated in accordance with operating requirements specified in the permit. These shall be specified on a case-by-case basis as those demonstrated (in a trial burn or in alternative data as specified in Section 5(2) of this administrative regulation and included with Part B of a facility's permit application) to be sufficient to comply with the performance standards for Section 4 of this administrative regulation.

(2) Each set of operating requirements shall specify the composition of the waste feed (including acceptable variations in the physical or chemical properties of the waste feed) which will not affect compliance with the performance standards of Section 4 of this administrative regulation to which the operating requirements apply. For each such waste feed, the permit shall specify acceptable operating limits including the following conditions:

- (a) Carbon monoxide (CO) level in the stack exhaust gas;
- (b) Waste feed rate;
- (c) Combustion temperature;
- (d) An appropriate indicator of combustion gas velocity as specified by the cabinet;
- (e) Allowable variations in incinerator system design or operating procedures; and
- (f) Such other operating requirements as are necessary to ensure that the performance standards of Section 4 of this administrative regulation are met.

(3) During start-up and shutdown of an incinerator, hazardous waste (except ignitable waste exempted in accordance with Section 1 of this administrative regulation) shall not be fed into the incinerator unless the incinerator is operating within the conditions of operation (examples are temperature and air feed rate) specified in the permit.

(4) Fugitive emissions from the combustion zone shall be controlled by:

- (a) Keeping the combustion zone totally sealed against fugitive emissions; or
- (b) Maintaining a combustion zone pressure lower than atmospheric pressure; or
- (c) An alternate means of control demonstrated (with Part B of the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(5) An incinerator shall be operated with a functioning system to automatically cut off waste feed to the incinerator when operating conditions deviate from limits established under subsection (1) of this section.

(6) An incinerator shall cease operation when changes in waste feed, incinerator design, or operating conditions exceed limits

designated in its permit.

Section 7. Monitoring and Inspections. (1) The owner or operator shall conduct, as a minimum, the following monitoring while incinerating hazardous waste:

(a) Combustion temperature, waste feed rate, and the indicator of combustion gas velocity specified in the facility permit shall be monitored on a continuous basis.

(b) CO shall be monitored on a continuous basis at a point in the incinerator downstream of the combustion zone and prior to release to the atmosphere.

(c) Upon request by the cabinet, sampling and analysis of the waste and exhaust emissions shall be conducted to verify that the operating requirements established in the permit achieve the performance standards of Section 4 of this administrative regulation.

(2) The incinerator and associated equipment (pumps, valves, conveyors, pipes for example) shall be subjected to thorough visual inspection at least daily, for leaks, spills, and fugitive emissions, and signs of tampering.

(3) The emergency waste feed cutoff system and associated alarms shall be tested at least weekly to verify operability, unless the applicant demonstrates to the cabinet that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, operational testing shall be conducted at least monthly.

(4) This monitoring and inspection data shall be recorded and the records shall be placed in the operating log required by Section 4 of 401 KAR 34:050.

Section 8. Closure. At closure the owner or operator shall remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the incinerator site.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be

## ADMINISTRATIVE REGISTER - 652

submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: None. The only amendment being made is a change to the cross reference to the definition regulation for this chapter. Definitions have been moved from 401 KAR 34:240 to 401 KAR 34:005 to conform to KRS 13A requirements.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The cabinet will experience no additional costs or savings by promulgating this amendment to this regulation.

2. Continuing costs or savings: There will be no continuing costs or savings after the first year.

3. Additional factors increasing or decreasing costs: There will be no additional factors affecting costs.

b. Reporting and paperwork requirements: There will be no extra paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on the state and local revenue with the promulgation of this regulation.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: The source of revenue for implementation and enforcement of this administrative regulation will be EPA grants.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: There were no other alternatives. This change is consistent with KRS 13A requirements.

8. Assessment of expected benefits of the administrative regulation: This amendment will ensure compliance with KRS Chapter 13A.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The adoption and implementation of this amendment will have no effect on the protection of the environment and public health across the commonwealth.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Kentucky must continue to upgrade its hazardous waste program to be consistent with the

federal program, and conform to KRS 13A requirements.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, regulations, or policies that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was applied in this regulation. This administrative regulation only applies to waste generators and to owners and operators of facilities regulated by 401 KAR Chapters 30 through 49. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendment establishes the cross reference on definitions from 34:240 to 34:005 of hazardous waste terms and the clarification of certain definitions. This regulation is necessary to maintain consistency between state and federal programs. In addition, the regulation has been modified to reflect regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. This administrative regulation establishes cross reference for definitions for all terms within 401 KAR Chapter 34. These terms are assimilated from existing state and federal regulatory definitions and existing statutory definitions where applicable.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.



Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): Because this administrative regulation only establishes the cross reference for definitions for 401 KAR Chapter 34, this administrative regulation will not affect state, county, or local expenditures.

Other Explanation: None

**NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)**

**401 KAR 34:250. Miscellaneous units.**

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 CFR Part 146, Subpart 264

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530

NECESSITY AND FUNCTION: KRS 224.46-520 requires that persons engaging in the storage, treatment, and disposal of hazardous waste obtain a permit. KRS 224.46-520 requires the cabinet to establish standards for these permits, to require adequate financial responsibility, to establish minimum standards for closure for all facilities and the postclosure monitoring and maintenance of hazardous waste disposal facilities. This chapter establishes minimum standards for hazardous waste sites or facilities. This administrative regulation establishes the permit requirements for miscellaneous units.

Section 1. Applicability. The requirements in this administrative regulation apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units, except as Section 1 of 401 KAR 34:010 provides otherwise.

Section 2. Environmental Performance Standards. A miscellaneous unit shall be located, designed, constructed, operated, and maintained, and closed in a manner that shall ensure protection of human health and the environment. Permits for miscellaneous units are to contain such terms and provisions as necessary to protect human health and the environment, including, but not limited to, as appropriate, design and operating requirements, detection and monitoring requirements, and requirements for responses to releases of hazardous waste or hazardous constituents from the unit. Permit terms and provisions shall include those requirements of 401 KAR 34:180 through 34:240, 401 KAR 34:275, 34:280, 34:281, and 34:285, 401 KAR Chapter 38, and 40 CFR Part 146, ~~[(4089)]~~ that are appropriate for the miscellaneous unit being permitted. Protection of human health and the environment includes, but is not limited to:

(1) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in the groundwater or subsurface environment, considering:

(a) The volume and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners, or other containing structures;

(b) The hydrologic and geologic characteristics of the unit and the surrounding area;

(c) The exiting quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater;

(d) The quantity and direction of groundwater flow;

(e) The proximity to and withdrawal rates of current and potential groundwater users;

(f) The patterns of land use in the region;

(g) The potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food-

chain crops and other vegetation;

(h) The potential for health risks caused by human exposure to waste constituents; and

(i) The potential for damage to domestic animals, wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.

(2) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in surface water, or wetlands, or on the soil surface considering:

(a) The volume and physical and chemical characteristics of the waste in the unit;

(b) The effectiveness and reliability of containing, confining, and collecting systems and structures in preventing migration;

(c) The hydrologic characteristics of the unit and the surrounding area, including the topography of the land around the unit;

(d) The patterns of precipitation in the region;

(e) The quantity, quality, and direction of groundwater flow;

(f) The proximity of the unit to surface waters;

(g) The current and potential uses of nearby surface waters and any water quality standards established for those surface waters;

(h) The existing quality of surface waters and surface soils, including other sources of contamination and their cumulative impact on surface waters and surface soils;

(i) The patterns of land use in the region;

(j) The potential for health risks caused by human exposure to waste constituents; and

(k) The potential for damage to domestic animals, wildlife, crops, vegetation and physical structures caused by exposure to waste constituents.

(3) Prevention of any release that may have adverse effects on human health or the environment due to migration of waste constituents in the air, considering:

(a) The volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols and particulates;

(b) The effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air;

(c) The operating characteristics of the unit;

(d) The atmospheric, meteorologic, and topographic characteristics of the unit and the surrounding area;

(e) The existing quality of the air, including other sources of contamination and their cumulative impact on the air;

(f) The potential for health risks caused by human exposure to waste constituents; and

(g) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

Section 3. Monitoring, Analysis, Inspection, Response, Reporting, and Corrective Action. Monitoring, testing, analytical data, inspections, response, and reporting procedures and frequencies shall ensure compliance with Section 2 of this administrative regulation, Section 6 of 401 KAR 34:020, Section 4 of 401 KAR 34:030, Sections 6 through 8 of 401 KAR 34:050, and Section 12 of 401 KAR 34:060 as well as meet any additional requirements needed to protect human health and the environment as specified in the permit.

Section 4. Postclosure Care. A miscellaneous unit shall be maintained in a manner that complies with Section 2 of this administrative regulation during the postclosure care period. In addition, if a treatment or storage unit has contaminated soils or groundwater that cannot be completely removed or decontaminated during closure, then that unit shall also meet the requirements of Section 2 of this administrative regulation during postclosure care. The postclosure plan under Section 9 of 401 KAR 34:070 shall specify the procedures that shall be used to satisfy this requirement.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities that store, treat, or dispose of hazardous waste in miscellaneous units.
2. Direct and indirect costs or savings on the affected entities:
  - a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.
  - b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.
  - c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:
    1. First year following implementation: No public comments were received.
    2. Second and subsequent years: No public comments were received.
3. Effects on the promulgating administrative body:
  - a. Direct and indirect costs or savings:
    1. First Year: The existing staff will have an increased workload in order to process the newly regulated entities. The increase in workload will also increase costs.
    2. Continuing costs or savings: Once the new entities are

processed, there should not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork or reporting requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are anticipated to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments will provide consistency with federal requirements.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: Not applicable.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that are in conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: There are no additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of miscellaneous units, consistent with federal standards, to protect human health and the environment.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to the storage of hazardous waste that is stored in miscellaneous units. These changes are necessary to maintain consistency between state and federal programs. Additions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that stores, treats, or disposes of hazardous waste in miscellaneous units.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

**NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET**  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)

**401 KAR 34:275. Air emission standards for process vents.**

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.70, 224.99, 40 CFR 264 Subpart AA

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish air emission standards for process vents.

Section 1. Definitions. The definitions previously found in this section have been relocated to the definition administrative regulation for this chapter, which is 401 KAR 34:005. [As used in this administrative regulation, all terms not defined herein shall have the meaning given them in 401 KAR Chapters 30 through 36:

(1) "Air stripping operation" is a desorption operation employed to transfer one (1) or more volatile components from a liquid mixture into a gas (air) either with or without the application of heat to the liquid. Packed towers, spray towers, and bubble cap, sieve, or valve type plate towers are among the process configurations used for contacting the air and a liquid.

(2) "Bottoms receiver" means a container or tank used to receive and collect heavier bottoms fractions of the distillation feed stream that remain in the liquid phase.

(3) "Closed vent system" means a system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.

(4) "Condenser" means a heat transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

(5) "Connector" means flanged, screwed, welded, or other joined

fitting used to connect two (2) pipelines or a pipeline and a piece of equipment. For the purposes of reporting and recordkeeping, connector means flanged fittings that are not covered by insulation or other materials that prevent location of the fittings.

(6) "Continuous recorder" means a data recording device recording an instantaneous data value at least once every 15 minutes.

(7) "Control device" means an enclosed combustion device, vapor recovery system, or flare. Any device the primary function of which is the recovery or capture of solvents or other organics for use, reuse, or sale (for example, a primary condenser on a solvent recovery unit) is not a control device.

(8) "Control device shutdown" means the cessation of operation of a control device for any purpose.

(9) "Distillate receiver" means a container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units.

(10) "Distillation operation" means an operation, either batch or continuous, separating one (1) or more feed stream(s) into two (2) or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit.

(11) "Double block and bleed system" means two (2) block valves connected in series with a bleed valve or line that can vent the line between the two (2) block valves.

(12) "Equipment" means each valve, pump, compressor, pressure relief device, sampling connection system, open ended valve or line, or flange, and any control devices or systems required by this administrative regulation.

(13) "Flame zone" means the portion of the combustion chamber in a boiler occupied by the flame envelope.

(14) "Flow indicator" means a device that indicates whether gas flow is present in a vent stream.

(15) "First attempt at repair" means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

(16) "Fractionation operation" means a distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

(17) "Hazardous waste management unit shutdown" means a work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit. An unscheduled work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit for less than twenty four (24) hours is not a hazardous waste management unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping operation are not hazardous waste management unit shutdowns.

(18) "Hot well" means a container for collecting condensate as in a steam condenser serving a vacuum jet or steam jet ejector.

(19) "In gas service" or "in vapor service" means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

(20) "In heavy liquid service" means that the piece of equipment is not in gas service or in vapor service or in light liquid service.

(21) "In light liquid service" means that the piece of equipment contains or contacts a waste stream where the vapor pressure of one (1) or more of the components in the stream is greater than three tenths (0.3) kilopascals (kPa) at twenty (20) degrees Centigrade, the total concentration of the pure components having a vapor pressure greater than three tenths (0.3) kPa at twenty (20) degrees Centigrade is equal to or greater than twenty (20) percent by weight, and the fluid is a liquid at operating conditions.

(22) "In situ sampling systems" means nonextractive samplers or in-line samplers.

(23) "In vacuum service" means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

(24) "Malfunction" means any sudden failure of a control device or a hazardous waste management unit or failure of a hazardous waste management unit to operate in a normal or usual manner, so that organic emissions are increased.

(25) "Open ended valve or line" means any valve, except pressure relief valves, having one (1) side of the valve seat in contact with process fluid and one (1) side open to the atmosphere, either directly or through open piping.

(26) "Pressure release" means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

(27) "Process heater" means a device that transfers heat liberated by burning fuel to fluids contained in tubes, including all fluids except water that are heated to produce steam.

(28) "Process vent" means any open ended pipe or stack that is vented to the atmosphere either directly, through a vacuum producing system, or through a tank (distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous waste distillation fractionation, thin film evaporation, solvent extraction, or air or steam stripping operations.

(29) "Repaired" means that equipment is adjusted, or otherwise altered, to eliminate a leak.

(30) "Sensor" means a device that measures a physical quantity or the change in a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

(31) "Separator tank" means a device used for separation of two immiscible liquids.

(32) "Solvent extraction operation" means an operation or method of separation in which a solid or solution is contacted with a liquid solvent (the two (2) being mutually insoluble) to preferentially dissolve and transfer one (1) or more components into the solvent.

(33) "Start up" means the setting in operation of a hazardous waste management unit or control device for any purpose.

(34) "Steam stripping operation" means a distillation operation in which vaporization of a volatile constituents of a liquid mixture takes place by the introduction of steam directly into the charge.

(35) "Surge control tank" means a large sized pipe or storage reservoir sufficient to contain the surging liquid discharge of the process tank to which it is connected.

(36) "Thin film evaporation operation" means a distillation operation that employs a heating surface consisting of a large diameter tube that may be either straight or tapered, horizontal or vertical. Liquid is spread on the tube wall by a rotating assembly of blades that maintain a close clearance from the wall or actually ride on the film of liquid on the wall.

(37) "Vapor incinerator" means any enclosed combustion device that is used for destroying organic compounds and does not extract energy in the form of steam or process heat.

(38) "Vented" means discharged through an opening, typically an open ended pipe or stack, allowing the passage of a stream of liquids, gases, or fumes into the atmosphere. The passage of liquids, gases, or fumes is caused by mechanical means such as compressors or vacuum producing systems or by process related means such as evaporation produced by heating and not caused by tank loading and unloading (work losses) or by natural means such as diurnal temperature changes.]

Section 2. Applicability. (1) This administrative regulation applies to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in Section 1 of 401 KAR 34:010).

(2) Except for Sections 5(4) and 6(5) of this administrative regulation applies to process vents associated with distillation,

fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 ppmw if these operations are conducted in:

(a) Units that are subject to the permitting requirements of 401 KAR Chapter 38; or

(b) Hazardous waste recycling units that are located on hazardous waste management facilities otherwise subject to the permitting requirements of 401 KAR Chapter 38.

(3) If the owner or operator of process vents subject to the requirements of Sections 3 to 7 of this administrative regulation has received a permit under KRS 224.46-520 or 224.46-530 prior to December 21, 1990, the requirements of Sections 3 to 7 of this administrative regulation shall be incorporated when the permit is reissued under Section 12 of 401 KAR 38:050 or reviewed under Section 5 of 401 KAR 38:040. The requirements of Sections 3 to 7 of this administrative regulation shall apply to process vents on hazardous waste recycling units previously exempt under Section 6(3)(a) of 401 KAR 31:010. Other exemptions under Section 4 of 401 KAR 31:010, Section 5 of 401 KAR 32:030, and Section 1 of 401 KAR 34:010 are not affected by these requirements.

Section 3. Standards: Process Vents. (1) The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations managing hazardous wastes with organic concentrations of at least ten (10) ppmw shall either:

(a) Reduce total organic emissions from all affected process vents at the facility below one and four-tenths (1.4) kg/h (three (3) lb/h) and two and eight-tenths (2.8) Mg/yr (three and one-tenth (3.1) tons/yr); or

(b) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by ninety-five (95) weight percent.

(2) If the owner or operator installs a closed-vent system and control device to comply with the provisions of subsection (1) of this section the closed-vent system and control device shall meet the requirements of Section 4 of this administrative regulation.

(3) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests shall conform with the requirements of Section 5(3) of this administrative regulation.

(4) When an owner or operator and the cabinet do not agree on determinations of vent emissions or emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the procedures in Section 5(3) of this administrative regulation shall be used to resolve the disagreement.

Section 4. Standards: Closed-vent Systems and Control Devices.

(1)(a) Owners or operators of closed-vent systems and control devices used to comply with provisions of this administrative regulation shall comply with the provisions of this section.

(b) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this administrative regulation on the effective date that the facility becomes subject to the provisions of this administrative regulation shall prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls shall be installed as soon as possible, but the implementation schedule may allow up to eighteen (18) months after the effective date that the facility becomes subject to this administrative regulation for installation and start-up. All units that

begin operation after December 21, 1990, (that is, shall have control devices installed and operating on start-up of the affected unit and shall otherwise comply with this administrative regulation immediately); the two (2) year implementation schedule shall not apply to these units.

(2) A control device involving vapor recovery (a condenser or absorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of ninety-five (95) weight percent or greater unless the total organic emission limits of Section 3(1)(a) of this administrative regulation for all affected process vents can be attained at an efficiency less than ninety-five (95) weight percent.

(3) An enclosed combustion device (for example, a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by ninety-five (95) weight percent or greater, to achieve a total organic compound concentration of twenty (20) ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to three (3) percent oxygen; or to provide a minimum residence time of five-tenths (0.50) seconds at a minimum temperature of 760 degrees Centigrade. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(4)(a) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in subsection (5)(a) of this section, except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours.

(b) A flare shall be operated with a flame present at all times, as determined by the methods specified in subsection (6)(b)3 of this section.

(c) A flare shall be used only if the net heating value of the gas being combusted in eleven and two-tenths (11.2) MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in subsection (5)(b) of this section.

(d)1. A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in subsection (5)(c) of this section, less than eighteen and three-tenths (18.3) m/s (sixty (60) ft/s), except as provided in subparagraphs 2 and 3 of this paragraph.

2. A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in subsection (5)(c) of this section, equal to or greater than eighteen and three-tenths (18.3) m/s (sixty (60) ft/s) but less than 122 m/s (400 ft/s) shall be allowed if the net heating value of the gas being combusted is greater than thirty-seven and three-tenths (37.3) MJ/scm (1,000 Btu/scf).

3. A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in subsection (5)(c) of this section, less than the velocity,  $V_{max}$ , as determined in by the method specified in subsection (5)(d) of this section and less than 122 m/s (400 ft/s) shall be allowed.

(e) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity,  $V_{max}$ , as determined by the method specified in subsection (5)(d) of this section.

(f) A flare used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(5)(a) Reference Method 22 in 40 CFR Part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this administrative regulation. The observation period is two (2) hours and shall be used according to Method 22.

(b) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \left( \sum_{i=1}^n C_i H_i \right)$$

where:

1.  $H_T$  = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of off gas is based on combustion at twenty-five (25) degrees Centigrade and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is twenty (20) degrees Centigrade;

2.  $K$  = Constant,  $1.74 \times 10^{-7}$  (1/ppm) (g/mol/scm) MJ/kcal) where standard temperature for (g/mol/scm) is twenty (20) degrees Centigrade;

3.  $C_i$  = Concentration of sample component  $i$  in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR Part 60 and measured for hydrogen and carbon monoxide by ASTM D 1946-82; and

4.  $H_i$  = Net heat of combustion of sample component  $i$ , kcal/9 mol at twenty-five (25) degrees Centigrade and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382-83 if published values are not available or cannot be calculated.

(c) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate in units of standard temperature and pressure, as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR Part 60 as appropriate, by unobstructed (free) cross-sectional area of the flare tip.

(d) The maximum allowed velocity in m/s,  $V_{max}$  for a flare complying with paragraph (d)(4)(iii) of this section shall be determined by the following equation:

$$\log_{10} (V_{max}) = (H_T + 28.8) / 31.7$$

where:

28.8 = Constant;

31.7 = Constant;

$H_T$  = The net heating value as determined in paragraph (e)(2) of this section.

(e) The maximum allowed velocity in m/s,  $V_{max}$  for an air-assisted flare shall be determined by the following equation:

$$V_{max} = 8.706 + 0.7084 (H_T)$$

where:

8.706 = Constant;

0.7084 = Constant;

$H_T$  = The net heating value as determined in paragraph (e)(2) of this section.

(6) The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing the following requirements:

(a) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet but before the point at which the vent streams are combined.

(b) Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

1. For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of plus or minus one (1) percent of the temperature being monitored in degrees Centigrade or plus or minus five-tenths (0.5) degrees Centigrade, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

2. For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two (2) locations and have an

accuracy of plus or minus one (1) percent of the temperature being monitored in degrees Centigrade or plus or minus five-tenths (0.5) degrees Centigrade, whichever is greater. One (1) temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

3. For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

4. For a boiler or process heater having a design heat input capacity less than forty-four (44) MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of plus or minus one (1) percent of the temperature being monitored in degrees Centigrade or plus or minus five-tenths (0.5) degrees Centigrade, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

5. For a boiler or process heater having a design heat input capacity greater than or equal to forty-four (44) MW, a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

6. For a condenser, either:

a. A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser; or

b. A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two (2) locations and have an accuracy of plus or minus one (1) percent of the temperature being monitored in degrees Centigrade or plus or minus five-tenths (0.5) degrees Centigrade, whichever is greater. One (1) temperature sensor shall be installed at a location in the exhaust vent stream from the condenser, and a second temperature sensor shall be installed at a location in the coolant fluid exiting the condenser.

7. For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon absorber, either:

a. A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed; or

b. A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular predetermined time cycle.

c. Inspect the readings from each monitoring device required by subsection (1)(a) and (b) of this section at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of this section.

(7) An owner or operator using a carbon adsorption system such as a fixed-bed carbon absorber that regenerates the carbon bed directly on site in the control device shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of Section 6(2)(d)3f of this administrative regulation.

(8) An owner or operator using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly on site in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one (1) of the following procedures:

(a) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule, and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than twenty (20) percent of the time required to consume the total carbon working

capacity established as a requirement of Section 6(2)(d)3g of this administrative regulation, whichever is longer.

(b) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of Section 6(2)(d)3g of this administrative regulation.

(9) An alternative operational or process parameter may be monitored if it can be demonstrated that another parameter will ensure that the control device is operated in conformance with these standards and the control device's design specifications.

(10) An owner or operator of an affected facility seeking to comply with the provisions of this administrative regulation by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(11)(a) Closed-vent systems shall be designed for and operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background and by visual inspections, as determined by the methods specified in Section 5(2) of this administrative regulation.

(b) Closed-vent systems shall be monitored to determine compliance with this administrative regulation during the initial leak detection monitoring, which shall be conducted by the date that the facility becomes subject to the provisions of this administrative regulation, annually, and at other times as required by the cabinet. For the annual leak detection monitoring after the initial leak detection monitoring, the owner or operator is not required to monitor those closed-vent system components that operate in vacuum service or those closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (for example, a welded joint between two sections of metal pipe or a bolted and gasketed pipe flange).

(c) Detectable emissions, as indicated by an instrument reading greater than 500 ppm and visual inspections, shall be controlled as soon as practicable, but not later than fifteen (15) calendar days after the emission is detected.

(d) A first attempt at repair shall be made no later than five (5) calendar days after the emission is detected.

(12) Closed-vent systems and control devices used to comply with provisions of this section shall be operated at all times when emissions may be vented to them.

(13) The owner or operator using a carbon adsorption system shall document that all carbon removed from a carbon adsorption system to comply with subsections (7) and (8) of this administrative regulation is managed in one (1) of the following manners:

(a) Regenerated or reactivated in a permitted or interim status thermal treatment unit;

(b) Incinerated in a permitted or interim status incinerator; or

(c) Burned in a permitted or interim status boiler or industrial furnace.

Section 5. Test methods and procedures. (1) Each owner or operator subject to the provisions of this section shall comply with the test methods and procedures requirements provided in this administrative regulation.

(2) When a closed-vent system is tested for compliance with no detectable emissions, as required in Section 4(11) of this administrative regulation, the test shall comply with the following requirements:

(a) Monitoring shall comply with Reference Method 21 in 40 CFR Part 60.

(b) The detection instrument shall meet the performance criteria of Reference Method 21.

(c) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.



(d) Calibration gases shall be:

1. Zero air (less than ten (10) ppm of hydrocarbon in air).
2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(e) The background level shall be determined as set forth in Reference Method 21.

(f) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(g) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(3) Performance tests to determine compliance with Section 3(1) of this administrative regulation and with the total organic compound concentration limit of Section 4(3) of this administrative regulation shall comply with the following:

(a) Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance with the following reference methods and calculation procedures:

1. Method 2 in 40 CFR Part 60 for velocity and Volumetric flow rate.

2. Method 18 in 40 CFR Part 60 for organic content.

3. Each performance test shall consist of three (3) separate runs; each run conducted for at least one (1) hour under the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, the average of results of all run shall apply. The average shall be computed on a time-weighted basis.

4. Total organic mass flow rates shall be determined by the following equation:

$$E_b = Q_{sd} \left( \sum_{i=1}^n C_i MW_i \right) (0.0416) (10^{-6})$$

where:

- a.  $E_b$  = Total organic mass flow rate, kg/h;
  - b.  $Q_{sd}$  = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;
  - c.  $n$  = Number of organic compounds in the vent gas;
  - d.  $C_i$  = Organic concentration in ppm, dry basis, of compound  $i$  in the vent gas, as determined by Method 18;
  - e.  $MW_i$  = Molecular weight of organic compound  $i$  in the vent gas, kg/kg-mol;
  - f.  $0.0416$  = Conversion factor for molar volume, kg-mol/m<sup>3</sup> (@ 293 K and 760 mm Hg);
  - g.  $10^{-6}$  = Conversion from ppm, ppm<sup>-1</sup>.
5. The annual total organic emission rate shall be determined by the following equation:

$$E_A = (E_b)(H)$$

where:

- a.  $E_A$  = Total organic mass emission rate, kg/y;
  - b.  $E_b$  = Total organic mass flow rate for the process vent, kg/h;
  - c.  $H$  = Total annual hours of operations for the affected unit, h.
6. Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates ( $E_b$  as determined in subparagraph 4 of this paragraph) and by summing the annual total organic mass emission rates ( $E_b$ , as determined in subparagraph 5 of this paragraph) for all affected process vents at the facility.

(b) The owner or operator shall record such process information as may be necessary to determine the conditions of the performance tests. Operations during periods of start-up, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(c) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods specified in paragraph (a) of this subsection;
2. Safe sampling platform(s);
3. Safe access to sampling platform(s); and
4. Utilities for sampling and testing equipment.

(d) For the purpose of making compliance determinations, the time-weighted average of the results of the three runs shall apply. If a sample is accidentally lost or conditions occur in which one (1) of the three (3) runs is discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the approval of the cabinet be determined using the average of the results of the two (2) other runs.

(4) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations is not subject to the requirements of this administrative regulation, the owner or operator shall make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the hazardous waste management unit is less than 10 ppmw using one (1) of the following two (2) methods:

(a) Direct measurement of the organic concentration of the waste using the following procedures:

1. The owner or operator shall take a minimum of four (4) grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

2. For waste generated on site, the grab samples shall be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated off site, the grab samples shall be collected at the inlet to the first hazardous waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

3. Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060 or 8240 of SW-846, incorporated in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010.

4. The arithmetic mean of the results of the analyses of the four (4) samples shall apply for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average shall be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

(b) Using knowledge of the waste to determine that its total organic concentration is less than ten (10) ppmw. Documentation of the waste determination shall be required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than ten (10) ppmw, or prior specification analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(5) The determination that distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with time-weighted, annual average total organic concentrations less than ten (10) ppmw shall be made as

follows:

(a) By the effective date that the facility becomes subject to the provisions of this administrative regulation or by the date when the waste is first managed in a hazardous waste management unit, whichever is later; and

(b) For continuously generated waste, annually; or

(c) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(6) When an owner or operator and the cabinet do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least ten (10) ppmw based on knowledge of the waste, the procedures in Method 8240 may be used to resolve the dispute.

Section 6. Recordkeeping Requirements. (1)(a) Each owner or operator subject to the provisions of this administrative regulation shall comply with the recordkeeping requirements of this section.

(b) An owner or operator of more than one (1) hazardous waste management unit subject to the provisions of this administrative regulation may comply with the recordkeeping requirements for these hazardous waste management units in one (1) recordkeeping system if the system identifies each record by each hazardous waste management unit.

(2) Owners and operators shall record the following information in the facility operating record:

(a) For facilities that comply with the provisions of Section 4(1)(b) of this administrative regulation, an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule shall also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule shall be in the facility operating record by the effective date that the facility becomes subject to the provisions of this administrative regulation.

(b) Up-to-date documentation of compliance with the process vent standards in Section 3 of this administrative regulation, including:

1. Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (that is, the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (for example, identify the hazardous waste management units on a facility plot plan).

2. Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions shall be made using operating parameter values (for example, temperatures, flow rates, or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (for example, managing a waste of different composition or increasing operating hours of affected hazardous waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

(c) Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan shall include:

1. A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable

operating ranges of key process and control device parameters during the test program.

2. A detailed engineering description of the closed-vent system and control device including:

- a. Manufacturer's name and model number of control device.
- b. Type of control device.
- c. Dimensions of the control device.
- d. Capacity.
- e. Construction materials.

3. A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(d) Documentation of compliance with Section 4 of this administrative regulation shall include the following information:

1. A list of all information references and sources used in preparing the documentation.

2. Records including the dates of each compliance test required by Section 4(11) of this administrative regulation.

3. If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 415: Control of Gaseous Emissions" or other engineering texts acceptable to the cabinet that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with clauses a to g of this subparagraph may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.

a. For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

b. For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

c. For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.

d. For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in Section 4(4) of this administrative regulation.

e. For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

f. For a carbon adsorption system such as a fixed-bed absorber that regenerates the carbon bed directly on site in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling and drying cycles, design carbon bed tempera-

ture after regeneration, design carbon bed regeneration time, and design service life of carbon.

g. For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly on site in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

4. A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

5. A statement signed and dated by the owner operator certifying that the control device is designed to operate at an efficiency of ninety-five (95) percent or greater unless the total organic emission limits of Section 3(1) of this administrative regulation is achieved at an efficiency less than ninety-five (95) weight percent or the total organic emission limits of Section 3(1) of this administrative regulation for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than ninety-five (95) weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

6. If performance tests are used to demonstrate compliance, all test results.

(3) Design documentation and monitoring, operation, and inspection information for each closed-vent system and control device required to comply with the provisions of this part shall be recorded and kept up-to-date in the facility operating record. The information shall include:

(a) Description and date of each modification that is made to the closed-vent system or control device design.

(b) Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with Section 4(6)(a) and (b) of this administrative regulation.

(c) Monitoring, operating, and inspection information required by Section 4(6) to (11) of this administrative regulation.

(d) Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

1. For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 second at a minimum temperature of 760 degrees Centigrade period when the combustion temperature is below 760 degrees Centigrade.

2. For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of ninety-five (95) weight percent or greater period when the combustion zone temperature is more than twenty-eight (28) degrees Centigrade below the design average combustion zone temperature established as a requirement of subsection (2)(d)3a of this section.

3. For a catalytic vapor incinerator, period when:

a. Temperature of the vent stream at the catalyst bed inlet is more than twenty-eight (28) degrees Centigrade below the average temperature of the inlet vent stream established as a requirement of subsection (2)(d)3b of this section; or

b. Temperature difference across the catalyst bed is less than eighty (80) percent of the design average temperature difference established as a requirement of subsection (2)(d)3b of this section.

4. For a boiler or process heater, period when:

a. Flame zone temperature is more than twenty-eight (28)

degrees Centigrade below the design average flame zone temperature established as a requirement of subsection (2)(d)3c of this section; or

b. Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of subsection (d)3c of this section.

5. For a flare, period when the pilot flame is not ignited.

6. For a condenser that complies with Section 4(6)(b)6a of this administrative regulation, period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than twenty (20) percent greater than the design outlet organic compound concentration level established as a requirement of subsection (2)(d)3e of this section.

7. For a condenser that complies with Section 4(6)(b)6b of this administrative regulation, period when:

a. Temperature of the exhaust vent stream from the condenser is more than six (6) degrees Centigrade above the design average exhaust vent stream temperature established as a requirement of subsection (2)(d)3e of this section; or

b. Temperature of the coolant fluid exiting the condenser is more than six (6) degrees Centigrade above the design average coolant fluid temperature at the condenser outlet established as a requirement of subsection (2)(d)3e of this section.

8. For a carbon adsorption system such as a fixed-bed carbon absorber that regenerates the carbon bed directly on site in the control device and complies with Section 4(6)(b)7a of this administrative regulation, period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than twenty (20) percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of subsection (2)(d)3f of this section.

9. For a carbon adsorption system such as a fixed-bed carbon absorber that regenerates the carbon bed directly on site in the control device and complies with Section 4(6)(b)7b of this administrative regulation, period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of subsection (2)(d)3f of this section.

(e) Explanation for each period recorded under paragraph (d) of this subsection of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(f) For a carbon adsorption system operated subject to requirements specified in Section 4(8)(b) of this administrative regulation, date when existing carbon the control device is replaced with fresh carbon.

(g) For a carbon adsorption system operated subject to requirements specified in Section 4(8)(a) of this administrative regulation, a log that records:

1. The date and time when the control device is monitored for carbon breakthrough and the monitoring device reading.

2. The date when the existing carbon in the control device is replaced with fresh carbon.

(h) The date of each control device start-up and shutdown.

(5) Records of the monitoring, operating, and inspection information required by subsection (3)(c) to (h) of this section need to be kept only three (3) years.

(6) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the cabinet shall specify the appropriate recordkeeping requirements.

(7) Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in Section 3 of this administrative regulation including supporting documentation as required by Section 5(4)(b) of this administrative regulation when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be

recorded in a log that is kept in the facility operating record.

Section 7. Reporting Requirements. (1) A semiannual report shall be submitted by owners and operators subject to the requirements of this administrative regulation to the cabinet by dates specified by the cabinet. The report shall include the following information:

(a) The EPA identification number, name, and address of the facility; and

(b) For each month during the semiannual reporting period, the dates when the control device exceeded or operated outside of the design specifications as defined in Section 6(3)(d) of this administrative regulation and as indicated by the control device monitoring required by Section 4(6) of this administrative regulation and such exceedances were not corrected within twenty-four (24) hours, or that a flare operated with visible emissions as defined in Section 4(4) of this administrative regulation and as determined by Method 22 monitoring, the duration and cause of each exceedance or visible emissions, and any corrective measures taken.

(2) If, during the semiannual reporting period, the control device does not exceed or operate outside of the design specifications as defined in Section 6(3)(d) of this administrative regulation for more than twenty-four (24) hours or a flare does not operate with visible emissions as defined in Section 4(4) of this administrative regulation, a report to the cabinet shall not be required.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amend-

ments affect owners and operators of hazardous waste facilities that use closed-vent systems, carbon adsorption systems, thermal treatment units, incinerators, or boilers.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff will have an increase in workload in order to process the newly regulated entities.

2. Continuing costs or savings: Once the new entities are processed, there will not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork or reporting requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are anticipated to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes being consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments will provide consistency with existing federal requirements.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The implementation of this regulation will improve public health and environmental welfare across the commonwealth.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, a detrimental effect could occur.

c. If detrimental effect would result, explain detrimental effect: Air emissions resulting from processed vents could put the environment and human health at risk.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no regulations, statutes, or policies that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: There are no additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This

administrative regulation applies to owners and operators of hazardous waste facilities that treat, store, or dispose of hazardous waste, consistent with federal standards, to protect human health and the environment.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.
2. State compliance standards: The proposed amendments adopt changes that apply to closed-vent systems, carbon adsorption systems, thermal treatment units, incinerators, and boilers. These changes are necessary to maintain consistency between state and federal programs. Additions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.
3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.
4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.
5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes
2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities which use closed-vent systems, carbon adsorption system, thermal treatment units, incinerators, or boilers.
3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.
4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.
 

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 34:280. Air emission standards for equipment leaks.

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.70, 224.99, 40 CFR 264 Subpart BB  
 STATUTORY AUTHORITY: KRS 224.40-100, 224.46-520  
 NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish air emission standards for ~~and~~ equipment leaks.

Section 1. Definitions. As used in this administrative regulation, all terms shall have the meaning given them in 401 KAR 34:005. ~~[Chapters 30 through 36]~~

Section 2. Applicability. (1) This administrative regulation applies to owners and operators of facilities that treat, store, or dispose of hazardous wastes except as provided in Section 1 of 401 KAR 34:010.

(2) Except as provided in Section 16 of this administrative regulation, this administrative regulation applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least ten (10) percent by weight that are managed in:

- (a) Units that are subject to the permitting requirements of 401 KAR Chapter 38; or
- (b) Hazardous waste recycling units that are located on hazardous waste management facilities otherwise subject to the permitting requirements of 401 KAR Chapter 38.

(3) If the owner or operator of equipment subject to the requirements of Sections 3 to 16 of this administrative regulation has received a permit under KRS 224.46-520 or 224.46-530 prior to December 21, 1990, the requirements of Sections 3 to 16 of this administrative regulation shall be incorporated when the permit is reissued under Section 12 of 401 KAR 38:050 or reviewed under Section 5 of 401 KAR 38:040.

(4) Each piece of equipment to which this administrative regulation applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(5) Equipment that is in vacuum service is excluded from the requirements of Sections 3 to 11 of this administrative regulation if ~~if~~ it is identified as required in Section 15 ~~[46]~~(7)(e) of this administrative regulation.

Section 3. Standards: Pumps in Light Liquid Service. (1)(a) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in Section 14(2) of this administrative regulation, except as provided in subsections (4), (5), and (6) of this section.

(b) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(2)(a) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(b) If there are indications of liquids dripping from the pump seal, a leak is detected.

(3)(a) When a leak is detected, it shall be repaired as soon as practicable, but not later than fifteen (15) calendar days after it is detected, except as provided in Section 10 of this administrative regulation.

(b) A first attempt at repair (for example, tightening the packing gland ~~for example~~) shall be made no later than five (5) calendar days after each leak is detected.

(4) Each pump equipped with a dual mechanical seal system that

includes a barrier fluid system that is exempt from the requirements of subsection (1) of this section, provided the following requirements are met:

(a) Each dual mechanical seal system shall be:

1. Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

2. Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of Section 11 of this administrative regulation; or

3. Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.

(b) The barrier fluid system shall not be a hazardous waste with organic concentrations ten (10) percent or greater by weight.

(c) Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(d) Each pump shall be checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(e) 1. Each sensor as described in paragraph (c) of this subsection shall be checked daily or be equipped with an audible alarm that will be checked monthly to ensure that it is functioning properly.

2. The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) 1. If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (e) 2 of this subsection, a leak is detected.

2. When a leak is detected, it shall be repaired as soon as practicable, but not later than fifteen (15) calendar days after it is detected, except as provided in Section 10 of this administrative regulation.

3. A first attempt at repair (for example, relapping the seal [for example]) shall be made no later than five (5) calendar days after each leak is detected.

(5) Any pump that is designated, as described in Section 15(7)(b) of this administrative regulation, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of subsections (1), (3), and (4) of this section if the pump meets the following requirements:

(a) Will have no externally actuated shaft penetrating the pump housing.

(b) Will operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in Section 14(3) of this administrative regulation.

(c) Will be tested for compliance with paragraph (b) of this subsection initially upon designating, annually, and at other times as requested by the cabinet.

(6) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of Section 11 of this administrative regulation, it is exempt from the requirements of subsections (1) to (5) of this section.

Section 4. Standards: Compressors. (1) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in subsections (8) and (9) of this section.

(2) Each compressor seal system as required in subsection (1) of this section shall be:

(a) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure; or

(b) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the

requirements of Section 11 of this administrative regulation; or

(c) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

(3) The barrier fluid shall not be a hazardous waste with organic concentrations ten (10) percent or greater by weight.

(4) Each barrier fluid system as described in subsection (1) through (3) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(5)(a) Each sensor as required in subsection (4) of this section shall be checked daily or shall be equipped with an audible alarm that will be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor shall be checked daily.

(b) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under subsection (5)(b) of this section, a leak is detected.

(7)(a) When a leak is detected, it shall be repaired as soon as practicable, but not later than fifteen (15) calendar days after it is detected, except as provided in Section 10 of this administrative regulation.

(b) A first attempt at repair (for example, tightening the packing gland [for example]) shall be made no later than five (5) calendar days after each leak is detected.

(8) A compressor is exempt from the requirements of subsections (1) and (2) of this section if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of Section 11 of this administrative regulation, except as provided in subsection (9) of this section.

(9) Any compressor that is designated, as described in Section 15(7)(b) of this administrative regulation, for no detectable emissions as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of subsections (1) to (8) of this section if the compressor:

(a) Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in Section 14(3) of this administrative regulation.

(b) Is tested for compliance with paragraph (a) of this subsection initially upon designation, annually, and at other times as requested by the cabinet.

Section 5. Standards: Pressure Relief Devices in Gas/Vapor Service. (1) Except during pressure releases, each pressure relief device in gas and vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in Section 14(3) of this administrative regulation.

(2)(a) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than five (5) calendar days after each pressure release, except as provided in Section 10 of this administrative regulation.

(b) No later than five (5) calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in Section 14(3) of this administrative regulation.

(3) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in Section 11 of this administrative regulation is exempt from the requirements of subsections (1) and (2) of this section.



Section 6. Standards: Sampling Connecting Systems. (1) Each sampling connection system shall be equipped with a closed purge system or closed-vent system.

(2) Each closed-purge system or closed-vent system as required in subsection (1) of this section shall:

(a) Return the purged hazardous waste stream directly to the hazardous waste stream directly to the hazardous waste management process line with no detectable emissions to atmosphere; or

(b) Collect and recycle the purged hazardous waste stream with no detectable emissions to atmosphere; or

(c) Be designed and operated to capture and transport all the purged hazardous waste stream to a control device that complies with the requirements of Section 11 of this administrative regulation.

(3) In situ sampling systems are exempt from the requirements of subsections (1) and (2) of this section.

Section 7. Standards: Open-ended Valves or Lines. (1)(a) Each open-ended valve or line shall be equipped with a cap, blind, flange, plug, or a second valve.

(b) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

(2) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with subsection (1) of this section at all other times.

Section 8. Standards: Valves in Gas and Vapor Service or in Light Liquid Service. (1) Each valve in gas and vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in Section 14(2) of this administrative regulation and shall comply with subsections (2) to (5) of this section, except as provided in subsections (6), (7), and (8) of this section, and Sections 12 and 13 of this administrative regulation.

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3)(a) Any valve for which a leak is not detected for two (2) successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

(b) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two (2) successive months.

(4)(a) When a leak is detected, it shall be repaired as soon as practicable, but no later than fifteen (15) calendar days after each leak is detected, except as provided in Section 10 of this administrative regulation.

(b) A first attempt at repair shall be made no later than five (5) calendar days after each leak is detected.

(5) First attempts at repair include, but are not limited to, the following best practices where practicable:

(a) Tightening of bonnet bolts.

(b) Replacement of bonnet bolts.

(c) Tightening of packing gland nuts.

(d) Injection of lubricant into lubricated packing.

(6) Any valve that is designated, as described in Section 15(7)(b) of this administrative regulation, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of subsection (1) of this section if the valve:

(a) Has no external actuating mechanism in contact with the hazardous waste stream.

(b) Is operated with emissions less than 500 ppm above background as determined by the method specified in Section 14(3) of this administrative regulation.

(c) Is tested for compliance with subsection (6)(b) of this section initially upon designation, annually, and at other times as requested by the cabinet.

(7) Any valve that is designated, as described in Section 15(8)(a) of this administrative regulation, as an unsafe-to-monitor valve is exempt from the requirements of subsection (1) of this section if:

(a) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with subsection (1) of this section.

(b) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(8) Any valve that is designated, as described in Section 15(8)(b) of this administrative regulation, as a difficult-to-monitor valve is exempt from the requirements of subsection (1) of this section if:

(a) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than two (2) meters above a support surface.

(b) The hazardous waste management unit within which the valve is located was in operation before June 21, 1990.

(c) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

Section 9. Standards: Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Flanges and Other Connectors. (1) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within five (5) days by the method specified in Section 14(2) of this administrative regulation if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3)(a) When a leak is detected, it shall be repaired as soon as practicable, but not later than fifteen (15) calendar days after it is detected, except as provided in Section 10 of this administrative regulation.

(b) The first attempt at repair shall be made no later than five (5) calendar days after each leak is detected.

(c) First attempts at repair include, but are not limited to, the best practices described under Section 8(5) of this administrative regulation.

Section 10. Standards: Delay of Repair. (1) Delay of repair of equipment for which leaks have been detected shall be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown.

(2) Delay of repair of equipment for which leaks have been detected shall be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least ten (10) percent by weight.

(3) Delay of repair for valves shall be allowed if:

(a) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(b) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with Section 13 of this administrative regulation.

(4) Delay of repair for pumps shall be allowed if:

(a) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

(b) Repair is completed as soon as practicable, but not later than six (6) months after the leak was detected.

(5) Delay of repair beyond a hazardous waste management unit shutdown shall be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assemblies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown shall not be allowed unless the next hazardous waste management unit shutdown occurs sooner than six (6) months after the first hazardous waste management unit shutdown.

Section 11. Standards: Closed-vent Systems and Control Devices. Owners or operators of closed-vent systems and control devices shall comply with the provisions of Section 4 of 401 KAR 34:240.

Section 12. Alternative Standards for Valves in Gas/Vapor Service or in Light Liquid Service; Percentage of Valves Allowed to Leak. (1) An owner or operator subject to the requirements of Section 8 of this administrative regulation may elect to have all valves within a hazardous waste management unit comply with an alternative standard that allows no greater than two (2) percent of the valves to leak.

(2) The following requirements shall be met if an owner or operator decides to comply with the alternative standard of allowing two (2) percent of valves to leak;

(a) An owner or operator shall notify the cabinet that the owner or operator has elected to comply with the requirements of this administrative regulation.

(b) A performance test as specified in subsection (3) of this section shall be conducted initially upon designation, annually, and at other times as requested by the cabinet.

(c) If a valve leak is detected, it shall be repaired in accordance with Section 8(4) and (5) of this administrative regulation.

(3) Performance tests shall be conducted in the following manner:

(a) All valves subject to the requirements in Section 8 of this administrative regulation within the hazardous waste management unit shall be monitored within one (1) week by the methods specified in Section 14(2) of this administrative regulation.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c) The leak percentage shall be determined by dividing the number of valves subject to the requirements in Section 8 of this administrative regulation for which leaks are detected by the total number of valves subject to the requirements in Section 8 of this administrative regulation within the hazardous waste management unit.

(4) If an owner or operator decides to comply with this section no longer, the owner or operator shall notify the cabinet in writing that the work practice standard described in Section 8(1) to (5) of this administrative regulation will be followed.

Section 13. Alternative Standards for Valves in Gas/Vapor Service or in Light Liquid Service; Skip Period Leak Detection and Repair. (1)(a) An owner or operator subject to the requirements of Section 8 of this administrative regulation may elect for all valves within a hazardous waste management unit to comply with one of the alternative work practices specified in subsections (2)(b) and (c) of this section.

(b) An owner or operator shall notify the cabinet before implementing one (1) of the alternative work practices.

(2)(a) An owner or operator shall comply with the requirements for valves, as described in Section 8 of this administrative regulation, except as described in paragraphs (b) and (c) of this subsection.

(b) After two (2) consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than two (2) percent, an owner or operator may begin to skip one (1) of the quarterly leak detection periods for the valves subject to the requirements in Section

8 of this administrative regulation.

(c) After five (5) consecutive quarterly leak detection period with the percentage of valves leaking equal to or less than two (2) percent, an owner or operator may begin to skip three (3) of the quarterly leak detection periods for the valves subject to the requirements in Section 8 of this administrative regulation.

(d) If the percentage of valves leaking is greater than two (2) percent, the owner or operator shall monitor monthly in compliance with the requirements in Section 8 of this administrative regulation, but may again elect to use this section after meeting the requirements of Section 8(3)(a) of this administrative regulation.

Section 14. Test Methods and Procedures. (1) Each owner or operator subject to the provisions of this administrative regulation shall comply with the test methods and procedures requirements of this section.

(2) Leak detection monitoring, as required in Sections 3 to 13 of this administrative regulation, shall comply with the following requirements:

(a) Monitoring shall comply with Reference Method 21 in 40 CFR Part 60.

(b) The detection instrument shall meet the performance criteria of Reference Method 21.

(c) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(d) Calibration gases shall be:

1. Zero air (less than ten (10) ppm of hydrocarbon in air).

2. A mixture of methane or n-hexene and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexene.

(e) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(3) When equipment is tested for compliance with no detectable emissions, as required in Sections 3(5), 4(10), 5, 8(6) of this administrative regulation, the test shall comply with the following requirements:

(a) The requirements of subsections (2)(a) to (d) of this section shall apply.

(b) The background level shall be determined as set forth in Reference Method 21.

(c) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(d) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(4) In accordance with the waste analysis plan required by Section 4(2) of 401 KAR 34:020, an owner or operator of a facility shall determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds ten (10) percent by weight using the following:

(a) Methods described in ASTM Methods D 2267-88, E 169-87, E-168-88, E 260-85;

(b) Method 9060 or 8240 of SW-846, incorporated in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010; or

(c) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than ten (10) percent, or prior specification analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total

organic concentration.

(5) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least ten (10) percent by weight, the determination can be revised only after following the procedures in subsection (4)(a) or (b) of this section.

(6) When an owner or operator and the cabinet do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least ten (10) percent by weight, the procedures in subsection (4)(a) or (b) of this section can be used to resolve the dispute.

(7) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

(8) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D-2879-86.

(9) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of Section 5(3)(a) to (d) of 401 KAR 34:275.

Section 15. Recordkeeping Requirements. (1)(a) Each owner or operator subject to the provisions of this administrative regulation shall comply with the recordkeeping requirements of this section.

(b) An owner or operator of more than one (1) hazardous waste management unit subject to the provisions of this administrative regulation may comply with the recordkeeping requirements for these hazardous waste management units in one (1) recordkeeping system if the system identifies each record by each hazardous waste management unit.

(2) Owners and operators shall record the following information in the facility operating record:

(a) For each piece of equipment to which this administrative regulation applies:

1. Equipment identification number and hazardous waste management unit identification.

2. Approximate locations within the facility (for example, identify the hazardous waste management unit on a facility plot plan).

3. Type of equipment (for example, a pump or pipeline valve [~~for example~~]).

4. Percent-by-weight total organics in the hazardous waste stream at the equipment.

5. Hazardous waste state at the equipment (for example, gas and vapor or liquid [~~for example~~]).

6. Method of compliance with the standard (for example "monthly leak detection and repair" or "equipped with dual mechanical seals").

(b) An implementation schedule as specified in Section 4(1)(b) of 401 KAR 34:275 for facilities that comply with the provisions of Section 4(1)(b) of 401 KAR 34:275.

(c) Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in Section 6(2)(c) of 401 KAR 34:275.

(d) Documentation of compliance with Section 11 of this administrative regulation, including the detailed design documentation or performance test result specified in Section 6(2)(d) of 401 KAR 34:275.

(3) When each leak is detected as specified in Sections 3, 4, 8, and 9 of this administrative regulation, the following requirements apply:

(a) A weatherproof and readily visible identification marked with the equipment identification number, the date evidence of a potential leak was found in accordance with Section 9(1) of this administrative regulation, and the date the leak was detected, shall be attached to the leaking equipment.

(b) The identification on equipment except on a valve, may be removed after it has been repaired.

(c) The identification on a valve may be removed after it has been monitored for two (2) successive months as specified in Section 8(3) of this administrative regulation and no leak has been detected during those two (2) months.

(4) When each leak is detected as specified in Sections 4, 8, and 9 of this administrative regulation, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

(a) The instrument and operator identification numbers and the equipment identification number.

(b) The date evidence of a potential leak was found in accordance with Section 9(1) of this administrative regulation;

(c) The date the leak was detected and the dates of each attempt to repair the leak;

(d) Repair methods applied in each attempt to repair the leak;

(e) "Above 10,000" if the maximum instrument reading measured by the methods specified in Section 14(2) of this administrative regulation after each repair attempt is equal to or greater than 10,000 ppm;

(f) "Repair delayed" and the reason for the delay if a leak is not repaired within fifteen (15) calendar days after discovery of the leak.

(g) Documentation supporting the delay of repair of a valve in compliance with Section 10(3) of this administrative regulation;

(h) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without hazardous waste management unit shutdown;

(i) The expected date of successful repair of the leak if a leak is not repaired within fifteen (15) calendar days; and

(j) The date of successful repair of the leak.

(5) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of Section 11 of this administrative regulation shall be recorded and kept up-to-date in the facility operating record as specified in Section 6(3) of 401 KAR 34:275. Design documentation is specified in Section 6(3)(a) and (b) of 401 KAR 34:275 and monitoring, operating, and inspection information in Section 6(3)(c) to (h) of 401 KAR 34:275.

(6) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the cabinet shall specify the appropriate recordkeeping requirements.

(7) The following information pertaining to all equipment subject to the requirements in Sections 3 to 11 of this administrative regulation shall be recorded in a log that is kept in the facility operating record:

(a) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this administrative regulation.

(b) 1. A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of Sections 3(5), 4(9), and 8(6) of this administrative regulation.

2. The designation of this equipment as subject to the requirements of Sections 3(5), 4(9), and 8(6) of this administrative regulation shall be signed by the owner or operator.

(c) A list of equipment identification numbers for pressure relief devices required to comply with Section 5(1) of this administrative regulation.

(d) 1. The dates of each compliance test required in Sections 3(5), 4(9), 5, and 8(6) of this administrative regulation.

2. The background level measured during each compliance test.

3. The maximum instrument reading measured at the equipment during each compliance test.

(e) A list of identification numbers for equipment in vacuum service.

(8) The following information pertaining to all valves subject to the requirements of Section 8(7) and (8) of this administrative regulation

shall be recorded in a log that is kept in the facility operating record:

(a) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(b) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(9) The following information shall be recorded in the facility operating record for valves complying with Section 13 of this administrative regulation:

(a) A schedule of monitoring:

(b) The percent of valves found leaking during each monitoring period.

(10) The following information shall be recorded in a log that is kept in the facility operating record:

(a) Criteria required in Sections 3(4)(e)2 and 4(5)(b) of this administrative regulation and an explanation of the design criteria.

(b) Any changes to these criteria and the reasons for the changes.

(11) The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in Section 2 of this administrative regulation.

(a) An analysis determining the design capacity of the hazardous waste management unit.

(b) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in Sections 3 to 11 of this administrative regulation and an analysis determining whether these hazardous wastes are heavy liquids.

(c) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in Sections 3 to 11 of this administrative regulation. The record shall include supporting documentation as required by Section 14(4)(c) of this administrative regulation when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (for example, changing the process that produced the waste (for example)) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in Sections 3 to 11 of this administrative regulation, than a new determination is required.

(12) Records of the equipment leak information required by subsection (4) of this section and the operating information required by subsection (5) of this section need be kept only three (3) years.

(13) The owner or operator of any facility that is subject to this administrative regulation and to regulations at 40 CFR 60 Subpart VV or 40 CFR 61 Subpart V, may elect to determine compliance with this subpart, or pursuant to Section 16 of this administrative regulation, or pursuant to those provisions of 40 CFR 60 or 40 CFR 61 to the extent that the documentation required under this section. The documentation under the regulation at 40 CFR 60 or 40 CFR 61 duplicates the documentation required under this section. The documentation under 40 CFR 60 or 40 CFR 61 shall be kept with or made readily available with the facility operating record.

Section 16. Reporting Requirements. (1) A semiannual report shall be submitted by owners and operators subject to the requirements of this subpart to the cabinet by dates specified by the cabinet. The report shall include the following information:

(a) The U.S. EPA identification number, name, and address of the facility.

(b) For each month during the semiannual reporting period:

1. The equipment identification number of each valve for which a leak was not repaired as required in Section 4(7) of this administrative regulation.

2. The equipment identification number of each compressor for

which a leak was not repaired in Section 3(3) and (4)(f) of 401 KAR 35:280.

3. The equipment identification number of each compressor for which a leak was not repaired as required in Section 4(7) of this administrative regulation.

(c) Dates of hazardous waste management unit shutdowns that occurred within the semiannual reporting period.

(d) For each month during the semiannual reporting period, dates when the control device installed as required by Sections 3 to 6 of this administrative regulation exceeded or operated outside of the design specifications as defined in Section 15(5) of this administrative regulation and as indicated by the control device monitoring required by Section 11 of this administrative regulation and was not corrected within twenty-four (24) hours, the duration and cause of each exceedance, and any corrective measures taken.

(2) If, during the semiannual reporting period, leaks from valves, pumps, and compressors are repaired as required in Sections 3(3), (4)(f), 4(7), and 8(4) of this administrative regulation, respectively, and the control device does not exceed or operate outside of the design specifications as defined in Section 15(5) of this administrative regulation for more than twenty-four (24) hours, a report to the cabinet shall not be required.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities that treat, store, or dispose of hazardous waste.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There are no direct or indirect costs or savings.

2. Continuing costs or savings: There are no continuing costs or savings.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional reporting and paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are anticipated to be used for the implementation and enforcement of the regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide clarity to existing standards and are consistent with federal requirements.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: Not applicable.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, regulations, or policies that conflict, duplicate, or overlap the regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners/operators of hazardous waste treatment, storage, or disposal facilities, and is consistent with federal standards.

FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate:

There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to all hazardous waste facilities. These changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities which store, treat, or dispose of hazardous waste.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. Agencies that store, treat, or dispose of hazardous waste will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)

401 KAR 34:290. Appendix on recordkeeping instructions.

RELATES TO: KRS 224.10, 224.40, 224.46

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-505, 224.46-520

NECESSITY AND FUNCTION: KRS 224.46-520 requires that persons engaging in the storage, treatment, and disposal of hazard-

# ADMINISTRATIVE REGISTER - 670

ous waste obtain a permit. KRS 224.46-520 requires the Cabinet to establish standards for these permits, to require adequate financial responsibility, to establish minimum standards for closure for all facilities and the postclosure monitoring and maintenance of hazardous waste disposal facilities. This chapter establishes minimum standards for new hazardous waste sites or facilities. This administrative regulation establishes minimum standards for recordkeeping.

Section 1. Recordkeeping Instructions. The recordkeeping provisions of Section 4 of 401 KAR 34:050 specify that an owner or operator must keep a written operating record at his facility. This appendix provides additional instructions for keeping portions of the operating record. See Section 4(2) of 401 KAR 34:050 for additional recordkeeping requirements. The following information must be recorded as it becomes available and maintained in the operating record until closure of the facility in the following manner. Records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

(1) A description by its common name and the EPA Hazardous Waste Number(s) from 401 KAR Chapter 31 which apply to the waste. The waste description also must include the waste's physical form, i.e., liquid, sludge, solid, or contained gas. If the waste is not listed in 401 KAR 31:040, the description also must include the process that produced it (for example, solid filter cake from production of \_\_\_\_\_, EPA Hazardous Waste Number W051). Each hazardous waste listed in 401 KAR 31:040 and each hazardous waste characteristic defined in 401 KAR 31:030 has a four (4) digit EPA Hazardous Waste Number assigned to it. This number must be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one (1) listed hazardous waste, or where more than one (1) hazardous waste characteristic applies to the waste, the waste description must include all applicable EPA Hazardous Waste Numbers.

(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one (1) of the units of measure specified in Table 1.

Table 1

| Unit of Measure      | Code <sup>1</sup> |
|----------------------|-------------------|
| Gallons              | G                 |
| Gallons per Hour     | GE                |
| Gallons per Day      | UD                |
| Liters               | L                 |
| Liters per Hour      | HL                |
| Liters per Day       | VD                |
| Short Tons per Hour  | SD                |
| Metric Tons per Hour | WD                |
| Short Tons per Day   | ND                |
| Metric Tons per Day  | SD                |
| Pounds per Hour      | JD                |
| Kilograms per Hour   | RD                |
| Cubic Yards          | Y                 |
| Cubic Meters         | C                 |
| Acres                | A                 |
| Acre-feet            | AF                |
| Hectares             | H                 |
| Hectare-meter        | HF                |
| BTU's per Hour       | I                 |

<sup>1</sup>Single digit symbols are used here for data processing purposes

(3) The method(s) (by handling code(s) as specified in Table 2) and date(s) of treatment, storage, or disposal.

[Table 4]

| Unit of Measure | Symbol <sup>1</sup> | Density |
|-----------------|---------------------|---------|
|-----------------|---------------------|---------|

|                        |   |     |
|------------------------|---|-----|
| Pounds                 | P |     |
| Short tons (2000 lbs.) | T |     |
| Gallons (U.S.)         | G | P/G |
| Cubic yards            | Y | T/Y |
| Kilograms              | K |     |
| Tonnes (1000 kg)       | M |     |
| Liters                 | L | K/L |
| Cubic meters           | C | M/C |

\*Single digit symbols are used here for data processing purposes.]

Table 2 - Handling Codes for Treatment, Storage, and Disposal Methods

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store, or dispose of each quantity of hazardous waste received.

## 1. Storage

|                                    |                                    |
|------------------------------------|------------------------------------|
| S01 Container (barrel, drum, etc.) | S03 Waste pile                     |
| S02 Tank                           | S04 Surface impoundment            |
|                                    | S05 Drip pad                       |
|                                    | S06 Containment building (storage) |
|                                    | S99 Other storage (specify)        |

## 2. Treatment

### (a) Thermal Treatment

|                                  |                         |
|----------------------------------|-------------------------|
| T06 Liquid injection incinerator | T13 Wet air oxidation   |
| T07 Rotary kiln incinerator      | T14 Calcination         |
| T08 Fluidized bed incinerator    | T15 Microwave discharge |
| T09 Multiple hearth incinerator  | [T16 Cement kiln]       |
| T10 Infrared furnace incinerator | [T17 Lime kiln]         |
| T11 Molten salt destructor       | T18 Other (specify)     |
| T12 Pyrolysis                    |                         |

### (b) Chemical Treatment

|                            |                         |
|----------------------------|-------------------------|
| T19 Absorption mound       | T27 Cyanide destruction |
| T20 Absorption field       | T28 Degradation         |
| T21 Chemical fixation      | T29 Detoxification      |
| T22 Chemical oxidation     | T30 Ion exchange        |
| T23 Chemical precipitation | T31 Neutralization      |
| T24 Chemical reduction     | T32 Ozonation           |
| T25 Chlorination           | T33 Photolysis          |
| T26 Chlorinolysis          | T34 Other (specify)     |

### (c) Physical Treatment

#### (1) Separation of components

|                    |                     |
|--------------------|---------------------|
| T35 Centrifugation | T42 Flotation       |
| T36 Clarification  | T43 Foaming         |
| T37 Coagulation    | T44 Sedimentation   |
| T38 Decanting      | T45 Thickening      |
| T39 Encapsulation  | T46 Ultrafiltration |
| T40 Filtration     | T47 Other (specify) |
| T41 Flocculation   |                     |

#### (2) Removal of Specific Components

|                                |                                       |
|--------------------------------|---------------------------------------|
| T48 Absorption-molecular sieve | T58 High gradient magnetic separation |
| T49 Activated carbon           | T59 Leaching                          |
| T50 Blending                   | T60 Liquid ion exchange               |



## ADMINISTRATIVE REGISTER - 671

|                     |                              |
|---------------------|------------------------------|
| T51 Catalysis       | T61 Liquid-liquid extraction |
| T52 Crystallization | T62 Reverse osmosis          |
| T53 Dialysis        | T63 Solvent recovery         |
| T54 Distillation    | T64 Stripping                |
| T55 Electrodialysis | T65 Sand filter              |
| T56 Electrolysis    | T66 Other (specify)          |
| T57 Evaporation     |                              |

### (d) Biological Treatment

|                                    |                              |
|------------------------------------|------------------------------|
| T67 Activated sludge               | T73 Spray irrigation         |
| T68 Aerobic lagoon                 | T74 Thickening filter        |
| T69 Aerobic tank                   | T75 Tricking filter          |
| T70 Anaerobic <u>tank [lagoon]</u> | T76 Waste stabilization pond |
| T71 Composting                     | T77 Other (specify)          |
| T72 Septic tank                    |                              |

### (e) Boilers and Industrial Furnaces

|   |
|---|
| T80 <u>Boiler</u>   |
| T81 <u>Cement kiln</u>  |
| T82 <u>Lime kiln</u>  |
| T83 <u>Aggregate kiln</u>   |
| T84 <u>Phosphate kiln</u>   |
| T85 <u>Coke oven</u>  |
| T86 <u>Blast furnace</u>  |
| T87 <u>Smelting, melting, or refining furnace</u>   |
| T88 <u>Titanium dioxide chloride process oxidation reactor</u>                              |
| T89 <u>Methane reforming furnace</u>  |
| T90 <u>Pulping liquor recovery furnace</u>  |
| T91 <u>Combustion device used in the recovery of sulfur values from spent sulfuric acid</u> |
| T92 <u>Halogen acid furnaces</u>  |
| T93 <u>Other industrial furnaces listed in 401 KAR 30:010 (specify)</u>                     |

### (f) Other Treatment

|   |
|---|
| T94 <u>Containment building (treatment)</u> |
|---|

### 3. Disposal

|                     |  |
|---------------------|--|
| D79 <del>[89]</del> | Underground injection                            |
| D80 <del>[84]</del> | Landfill   |
| D81 <del>[82]</del> | Land treatment                                   |
| D82 <del>[83]</del> | Ocean disposal                                   |
| D83 <del>[84]</del> | Surface impoundment (to be closed as a landfill) |
| D99 <del>[85]</del> | Other (specify)                                  |

### 4. Miscellaneous

|  |
|--|
| X01 <u>Open burning or open detonation</u> |
| X02 <u>Mechanical processing</u>           |
| X03 <u>Thermal unit</u>                    |
| X04 <u>Geologic repository</u>             |
| X99 <u>Other (specify)</u>                 |

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such

is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

## REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect all owners and operators of hazardous waste facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff of the agency will have an increase in workload in order to process the newly regulated entities.

2. Continuing costs or savings: Once the new entities are processed, there will not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no extra requirements for paperwork and reporting.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives

## ADMINISTRATIVE REGISTER - 672

were rejected: Alternatives were not considered. These amendments are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with existing federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and environmental welfare will improve with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, regulations, or policies that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste facilities that must maintain records, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to the recordkeeping requirements for any hazardous waste facility that applies for a permit.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

401 KAR 34:360. Appendix on the list of hazardous constituents for groundwater monitoring.

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99

STATUTORY AUTHORITY: KRS Chapter 224.10-100, 224.46-510

NECESSITY AND FUNCTION: KRS 224.46-520 requires that persons engaging in the storage, treatment, and disposal of hazardous waste obtain a permit. KRS 224.46-520 requires the cabinet to establish standards for these permits, to establish minimum standards for closure for all facilities and the postclosure monitoring and maintenance of hazardous waste disposal facilities. KRS 224.46-520 requires the cabinet to identify the characteristics of and to list hazardous wastes. This chapter establishes minimum standards for hazardous waste sites or facilities. This administrative regulation establishes a list of groundwater analyses for which to screen when contamination is suspected at RCRA land based hazardous waste treatment, storage, and disposal facilities.

Section 1. Hazardous Waste Constituents for Groundwater Monitoring. The list of hazardous waste constituents for groundwater monitoring in this chapter is:

### GROUNDWATER MONITORING LIST

| Common Name <sup>1</sup>     | Chemical Abstract Service Index Name <sup>2</sup> |
|------------------------------|---|
| Acenaphthene                 | Acenaphthylene, 1,2-dihydro-                      |
| Acenaphthylene               | Acenaphthylene                                    |
| Acetone                      | 2-Propanone                                       |
| Acetophenone                 | Ethanone, 1-phenyl                                |
| Acetonitrile; Methyl cyanide | Acetonitrile                                      |
| 2-Acetylaminefluorane; 2-AAF | Acetamide, N-9H-fluoren-2-yl-                     |

# ADMINISTRATIVE REGISTER - 673

|  |  |
|--|--|
| Acrolein   | 2-Propenal   |
| Acrylonitrile  | 2-Propenenitrile   |
| Aldrin   | 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1alpha, 4alpha,4abeta,5alpha,8alpha, 8abeta)- |
| Allyl chloride   | 1-Propene, 3-chloro-   |
| 4-Aminobiphenyl  | (1,1'-Biphenyl)-4-amine  |
| Aniline  | Benzenamine  |
| Anthracene   | Anthracene   |
| Antimony   | Antimony   |
| Aramite  | Sulfurous acid, 2-chloroethyl 2-(4-(1,1- dimethylethyl)phenoxy)-1-methylethyl ester  |
| Arsenic  | Arsenic  |
| Barium   | Barium   |
| Benzene  | Benzene  |
| Benzo(a)anthracene; Benzanthracene                                 | Benz(a)anthracene  |
| Benzo(b)fluoranthene   | Benz(e)acephenanthrylene   |
| Benzo(k)fluoranthene   | Benzo(k)fluoranthene   |
| Benzo(ghi)perylene   | Benzo(ghi)perylene   |
| Benzo(a)pyrene   | Benzo(a)pyrene   |
| Benzyl alcohol   | Benzenemethanol  |
| Beryllium  | Beryllium  |
| alpha-BHC  | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5beta,6beta)-  |
| beta-BHC   | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta,3alpha,4beta,5alpha,6beta)-  |
| delta-BHC  | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-   |
| gamma-BHC; Lindane   | Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-   |
| Bis(2-chloroethoxy)methane   | Ethane, 1,1'-(methylenebis(oxy))bis(2-chloro-  |
| Bis(2-chloroethyl)ether  | Ethane, 1,1'-oxybis(2-chloro-  |
| Bis(2-chloro-1-methylethyl)ether; 2,2'-Di-chloro-diisopropyl ether | Propane, 2,2'-oxybis(1-chloro-   |
| Bis(2-ethylhexyl)phthalate   | 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester   |
| Bromodichloromethane   | Methane, bromodichloro-  |
| Bromoform; Tribromomethane   | Methane, tribromo  |
| 4-Bromophenyl phenyl ether   | Benzene, 1-bromo-4-phenoxy   |
| Butyl benzyl phthalate; Benzyl butyl phthalate                     | 1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester   |
| Cadmium  | Cadmium  |
| Carbon disulfide   | Carbon disulfide   |
| Carbon tetrachloride   | Methane, tetrachloro-  |
| Chlordane  | 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-   |
| p-Chloroaniline  | Benzenamine, 4-chloro-   |
| Chlorobenzene  | Benzene, chloro-   |
| Chlorobenzilate  | Benzeneacetic acid, 4-chloro-a-(4-chlorophenyl)-a-hydroxy-ethyl ester  |
| p-Chloro-m-cresol  | Phenol, 4-chloro-3-methyl  |
| Chloroethane; Ethyl chloride                                       | Ethane, chloro-  |
| Chloroform   | Methane, trichloro-  |
| 2-Chloronaphthalene  | Naphthalene, 2-chloro-   |
| 2-Chlorophenol   | Phenol, 2-chloro-  |
| 4-Chlorophenyl phenyl ether  | Benzene, 1-chloro-4-phenoxy-   |
| Chloroprene  | 1,3-butadiene, 2-chloro-   |
| Chromium   | Chromium   |
| Chrysene   | Chrysene   |
| Cobalt   | Cobalt   |
| Copper   | Copper   |
| m-Cresol   | Phenol, 3-methyl-  |
| o-Cresol   | Phenol, 2-methyl-  |
| p-Cresol   | Phenol, 4-methyl-  |
| Cyanide  | Cyanide  |
| 2,4-D; 2,4-Dichlorophenoxyacetic acid                              | Acetic acid, (2,4-dichlorophenoxy)-  |
| 4,4'-DDD   | Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro-  |
| 4,4'-DDE   | Benzene, 1,1'-(dichloroethylidene)bis(4-chloro-  |
| 4,4'-DDT   | Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro-   |
| Diallate   | Carbamothioic acid, bis(1-methylethyl)-,S-(2,3-dichloro-2-propenyl) ester  |
| Dibenz(a,h)anthracene  | Dibenz(a,h)anthracene  |
| Dibenzofuran   | Dibenzofuran   |
| Dibromochloromethane; Chlorodibromomethane                         | Methane, dibromochloro-  |
| 1,2-Dibromo-3-chloropropane; DBCP                                  | Propane, 1,2-dibromo-3-chloro-   |
| 1,2-Dibromoethane; Ethylene dibromide                              | Ethane, 1,2-dibromo-   |
| Di-n-butyl phthalate   | 1,2-Benzenedicarboxylic acid, dibutyl ester  |
| o-Dichlorobenzene  | Benzene, 1,2-dichloro-   |

# ADMINISTRATIVE REGISTER - 674

|  |  |
|--|--|
| m-Dichlorobenzene  | Benzene, 1,3-dichloro-   |
| p-Dichlorobenzene  | Benzene, 1,4-dichloro-   |
| 3,3'-Dichlorobenzidine                                   | (1,1'-Biphenyl)-4,4'-diamine,3,3'-dichloro-  |
| trans-1,4-Dichloro-2-butene                              | 2-Butene,1,4-dichloro-,(E)-  |
| Dichlorodifluoromethane                                  | Methane, dichlorodifluoro-   |
| 1,1-Dichloroethane                                       | Ethane, 1,1-dichloro-  |
| 1,2-Dichloroethane; Ethylene dichloride                  | Ethane, 1,2-dichloro-  |
| 1,1-Dichloroethylene; Vinylidene chloride                | Ethene, 1,1-dichloro-  |
| trans-1,2,-Dichloroethylene                              | Ethene, 1,2-dichloro-,(E)-   |
| 2,4-Dichlorophenol                                       | Phenol, 2,4-dichloro-  |
| 2,6-Dichlorophenol                                       | Phenol, 2,6-dichloro-  |
| 1,2-Dichloropropane                                      | Propane, 1,2-dichloro-   |
| cis-1,3-Dichloropropene                                  | 1-Propene, 1,3-dichloro-,(Z)-  |
| trans-1,3-Dichloropropene                                | 1-Propene, 1,3-dichloro-,(E)-  |
| Dieldrin   | 2,7:3,6-Dimethanonaphth(2,3-b)oxirene,3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-,(1aalpha,2beta, 2aalpha, 3beta, 6beta, 6aalpha, 7beta,7a alpha)- |
| Diethyl phthlate   | 1,2-Benzenedicarboxylic acid, diethyl ester  |
| O,O-Diethyl O-2-pyrazinyl phosphorothioate;<br>Thionazin | Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester  |
| Dimethoate   | Phosphorodithioic acid, O,O-dimethyl S-(2-(methylamino)-2-oxoethyl)ester   |
| p-(Dimethylamino)azobenzene                              | Benzenamine, N,N-dimethyl-4-(phenylazo)-   |
| 7,12-Dimethylbenz(a)anthracene                           | Benz(a)anthracene, 7,12-dimethyl   |
| 3,3'-Dimethylbenzidine                                   | (1,1'-biphenyl)-4,4'-diamine, 3,3'-dimethyl-   |
| alpha, alpha-Dimethylphene-thylamine                     | Benzenethanamine, alpha, alpha-dimethyl-   |
| 2,4-Dimethylphenol                                       | Phenol,2,4-dimethyl-   |
| Dimethyl phthalate                                       | 1,2-Benzenedicarboxylic acid, dimethyl ester   |
| m-Dinitrobenzene   | Benzene, 1,3-dinitro-  |
| 4,6-Dinitro-o-cresol                                     | Phenol, 2-methyl-4,6 -dinitro-   |
| 2,4-Dinitrophenol  | Phenol, 2,4-dinitro-   |
| 2,4-Dinitrotoluene                                       | Benzene, 1-methyl-2,4-dinitro-   |
| 2,6-Dinitrotoluene                                       | Benzene, 2-methyl-1,3 -dinitro-  |
| Dinoseb; DNBP, 2-sec-Butyl-4,6-dinitrophenol             | Phenol,2-(1-methylpropyl)-4,6-dinitro-   |
| Di-n-octyl phthalate                                     | 1,2-Benzenedicarboxylic acid, dioctyl ester  |
| 1,4-Dioxane  | 1,4-Dioxane  |
| Diphenylamine  | Benzenamine, N-phenyl-   |
| Disulfoton   | Phosphorodithioic acid, O,O-diethyl S-(2-(ethylthio)ethyl)ester  |
| Endosulfan 1   | 6,9-Methano-2,4,3-benzodioxathiepin,6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-,3-oxide,(3alpha,5abeta,6alpha,9alpha,9abeta)-                          |
| Endosulfan II  | 6,9-Methano-2,4,3-benzodioxathiepin,6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-,3-oxide,(3alpha,5aalpha,6beta,9beta,9aalpha)-                          |
| Endosulfan sulfate                                       | 6,9-Methano-2,4,3-benzodioxathiepin,6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-,3,3-dioxide  |
| Endrin   | 2,7:3,6-Dimethanonaphth-(2,3-b)oxirene,3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-,(1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)-      |
| Endrin aldehyde  | 1,2,4-Methenocyclopenta(cd)pentalene-5-carboxaldehyde,2,2a,3,3,4,7-hexachlorodecahydro-,(1alpha,2beta,2abeta,4beta,4abeta,5beta,6abeta,6bbeta, 7R*)-         |
| Ethylbenzene   | Benzene,ethyl  |
| Ethyl methacrylate                                       | 2-Propenoic acid, 2-methyl-, ethyl ester   |
| Ethyl methanesulfonate                                   | Methanesulfonic acid, ethyl ester  |
| Famphur  | Phosphorothioic acid, O-(4-((dimethylamino)sulfonyl)phenyl)O,O-dimethyl ester  |
| Fluoranthene   | Fluoranthene   |
| Fluorene   | 9H-Fluorene  |
| Heptachlor   | 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-   |
| Heptachlor epoxide                                       | 2,5-Methano-2H-indeno(1,2b)oxirene,2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a, 6,6a-hexahydro-,1aalpha,1bbeta,2alpha,5alpha,5abeta,6beta,6aalpha)-                 |
| Hexachlorobenzene  | Benzene, hexachloro-   |
| Hexachlorobutadiene                                      | 1,3-Butadiene, 1,1,2,3,4,4-hexachloro-   |
| Hexachlorocyclopentadiene                                | 1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-   |
| Hexachloroethane   | Ethane, hexachloro-  |
| Hexachlorophene  | Phenol,2,2'-Methylenebis(3,4,6-trichloro-  |
| Hexachloropropene  | 1-Propene, 1,1,2,3,3,3-hexachloro-   |
| 2-Hexanone   | 2-Hexanone   |
| Indeno(1,2,3-cd)pyrene                                   | Indeno(1,2,3-cd)pyrene   |
| Isobutyl alcohol   | 1-Propanol, 2-methyl-  |
| Isodrin  | 1,4,5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-,(1alpha,4alpha,4abeta,5beta,8beta,8abeta)-                                    |
| Isophorone   | 2-Cyclohexen-1-one,3,5,5-trimethyl-  |

# ADMINISTRATIVE REGISTER - 675

|  |  |
|--|--|
| Isosafrole                                     | 1,3-Benzodioxole, 5-(1-propenyl)-  |
| Kepone   | 1,3,4-Metheno-2H-cyclobuta-(cd)pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachloroocta-hydro- |
| Lead   | Lead   |
| Mercury  | Mercury  |
| Methacrylonitrile                              | 2-Propenenitrile, 2-methyl-  |
| Methapyrilene                                  | 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-                       |
| Methoxychlor                                   | Benzene, 1, 1'-(2,2,2-trichloroethylidene)bis(4-methoxy-                                   |
| Methyl bromide; Bromomethane                   | Methane, bromo-  |
| Methyl chloride; Chloromethane                 | Methane, chloro-   |
| 3-Methylcholanthrene                           | Benz(j)aceanthrylene, 1,2-dihydro-3-methyl-  |
| Methylene bromide; Dibromomethane              | Methane, dibromo-  |
| Methylene chloride; Dichloromethane            | Methane, dichloro-   |
| Methyl ethyl ketone; MEK                       | 2-Butanone   |
| Methyl iodide; Iodomethane                     | Methane, iodo-   |
| Methyl methacrylate                            | 2-Propenoic acid, 2-methyl-, methyl ester  |
| Methyl methanesulfonate                        | Methanesulfonic acid, methyl ester   |
| 2-Methylnaphthalene                            | Naphthalene, 2-methyl-   |
| Methyl parathion; Parathion methyl             | Phosphorothioic acid, O,O-Dimethyl O-(4-nitrophenyl) ester                                 |
| 4-Methyl-2-pentanone; Methyl isobutyl ketone   | 2-Pentanone, 4-methyl-   |
| Naphthalene                                    | Naphthalene  |
| 1,4-Naphthoquinone                             | 1,4-Naphthalenedione   |
| 1-Naphthylamine                                | 1-Naphthalenamine  |
| 2-Naphthylamine                                | 2-Naphthalenamine  |
| Nickel   | Nickel   |
| o-Nitroaniline                                 | Benzenamine, 2-nitro-  |
| m-Nitroaniline                                 | Benzenamine, 3-nitro-  |
| p-Nitroaniline                                 | Benzenamine, 4-nitro-  |
| Nitrobenzene                                   | Benzene, nitro-  |
| o-Nitrophenol                                  | Phenol, 2-nitro-   |
| p-Nitrophenol                                  | Phenol, 4-nitro-   |
| 4-Nitroquinoline 1-oxide                       | Quinoline, 4-nitro-, 1-oxide   |
| N-Nitrosodi-n-butylamine                       | 1-Butanamine, N-butyl-N-nitroso-   |
| N-Nitrosodiethylamine                          | Ethanamine, N-ethyl-N-nitroso-   |
| N-Nitrosodimethylamine                         | Methanamine, N-methyl-N-nitroso-   |
| N-Nitrosodiphenylamine                         | Benzenamine, N-nitroso-N-phenyl- [ <del>propyl</del> ]                                     |
| N-Nitrosodipropylamine; Di-n-propylnitrosamine | 1-Propanamine, N-nitroso-N-propyl-   |
| N-Nitrosomethylethylamine                      | Ethanamine, N-methyl- N-nitroso-   |
| N-Nitrosomorpholine                            | Morpholine, 4-nitroso-   |
| N-Nitrosopiperidine                            | Piperidine, 1-nitroso-   |
| N-Nitrosopyrrolidine                           | Pyrrolidine, 1-nitroso-  |
| 5-Nitro-o-toluidine                            | Benzenamine, 2-methyl-5-nitro-   |
| Parathion                                      | Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester                                  |
| Polychlorinated biphenyls, PCBS                | 1,1'-Biphenyl, chloro derivatives  |
| Polychlorinated dibenzo-p-dioxins; PCDDs       | Dibenzo(b,e)(1,4)dioxin, chloro derivatives  |
| Polychlorinated dibenzofurans; PCDFs           | Dibenzofuran, chloro derivatives   |
| Pentachlorobenzene                             | Benzene, pentachloro-  |
| Pentachloroethane                              | Ethane, pentachloro-   |
| Pentachloronitrobenzene                        | Benzene, pentachloronitro-   |
| Pentachlorophenol                              | Phenol, pentachloro-   |
| Phenacetin                                     | Acetamide, N-(4-ethoxyphenyl)[-]   |
| Phenanthrene                                   | Phenanthrene   |
| Phenol   | Phenol   |
| p-Phenylenediamine                             | 1,4-Benzenediamine   |
| Phorate  | Phosphorodithioic acid, O,O-diethyl S-((ethylthio)methyl) ester                            |
| 2-Picoline                                     | Pyridine, 2-methyl-  |
| Pronamide                                      | Benzamide, 3,5-Dichloro-N-(1,1-dimethyl-2-propynyl)-                                       |
| Propionitrile; Ethyl cyanide                   | Propanenitrile   |
| Pyrene   | Pyrene   |
| Pyridine                                       | Pyridine   |
| Safrole  | 1,3-Benzodioxole, 5-(2-propenyl)-  |
| Selenium                                       | Selenium   |
| Silver   | Silver   |
| Silvex; 2,4,5-TP                               | Propanoic acid, 2-(2,4,5-trichlorophenoxy)-  |
| Styrene  | Benzene, ethenyl-  |

# ADMINISTRATIVE REGISTER - 676

|   |   |
|---|---|
| Sulfide   | Sulfide   |
| 2,4,5-T; 2,4,5-Trichlorophenoxy-acetic acid               | Acetic acid, (2,4,5-trichlorophenoxy)-  |
| 2,3,7,8-TCDD; 2,3,7,8-Tetrachloro-dibenzo-p-dioxin        | Dibenzo(b,e)(1,4)dioxin, 2,3,7,8-tetrachloro-                                     |
| 1,2,4,5-Tetrachlorobenzene                                | Benzene, 1,2,4,5-tetrachloro-   |
| 1,1,1,2-Tetrachloroethane                                 | Ethane, 1,1,1,2-tetrachloro-  |
| 1,1,2,2-Tetrachloroethane                                 | Ethane, 1,1,2,2-tetrachloro-  |
| Tetrachloroethylene; Perchloroethylene; Tetrachloroethene | Ethene, tetrachloro-  |
| 2,3,4,6-Tetrachlorophenol                                 | Phenol, 2,3,4,6-tetrachloro-  |
| Tetraethyl dithiopyrophosphate; Sulfotepp                 | Thiodiphosphoric acid (((HO) <sub>2</sub> P(S)) <sub>2</sub> O), tetraethyl ester |
| Thallium  | Thallium  |
| Tin   | Tin   |
| Toluene   | Benzene, methyl-  |
| o-Toluidine   | Benzenamine, 2-methyl-  |
| Toxaphene   | Toxaphene   |
| 1,2,4-Trichlorobenzene                                    | Benzene, 1,2,4-trichloro-   |
| 1,1,1-Trichloroethane; Methylchloroform                   | Ethane, 1,1,1-trichloro-  |
| 1,1,2-Trichloroethane                                     | Ethane, 1,1,2-trichloro-  |
| Trichloroethylene; Trichloroethene                        | Ethene, trichloro   |
| Trichlorofluoromethane                                    | Methane, trichlorofluoro-   |
| 2,4,5-Trichlorophenol                                     | Phenol, 2,4,5-trichloro-  |
| 2,4,6-Trichlorophenol                                     | Phenol, 2,4,6-trichloro-  |
| 1,2,3-Trichloropropane                                    | Propane, 1,2,3-trichloro-   |
| O,O,P-Triethyl phosphorothioate                           | Phosphorothioic acid, O,O,O-triethyl ester  |
| sym-Trinitrobenzene                                       | Benzene, 1,3,5-trinitro   |
| Vanadium  | Vanadium  |
| Vinyl acetate   | Acetic acid, ethenyl ester  |
| Vinyl chloride  | Ethene, chloro-   |
| Xylene (total)  | Benzene, dimethyl-  |
| Zinc  | Zinc  |

<sup>1</sup>Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

<sup>2</sup>CAS index names are those used in the 9th Cumulative Index.

Section 2. Registry Numbers and Suggested Test Methods. The list of registry numbers and suggested test methods for monitoring hazardous waste constituents in groundwater is:

| Common Name <sup>1</sup>     | CAS RN <sup>2</sup> | Suggested <sup>3</sup> Methods |                                    |               |
|------------------------------|---------------------|--------------------------------|------------------------------------|---------------|
|                              |                     |                                | Barium                             | (Total) 7061  |
|                              |                     |                                |                                    | 6010          |
|                              |                     |                                | Benzene                            | 7080          |
|                              |                     |                                |                                    | 71-43-2 8020  |
|                              |                     |                                |                                    | 8240          |
|                              |                     |                                | Benzo(a)anthracene; Benzanthracene | 54-55-3 8100  |
| Acenaphthene                 | 83-32-9             | 8100                           | Benzo(b)fluoranthene               | 205-99-2 8100 |
|                              |                     | 8270                           |                                    | 8270          |
| Acenaphthylene               | 208-96-8            | 8100                           | Benzo(k)fluoranthene               | 207-08-9 8100 |
|                              |                     | 8270                           |                                    | 8270          |
| Acetone                      | 67-64-1             | 8240                           | Benzo(ghi)perylene                 | 191-24-2 8100 |
| Acetophenone                 | 98-86-2             | 8270                           |                                    | 8270          |
| Acetonitrile; Methyl cyanide | 75-05-8             | 8015                           | Benzo(a)pyrene                     | 50-32-8 8100  |
| 2-Acetylaminofluorane; 2-AAF | 53-96-3             | 8270                           |                                    | 8270          |
| Acrolein                     | 107-02-8            | 8030                           | Benzyl alcohol                     | 100-51-6 8270 |
|                              |                     | 8240                           | Beryllium                          | (Total) 6010  |
| Acrylonitrile                | 107-13-1            | 8240                           |                                    | 7090          |
|                              |                     | 8030                           |                                    | 7091          |
| Aldrin                       | 309-00-2            | 8080                           | alpha-BHC                          | 319-84-6 8080 |
|                              |                     | 8270                           |                                    | 8250          |
| Allyl chloride               | 107-05-1            | 8010                           | beta-BHC                           | 319-85-7 8080 |
|                              |                     | 8240                           |                                    | 8250          |
| 4-Aminobiphenyl              | 92-67-1             | 8270                           | delta-BHC                          | 319-86-8 8080 |
| Aniline                      | 62-53-3             | 8270                           |                                    | 8250          |
| Anthracene                   | 120-12-7            | 8100                           | gamma-BHC; Lindane                 | 58-89-91 8080 |
|                              |                     | 8270                           |                                    | 8250          |
| Antimony                     | (Total)             | 6010                           | Bis(2-chloroethoxy)methane         | 111-91-1 8270 |
|                              |                     | 7040                           | Bis(2-chloroethyl)ether            | 111-44-4 8270 |
|                              |                     | 7041                           | Bis(2-chloro-1-methylethyl) ether; | 108-60-1 8010 |
| Aramite                      | 140-57-8            | 8270                           | 2,2'-Di-chlorodiisopropyl ether    | 8270          |
| Arsenic                      | (Total)             | 6010                           | Bis(2-ethylhexyl)phthalate         | 117-81-7 8060 |
|                              |                     | 7060                           |                                    | 8270          |



# ADMINISTRATIVE REGISTER - 677

|  |           |      |   |             |      |
|--|-----------|------|---|-------------|------|
| Bromodichloromethane                           | 75-27-4   | 8010 | o-Dichlorobenzene                                     | 95-50-1     | 8010 |
|  |           | 8240 |   |             | 8020 |
| Bromoform; Tribromomethane                     | 75-25-2   | 8010 |   |             | 8120 |
|  |           | 8240 |   |             | 8270 |
| 4-Bromophenyl phenyl ether                     | 101-55-3  | 8270 | m-Dichlorobenzene                                     | 541-73-1    | 8080 |
| Butyl benzyl phthalate; Benzyl butyl phthalate | 85-68-7   | 8060 |   |             | 8020 |
|  |           | 8270 |   |             | 8120 |
| Cadmium  | (Total)   | 6010 |   |             | 8270 |
|  |           | 7130 | p-Dichlorobenzene                                     | 106-46-7    | 8010 |
|  |           | 7131 |   |             | 8020 |
| Carbon disulfide                               | 75-15-0   | 8240 |   |             | 8120 |
| Carbon tetrachloride                           | 56-23-5   | 8010 |   |             | 8270 |
|  |           | 8240 | 3,3'-Dichlorobenzidine                                | 91-94-1     | 8270 |
| Chlordane                                      | 57-74-9   | 8080 | trans-1,4-Dichloro-2-butene                           | 110-57-6    | 8240 |
|  |           | 8250 | Dichlorodifluoromethane                               | 75-71-8     | 8010 |
|  |           | 8270 |   |             | 8240 |
| p-Chloroaniline                                | 106-47-8  | 8010 | 1,1-Dichloroethane                                    | 75-34-3     | 8010 |
| Chlorobenzene                                  | 108-90-7  | 8020 |   |             | 8240 |
|  |           | 8240 | 1,2-Dichloroethane; Ethylene dichloride               | 107-06-2    | 8010 |
| Chlorobenzilate                                | 510-15-6  | 8270 |   |             | 8240 |
| p-Chloro-m-cresol                              | 59-50-7   | 8040 | 1,1-Dichloroethylene; Vinylidene chloride             | 75-35-4     | 8010 |
|  |           | 8270 |   |             | 8240 |
| Chloroethane; Ethyl chloride                   | 75-00-3   | 8010 | trans-1,2,-Dichloroethylene                           | 156-60-5    | 8010 |
|  |           | 8240 |   |             | 8240 |
| Chloroform                                     | 67-66-3   | 8010 | 2,4-Dichlorophenol                                    | 120-83-2    | 8040 |
|  |           | 8240 |   |             | 8270 |
| 2-Chloronaphthalene                            | 91-58-7   | 8120 | 2,6-Dichlorophenol                                    | 87-65-0     | 8270 |
|  |           | 8270 | 1,2-Dichloropropane                                   | 78-87-5     | 8010 |
| 2-Chlorophenol                                 | 95-57-8   | 8040 |   |             | 8240 |
|  |           | 8270 | cis-1,3-Dichloropropene                               | 10061-01-05 | 8010 |
| 4-Chlorophenyl phenyl ether                    | 7005-72-3 | 8270 |   |             | 8240 |
| Chloroprene                                    | 126-99-8  | 8010 | trans-1,3-Dichloropropene                             | 10061-02-6  | 8010 |
|  |           | 8240 |   |             | 8240 |
| Chromium                                       | (Total)   | 6010 | Dieldrin  | 60-57-1     | 8080 |
|  |           | 7190 |   |             | 8270 |
| Chrysene                                       | 218-01-9  | 8100 | Diethyl phthlate                                      | 84-66-2     | 8060 |
|  |           | 8270 |   |             | 8270 |
| Cobalt   | (Total)   | 6010 | O,O-Diethyl O-2-pyrazinyl phosphorothioate; Thionazin | 297-97-2    | 8270 |
|  |           | 7200 |   |             |      |
|  |           | 7201 | Dimethoate  | 60-51-5     | 8270 |
| Copper   | (Total)   | 6010 | p-(Dimethylamino)azobenzene                           | 60-11-7     | 8270 |
|  |           | 7210 | 7,12-Dimethylbenz(a)anthracene                        | 57-97-6     | 8270 |
| m-Cresol                                       | 108-39-4  | 8270 | 3,3'-Dimethylbenzidine                                | 119-93-7    | 8270 |
| o-Cresol                                       | 95-48-7   | 8270 | alpha, alpha-Dimethylphenethylamine                   | 122-09-8    | 8270 |
| p-Cresol                                       | 106-44-5  | 8270 |   |             |      |
| Cyanide  | 57-12-5   | 9010 | 2,4-Dimethylphenol                                    | 105-67-9    | 8040 |
| 2,4-D; 2,4-Dichlorophenoxy-acetic acid         | 94-75-7   | 8150 | Dimethyl phthalate                                    | 131-11-3    | 8060 |
|  |           |      |   |             | 8270 |
| 4,4'-DDD                                       | 72-54-8   | 8080 | m-Dinitrobenzene                                      | 99-65-0     | 8270 |
|  |           | 8270 | 4,6-Dinitro-o-cresol                                  | 534-52-1    | 8040 |
| 4,4'-DDE                                       | 72-55-9   | 8080 |   |             | 8270 |
|  |           | 8270 | 2,4-Dinitrophenol                                     | 51-28-5     | 8040 |
| 4,4'-DDT                                       | 50-29-3   | 8080 |   |             | 8270 |
|  |           | 8270 | 2,4-Dinitrotoluene                                    | 121-14-2    | 8090 |
|  |           | 8270 |   |             | 8270 |
| Diallate                                       | 2303-16-4 | 8100 | 2,6-Dinitrotoluene                                    | 606-20-2    | 8090 |
| Dibenz(a,h)anthracene                          | 53-70-3   | 8270 |   |             | 8270 |
|  |           | 8270 | Dinoseb; DNBP, 2-sec-Butyl-4,6-dinitrophenol          | 88-85-7     | 8150 |
| Dibenzofuran                                   | 132-64-9  | 8010 |   |             | 8270 |
| Dibromochloromethane; Chlorodibromomethane     | 124-48-1  | 8240 | Di-n-octyl phthalate                                  | 117-84-0    | 8060 |
| 1,2-Dibromo-3-chloropropane; DBCP              | 96-12-8   | 8010 |   |             | 8270 |
|  |           | 8240 | 1,4-Dioxane   | 123-91-1    | 8015 |
|  |           | 8270 | Diphenylamine   | 122-39-4    | 8270 |
| 1,2-Dibromoethane; Ethylene dibromide          | 106-93-4  | 8010 | Disulfoton  | 298-04-4    | 8140 |
|  |           | 8240 |   |             | 8270 |
| Di-n-butyl phthalate                           | 84-74-2   | 8060 | Endosulfan I  | 959-98-8    | 8080 |
|  |           | 8270 |   |             | 8250 |

# ADMINISTRATIVE REGISTER - 678

|                                |            |      |                            |            |      |
|--------------------------------|------------|------|----------------------------|------------|------|
| Endosulfan II                  | 33213-65-9 | 8080 | 4-Methyl-2-pentanone;      | 108-10-1   | 8015 |
| Endosulfan sulfate             | 1031-07-8  | 8080 | Methyl isobutyl ketone     |            | 8240 |
| Endrin                         | 72-20-8    | 8080 | Naphthalene                | 91-20-3    | 8100 |
|                                |            | 8250 |                            |            | 8270 |
| Endrin aldehyde                | 7421-93-4  | 8080 | 1-4-Naphthoquinone         | 130-15-4   | 8270 |
|                                |            | 8270 | 1-Naphthylamine            | 134-32-7   | 8270 |
| Ethylbenzene                   | 100-41-4   | 8020 | 2-Naphthylamine            | 91-59-8    | 8270 |
|                                |            | 8240 | Nickel                     | (Total)    | 6010 |
| Ethyl methacrylate             | 97-63-2    | 8015 |                            |            | 7520 |
|                                |            | 8240 | o-Nitroaniline             | 88-74-4    | 8270 |
|                                |            | 8270 | m-Nitroaniline             | 99-09-2    | 8270 |
| Ethyl methanesulfonate         | 62-50-0    | 8270 | p-Nitroaniline             | 100-01-6   | 8270 |
| Famphur                        | 52-85-7    | 8270 | Nitrobenzene               | 98-95-3    | 8090 |
| Fluoranthene                   | 206-44-0   | 8100 |                            |            | 8270 |
|                                |            | 8270 | o-Nitrophenol              | 88-75-5    | 8040 |
| Fluorene                       | 86-73-7    | 8100 |                            |            | 8270 |
|                                |            | 8270 | p-Nitrophenol              | 100-02-7   | 8040 |
| Heptachlor                     | 76-44-8    | 8080 |                            |            | 8270 |
|                                |            | 8270 | 4-Nitroquinoline 1-oxide   | 56-57-5    | 8270 |
| Heptachlor epoxide             | 1024-57-3  | 8080 | N-Nitrosodi-n-butylamine   | 924-16-3   | 8270 |
|                                |            | 8270 | N-Nitrosodiethylamine      | 55-18-5    | 8270 |
| Hexachlorobenzene              | 118-74-1   | 8120 | N-Nitrosodimethylamine     | 62-75-9    | 8270 |
|                                |            | 8270 | N-Nitrosodiphenylamine     | 86-30-6    | 8270 |
| Hexachlorobutadiene            | 87-68-3    | 8120 | N-Nitrosodipropylamine;    | 621-64-7   | 8270 |
|                                |            | 8270 | Di-n-propylnitrosamine     |            |      |
| Hexachlorocyclopentadiene      | 77-47-4    | 8120 | N-Nitrosomethylethylamine; | 10595-95-6 | 8270 |
|                                |            | 8270 | N-Nitrosomorpholine        | 59-89-2    | 8270 |
| Hexachloroethane               | 67-72-1    | 8120 | N-Nitrosopiperidine        | 100-75-4   | 8270 |
|                                |            | 8270 | N-Nitrosopyrrolidine       | 930-55-2   | 8270 |
| Hexachlorophene                | 70-30-4    | 8270 | 5-Nitro-o-toluidine        | 99-55-8    | 8270 |
| Hexachloropropene              | 1888-71-7  | 8270 | Parathion                  | 56-38-2    | 8270 |
| 2-Hexanone                     | 591-78-6   | 8240 | Polychlorinated biphenyls, | See Note 4 | 8080 |
| Indeno(1,2,3-cd)pyrene         | 193-39-5   | 8100 | PCBs                       |            | 8250 |
|                                |            | 8270 | Polychlorinated dibenzo-p- | See Note 5 | 8280 |
| Isobutyl alcohol               | 78-83-1    | 8015 | dioxins; PCDDs             |            |      |
| Isodrin                        | 465-73-6   | 8270 | Polychlorinated dibenzo-   | See Note 6 | 8280 |
| Isophorone                     | 78-59-1    | 8090 | furans; PCDFs              |            |      |
|                                |            | 8270 | Pentachlorobenzene         | 608-93-5   | 8270 |
| Isosafrole                     | 120-58-1   | 8270 | Pentachloroethane          | 76-01-7    | 8240 |
| Kepone                         | 143-50-0   | 8270 |                            |            | 8270 |
| Lead                           | (Total)    | 6010 | Pentachloronitrobenzene    | 82-68-8    | 8270 |
|                                |            | 7420 | Pentachlorophenol          | 87-86-5    | 8040 |
|                                |            | 7421 |                            |            | 8270 |
| Mercury                        | (Total)    | 7470 | Phenacetin                 | 62-44-2    | 8270 |
| Methacrylonitrile              | 126-98-7   | 8015 | Phenanthrene               | 85-01-8    | 8100 |
|                                |            | 8240 |                            |            | 8270 |
| Methapyrilene                  | 91-80-5    | 8270 | Phenol                     | 108-95-2   | 8040 |
| Methoxychlor                   | 72-43-5    | 8080 |                            |            | 8270 |
| Methyl bromide; Bromomethane   | 74-83-9    | 8010 | p-Phenylenediamine         | 106-50-3   | 8270 |
|                                |            | 8240 | Phorate                    | 298-02-2   | 8140 |
| Methyl chloride; Chloromethane | 74-87-3    | 8010 |                            |            | 8270 |
|                                |            | 8240 | 2-Picoline                 | 109-06-8   | 8240 |
| 3-Methylcholanthrene           | 56-49-5    | 8270 |                            |            | 8270 |
| Methylene bromide; Dibromo-    | 74-95-3    | 8010 | Pronamide                  | 23950-58-5 | 8270 |
| methane                        |            | 8240 | Propionitrile; Ethyl       | 107-12-0   | 8015 |
| Methylene chloride; Di-        | 75-09-2    | 8010 | cyanide                    |            | 8240 |
| chloromethane                  |            | 8240 | Pyrene                     | 129-00-0   | 8100 |
| Methyl ethyl ketone; MEK       | 78-93-3    | 8015 |                            |            | 8270 |
|                                |            | 8240 | Pyridine                   | 110-86-1   | 8240 |
| Methyl iodide; Iodomethane     | 74-88-4    | 8010 |                            |            | 8270 |
|                                |            | 8240 | Safrole                    | 94-59-7    | 8270 |
| Methyl methacrylate            | 80-62-6    | 8015 | Selenium                   | (Total)    | 6010 |
|                                |            | 8240 |                            |            | 7740 |
| Methyl methanesulfonate        | 66-27-3    | 8270 |                            |            | 7741 |
| 2-Methylnapthalene             | 91-57-6    | 8270 | Silver                     | (Total)    | 6010 |
| Methyl parathion; Parathion    | 298-00-0   | 8140 |                            |            | 7760 |
| methyl                         |            | 8270 | Silvex; 2,4,5-TP           | 93-72-1    | 8150 |

# ADMINISTRATIVE REGISTER - 679

|  |            |      |
|--|------------|------|
| Styrene  | 100-42-5   | 8080 |
|  |            | 8240 |
| Sulfide  | 18496-25-8 | 9030 |
| 2,4,5-T; 2,4,5-Trichloro-<br>phenoxyacetic acid                | 93-76-5    | 8150 |
| 2,3,7,8-TCDD; 2,3,7,8-<br>Tetrachlorodibenzo-p-dioxin          | 1746-01-6  | 8280 |
| 1,2,4,5-Tetrachlorobenzene                                     | 95-94-3    | 8270 |
| 1,1,1,2-Tetrachloroethane                                      | 630-20-6   | 8010 |
|  |            | 8240 |
| 1,1,2,2-Tetrachloroethane                                      | 79-34-5    | 8010 |
|  |            | 8240 |
| Tetrachloroethylene; Perchloro-<br>ethylene; Tetrachloroethene | 127-18-4   | 8010 |
|  |            | 8240 |
| 2,3,4,6-Tetrachlorophenol                                      | 58-90-2    | 8270 |
| Tetraethyl dithiopyrophos-<br>phate; Sulfotep                  | 3689-24-5  | 8270 |
| Thallium   | (Total)    | 6010 |
|  |            | 7840 |
|  |            | 7841 |
| Tin  | (Total)    | 7879 |
| Toluene  | 108-88-3   | 8020 |
|  |            | 8240 |
| o-Toluidine  | 95-53-4    | 8270 |
| Toxaphene  | 8001-35-2  | 8080 |
|  |            | 8250 |
| 1,2,4-Trichlorobenzene   | 120-82-1   | 8270 |
| 1,1,1-Trichloroethane;<br>Methylchloroform                     | 71-55-8    | 8240 |
| 1,1,2-Trichloroethane  | 79-00-5    | 8010 |
|  |            | 8240 |
| Trichloroethylene; Tri-<br>chloroethene                        | 79-01-6    | 8010 |
|  |            | 8240 |
| Trichlorofluoromethane   | 75-69-4    | 8010 |
|  |            | 8240 |
| 2,4,5-Trichlorophenol  | 95-95-4    | 8270 |
| 2,4,6-Trichlorophenol  | 88-06-2    | 8040 |
|  |            | 8270 |
| 1,2,3-Trichloropropane   | 96-18-4    | 8010 |
|  |            | 8240 |
| O,O,O-Triethyl phosphorothioate                                | 126-68-1   | 8270 |
| sym-Trinitrobenzene  | 99-35-4    | 8270 |
| Vanadium   | (Total)    | 6010 |
|  |            | 7910 |
|  |            | 7911 |
| Vinyl acetate  | 108-05-4   | 8240 |
| Vinyl chloride   | 75-01-4    | 8010 |
|  |            | 8240 |
| Xylene (total)   | 1330-20-7  | 8020 |
|  |            | 8240 |
| Zinc   | (Total)    | 6010 |

<sup>1</sup>Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

<sup>2</sup>CAS index names are those used in the 9th Cumulative Index.

<sup>3</sup>Suggested methods refer to analytical procedure numbers used in EPA Report SW-846 "Test Methods for Evaluating Solid Waste", third edition, November 1986. Analytical details can be found in SW-846 and in documentation on file at the agency. CAUTION: The methods listed are representative SW-846 procedures and may not always be the most suitable method(s) for monitoring an analyte under the administrative regulations.

<sup>4</sup>Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor- 1016 (CAS RN 126741-11-2), Aroclor-1221 (CAS RN 11104-28-2), Aroclor-1232 (CAS RN 11141-16-5), Aroclor-1242 (CAS RN 53469-21-9), Aroclor-1248 (CAS RN 12672-29-6), Aroclor- 1254 (CAS RN 11097-

69-1), and Aroclor-1260 (CAS RN 11096-82-5).

<sup>5</sup>This category contains congener chemicals, including tetrachlorodibenzo-p-dioxins (see also 2,3,7,8-TCDD), pentachlorodibenzo-p-dioxins, and hexachlorodibenzo-p-dioxins.

<sup>6</sup>This category contains congener chemicals, including tetrachlorodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

## REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendment affects all owners and operators of hazardous waste facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were

## ADMINISTRATIVE REGISTER - 680

received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There will be no direct or indirect costs or savings.

2. Continuing costs or savings: There will be no continuing costs or savings.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork or reporting requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants will be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with existing federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: There will be no effects on public health and environmental welfare.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation affects owners and operators of hazardous waste facilities. Consistent with federal standards, this administrative regulation identifies constituents that must be monitored in groundwater. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendment adopts a change in the appendix list of hazardous waste constituents for groundwater. The change is necessary to maintain consistency with state and federal programs. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal

mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 35:010. General provisions for facilities (IS).

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265 Subpart A

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-510

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 relative to hazardous waste sites or facilities qualifying for interim status.

Section 1. Purpose, Scope, and Applicability. (1) The purpose of this chapter is to establish minimum standards that [which] define the acceptable management of hazardous waste during the period of interim status and until certification of final closure or, if the facility is subject to postclosure requirements, until postclosure responsibilities are fulfilled.

(2) Except as provided in Section 1(2) of 401 KAR 35:281, the standards in this chapter and in Sections 1 and 2 of 401 KAR 34:287 apply to owners and operators of sites or facilities that [which] treat, store, or dispose of hazardous waste who have fully complied with the requirements for interim status under Section 1 to 6 of 401 KAR

38:070, until either final administrative disposition of their permit application is made under 401 KAR Chapter 38 and KRS 224.46-520, or until applicable 401 KAR Chapter 35 closure and postclosure responsibilities are fulfilled, and to those owners and operators of sites or facilities in existence on November 19, 1980, who failed to provide timely notification as required by Sections 1 to 6 of 401 KAR 38:070, or failed to file Part A of the permit application as required by Sections 2 and 4 of 401 KAR 38:070. These standards apply to all treatment, storage, or disposal of hazardous waste at these sites or facilities, except as specifically provided otherwise in this chapter or 401 KAR Chapter 31.

(3)(a) The requirements of this chapter do not apply to a person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act 16 USC Section 1431-1439;

(b) The requirements of this chapter do not apply to the owner or operator of a POTW which treats, stores, or disposes of hazardous waste;

(c) Unless the state of Kentucky has obtained authorization from the U.S. Environmental Protection Agency under the federal hazardous waste management program, the applicable provisions of 401 KAR Chapters 30 to 39 and the applicable provisions of the federal program shall both apply to the persons identified in subparagraphs 1 and 2 of this paragraph. Provided the state of Kentucky obtains authorization to operate the federal hazardous waste management program for activities identified in subparagraphs 1 and 2 of this paragraph, only the applicable provisions of 401 KAR Chapters 30 to 39 shall apply to the persons identified in subparagraphs 1 and 2 of this paragraph.

1. A person who treats, stores or disposes of hazardous waste by means of underground injection (see paragraph (b) of this subsection).

2. A person who treats, stores or disposes of hazardous waste to which requirements and prohibitions from the Hazardous and Solid Waste Amendments of 1984 apply, provided that Kentucky has not adopted substantially equivalent requirements and prohibitions which regulate the hazardous waste management activity;

(d) The requirements of this chapter do not apply to the owner or operator of a site or facility which treats or stores hazardous waste, which treatment or storage meets the criteria in Section 6(1) of 401 KAR 31:010, except to the extent that Section 6(2) of 401 KAR 31:010 provides otherwise;

(e) The requirements of this chapter do not apply to the owner or operator of a facility managing recyclable materials described in Section 6(1)(b) and (c) of 401 KAR 31:010 (except to the extent that requirements of this chapter are referred to in 401 KAR Chapter 44 or in 401 KAR Chapter 36);

(f) The requirements of this chapter do not apply to a farmer disposing of waste pesticides from his own use in compliance with Section 10 of 401 KAR 32:050;

(g) The requirements of this chapter do not apply to the owner or operator of a totally enclosed treatment facility, as defined in Section 1 of 401 KAR 35:005 ~~[30:040]~~;

(h) The requirements of this chapter do not apply to the owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in Section 1 of 401 KAR 35:005, provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory defined in Section 1 of 401 KAR 37:040 Table Treatment Standards for Hazardous Wastes), or reactive (D003) waste, to remove the characteristic before land disposal, the owner or operator shall comply with the requirements set out in Section 8 of 401 KAR 35:020 ~~[30:040]~~;

(i)1. The requirements of this chapter do not apply (except as provided in subparagraph 2 of this paragraph) to a person engaged in treatment or containment activities during immediate response to any of the following situations:

- a. A discharge of a hazardous waste;
- b. An imminent and substantial threat of a discharge of a hazardous waste; or
- c. A discharge of a material which, when discharged, becomes a hazardous waste;

2. An owner or operator of a facility otherwise regulated by this chapter shall comply with all applicable requirements of 401 KAR 35:030 and 401 KAR 35:040.

3. Any person who is covered by subparagraph 1 of this paragraph and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this chapter and 401 KAR Chapter 38 for those activities.

(j) The requirements of this chapter do not apply to a transporter storing manifested shipments of hazardous waste in containers meeting the requirements of Section 1 of 401 KAR 32:030 at a transfer facility for a period of ten (10) days or less; or

(k) The requirements of this chapter do not apply to the addition of absorbent material to waste in a container (as defined in Section 1 of 401 KAR 35:005 ~~[30:040]~~) or the addition of waste to the absorbent material in a container provided that these actions occur at the time waste is first placed in the containers; and Section 8(b) of 401 KAR 35:020 and Sections 2 and 3 of 401 KAR 35:180 are complied with;

(l) The requirements of this chapter do not apply to universal waste handlers and universal waste transporters handling the wastes listed below. These handlers are subject to regulation under 401 KAR Chapter 43, when handling the below listed universal wastes.

1. Batteries as described in Section 2 of 401 KAR 43:010;
2. Pesticides as described in Section 3 of 401 KAR 43:010;
3. Thermostats as described in Section 4 of 401 KAR 43:010; and
4. Spent mercury containing lamps as described in Section 5 of 401 KAR 43:010; or

(m) The requirements of this chapter do not apply to a generator who is treating hazardous waste on site in accordance with Section 6 of 401 KAR 32:030.

(4) The following hazardous wastes shall not be managed at facilities subject to regulation under this chapter: EPA hazardous waste numbers F020, F021, F022, F023, F026, or F027 (chlorinated dioxins, dibenzofurans, and phenols) unless:

(a) The wastewater treatment sludge is generated in a surface impoundment as part of the plant's wastewater treatment system;

(b) The waste is stored in tanks or containers;

(c) The waste is stored or treated in waste piles that meet the requirements of Section 1(3) of 401 KAR 34:210 as well as all other applicable requirements of 401 KAR 35:210;

(d) The waste is burned in incinerators that are certified pursuant to Section 6 of 401 KAR 35:240; or

(e) The waste is burned in facilities that thermally treat the waste in a device other than an incinerator and that are certified pursuant to Section 7 of 401 KAR 35:250.

(5) The requirements of this chapter apply to owners or operators of all hazardous waste sites or facilities which treat, store or dispose of hazardous waste referred to in 401 KAR Chapter 37, and the 401 KAR Chapter 37 standards are considered material conditions, or requirements of the 401 KAR Chapter 35 interim status standards.

Section 2. Imminent Hazard Action. Notwithstanding any other provisions of these administrative regulations, enforcement actions may be brought pursuant to KRS 224.10-410.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the

Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of all hazardous waste interim status facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff will have an increased workload in order to get the newly regulated entities processed.

2. Continuing costs or savings: Once the new entities are processed, there will not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no extra paperwork or reporting requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are anticipated to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and environmental welfare will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, detrimental effects could occur without the implementation of this regulation.

c. If detrimental effect would result, explain detrimental effect: Human health and the environment could be harmed with the mishandling of hazardous waste, which could occur with out the implementation of this regulation.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste facilities, consistent with federal standards, to protect human health and the environment.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to the management of hazardous wastes and interim status facilities. The changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.



**FISCAL NOTE ON LOCAL GOVERNMENT**

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste interim status facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

**NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)**

**401 KAR 35:020. General facilities standards (IS).**

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.99, 40 CFR 265 Subpart B

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 relative to general standards for hazardous waste sites or facilities qualifying for interim status.

Section 1. Applicability. The requirements in this administrative regulation apply to owners and operators of all hazardous waste sites or facilities, except as Section 1 of 401 KAR 35:010 provides otherwise.

Section 2. Identification Number. Every facility owner or operator shall apply to the cabinet for an EPA identification number in accordance with the cabinet's notification procedures.

Section 3. Required Notices. (1) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source shall notify the cabinet in writing at least four (4) weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(2) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the postclosure care period, the owner or operator shall notify the new owner or operator in writing of the requirements of this chapter and 401 KAR Chapter 38 (see also Section 3 of 401 KAR 38:020).

Section 4. General Waste Analysis. (1)(a) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes, if applicable, under Section 4(4) of 401 KAR 35:070, he shall obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis shall contain all the information which will be known to treat, store, or dispose of the waste in accordance with the requirements of this chapter and 401 KAR Chapter 37.

(b) The analysis may include data developed under 401 KAR Chapter 31 and existing published or documented data on the hazardous waste or on waste generated from similar processes.

(c) The analysis shall be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis shall be repeated:

1. When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste or nonhazardous wastes, if applicable, under Section 4(4) of 401 KAR 35:070 has changed; and

2. For off-site facilities, when the results of the inspection required in paragraph (d) of this subsection indicate that the hazardous waste received at the site or facility does not match the waste designated on the accompanying manifest or shipping paper.

(d) The owner or operator of an off-site facility shall inspect and if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(2) The owner or operator shall develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with subsection (1) of this section. He shall keep this plan at the site or facility. At a minimum, the plan shall specify:

(a) The parameters for which each hazardous waste, or nonhazardous wastes, if applicable, under Section 4(4) of 401 KAR 35:070 will be analyzed and the rationale for the selection of these parameters (that is, how analysis for these parameters will provide sufficient information on the waste's properties to comply with subsection (1) of this section);

(b) The test methods which will be used to test for these parameters;

(c) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

1. One (1) of the sampling methods described in 401 KAR 31:100; or

2. An equivalent sampling method.

(d) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date;

(e) For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply; and

(f) Where applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in Section 4 of 401 KAR 35:190, Section 4 of 401 KAR 35:200, Section 3 of 401 KAR 35:210 and Section 3 of 401 KAR 35:220, Section 7 of 401 KAR 35:230, Section 2 of 401 KAR 35:240, Section 3 of 401 KAR 35:250, Section 3 of 401 KAR 35:260, ~~Section 7 of 401 KAR 37:010,~~ Section 5(4) of 401 KAR 35:275, ~~and~~ Section 14(4) of 401 KAR 35:280, Section 4 of 401 KAR 35:281, and Section 7 of 401 KAR 37:010.

(g) For surface impoundments exempted from land disposal restrictions under Section 4(1) of 401 KAR 37:010, the procedures and schedules for:

1. The sampling of impoundment contents;

2. The analysis of test data; and

3. The annual removal of residues which are not delisted under Section 2 of 401 KAR 31:060 or which exhibit a characteristic of hazardous waste and either:

a. Do not meet applicable treatment standards of 401 KAR

37:040; or

b. Where no treatment standards have been established:

(i) The residues are prohibited from land disposal under Section 4 of 401 KAR 37:030 or KRS 224.46-520; or

(ii) The residues are prohibited from land disposal under Section 5(6) of 401 KAR 37:030.

(h) For owners and operators seeking an exemption to the air emission standards of 401 KAR 35:281 in accordance with Section 3 of 401 KAR 35:281:

1. The procedures and schedules for waste sampling and analysis, and the analysis of test data to verify the exemption.

2. Each generator's notice and certification of the volatile organic concentration in the waste if the waste is received from off site.

(3) For off-site facilities, the waste analysis plan required in subsection (2) of this section shall also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan shall describe:

(a) The procedures which will be used to determine the identity of each movement of waste managed at the facility; ~~and~~

(b) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling; and

(c) The procedures that the owner or operator of an off-site landfill receiving containerized hazardous waste will use to determine whether a hazardous waste generator or treater has added a biodegradable sorbent to the waste in the container.

Section 5. Security. (1) The owner or operator shall prevent the unknowing entry and minimize the possibility for the unauthorized entry of persons or livestock onto the active portion of his facility, unless:

(a) Physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility; and

(b) Disturbance of the waste or equipment by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility will not cause a violation of the requirements of this chapter.

(2) Unless exempt under subsection (1)(a) and (b) of this section, a site or facility shall have:

(a) A twenty-four (24) hour surveillance system (that is, television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(b) 1. An artificial or natural barrier (that is, a fence in good repair or a fence combined with a cliff) which completely surrounds the active portion of the facility; and

2. A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (an attendant, television monitors, locked entrance, or controlled roadway access to the facility for example).

(3) Unless exempt under subsection (1)(a) and (b) of this section, a sign with the legend, "Danger - Unauthorized Personnel Keep Out," shall be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend shall be written in English and in any other language predominant in the area surrounding the facility, and shall be legible from a distance of at least twenty-five (25) feet. Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous (see Section 7(2) of 401 KAR 35:070 for security requirements at disposal facilities during the postclosure care period).

Section 6. General Inspection Requirements. (1)(a) The owner or operator shall inspect his facility for malfunctions and deterioration, operator errors and discharges which may be causing (or may lead to):

1. Release of hazardous waste constituents to the environment; or

2. A threat to human health.

(b) The owner or operator shall conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(2)(a) The owner or operator shall develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(b) The owner or operator shall keep this schedule at the facility.

(c) The schedule shall identify the types of problems (such as malfunctions or deterioration) which are to be checked during the inspection (for example, an inoperative sump pump, leaking fitting, eroding dike).

(d) The frequency of inspection may vary for the terms on the schedule. However, it should be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, shall be inspected daily when in use. At a minimum, the inspection schedule shall include the items and frequencies called for in Section 5 of 401 KAR 35:180, Sections 4 and 6 of 401 KAR 35:190, Section 5 of 401 KAR 35:200, Section 11 of 401 KAR 35:210, Section 5 of 401 KAR 35:220, Section 12 of 401 KAR 35:230, Section 4 of 401 KAR 35:240, Section 4 of 401 KAR 35:250, Section 4 of 401 KAR 35:260, Section 14 of 401 KAR 35:275, ~~and~~ Sections 3, 4, and 9 of 401 KAR 35:280, Sections 9 and 11 of 401 KAR 35:281, and Section 5 of 401 KAR 35:285 where applicable.

(3) The owner or operator shall remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action shall be taken immediately.

(4) The owner or operator shall record inspections in an inspection log or summary. He shall keep these records for at least three (3) years from the date of inspection. At a minimum, these records shall include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

Section 7. Personnel Training. (1)(a) Facility personnel shall successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this chapter. The owner or operator shall ensure that this program includes all the elements described in the document required under subsection (4)(c) of this section.

(b) This program shall be directed by a person trained in hazardous waste management procedures, and shall include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(c) At a minimum, the training program shall be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:

1. Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

2. Key parameters for automatic waste feed cutoff systems;
3. Communications or alarm systems;
4. Response to fires or explosions;
5. Response to groundwater contamination incidents; and
6. Shutdown of operations.

(2) Facility personnel shall successfully complete the program required in subsection (1) of this section within six (6) months after January 7, 1981, or six (6) months after the date of their employment or assignment to a site or facility, or to a new position at a facility, whichever is later. Employees hired after January 7, 1981, shall not work in unsupervised positions until they have completed the training requirements of subsection (1) of this section.

(3) Facility personnel shall take part in an annual review of the initial training required in subsection (1) of this section.

(4) The owner or operator shall maintain the following documents and records at the facility:

(a) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each position;

(b) A written job description for each position listed under paragraph (a) of this subsection. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but shall include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position;

(c) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (a) of this subsection; and

(d) Records that document that the training or job experience required under subsections (1), (2) and (3) of this section has been given to, and completed by, facility personnel.

(5) Training records on current personnel shall be kept until closure of the site or facility. Training records on former employees shall be kept for at least three (3) years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

Section 8. General Requirements for Ignitable, Reactive, or Incompatible Wastes. (1) The owner or operator shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste shall be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (from heat-producing chemical reactions for example), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator shall confine smoking and open flames to specially designated locations. "No Smoking" signs shall be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(2) Where specifically required by other sections of this administrative regulation, the treatment, storage or disposal of ignitable or reactive waste, and the mixture or commingling of incompatible wastes, or incompatible wastes and materials, shall be conducted so that it does not:

- (a) Generate extreme heat or pressure, fire or explosion, or violent reaction;
- (b) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;
- (c) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion;
- (d) Damage the structural integrity of the device or facility containing the waste; or
- (e) Through other like means threaten human health or the environment.

Section 9. Location Standards. The placement of any hazardous waste in a salt dome, salt bed formation, underground mine or cave

is prohibited.

Section 10. Construction Quality Assurance Program. (1)(a) A construction quality assurance (CQA) program is required for all surface impoundment, waste pile, and landfill units that are required to comply with Section 10(1) of 401 KAR 35:200, Section 8 of 401 KAR 35:210, and Section 10(3) of 401 KAR 35:230. The program shall ensure that the constructed unit meets or exceeds all design criteria and specifications in the permit. The program shall be developed and implemented under the direction of a CQA officer who is an engineer registered in Kentucky.

(b) The CQA program shall address the following physical components, where applicable:

1. Foundations;
2. Dikes;
3. Low-permeability soil liners;
4. Geomembranes (flexible membrane liners);
5. Leachate collection and removal systems and leak detection systems; and
6. Final cover systems.

(2) Before construction begins on a unit subject to the CQA program under subsection (1) of this section, the owner or operator shall develop a written CQA plan. The plan shall identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The CQA plan shall include:

(a) Identification of applicable units, and a description of how they will be constructed.

(b) Identification of key personnel in the development and implementation of the CQA plan, and CQA officer qualifications.

(c) A description of inspection and sampling activities for all unit components identified in subsection (1)(b) of this section, including observations and tests that will be used before, during, and after construction to ensure that the construction materials and the installed unit components meet the design specifications. The description shall cover:

1. Sampling size and locations;
2. Frequency of testing;
3. Data evaluation procedures;
4. Acceptance and rejection criteria for construction materials;
5. Plans for implementing corrective measures; and
6. Data or other information to be recorded and retained in the operating record under Section 4 of 401 KAR 35:050.

(3)(a) The CQA program shall include observations, inspections, tests, and measurements sufficient to ensure:

1. Structural stability and integrity of all components of the unit identified in subsection (1)(b) of this section;
2. Proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to permit specifications and good engineering practices, and proper installation of all components (e.g., pipes) according to design specifications;

3. Conformity of all materials used with design and other material specifications under Section 10 of 401 KAR 34:200, Section 2 of 401 KAR 34:210, and Section 10 of 401 KAR 34:230.

(b) The CQA program shall include test fills for compacted soil liners, using the same compaction methods as in the full-scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of Section 2(3)(a) of 401 KAR 34:200, Section 2(3)(a) of 401 KAR 34:210, and Section 2(3) of 401 KAR 34:230 in the field. Compliance with the hydraulic conductivity requirements shall be verified by using in-situ testing on the constructed test fill. The test fill requirement is waived where data are sufficient to show that a constructed soil liner meets the hydraulic conductivity requirements of Section 2(3)(a) of 401 KAR 34:200, Section 2(3)(a) of 401 KAR 34:210, and Section 2(3) of 401 KAR 34:230 in the field.

(4) The owner or operator of units subject to this section shall submit to the cabinet by certified mail or hand delivery, at least thirty

(30) days prior to receiving waste, a certification signed by the CQA officer that the CQA plan has been successfully carried out and that the unit meets the requirements of Section 2(3)(a) of 401 KAR 34:200, Section 2(3)(a) of 401 KAR 34:210, and Section 2(3) of 401 KAR 34:230. The owner or operator may receive waste in the unit after thirty (30) days from the cabinet receipt of the CQA certification unless the cabinet determines in writing that the construction is not acceptable, or extends the review period for a maximum of thirty (30) more days, or seeks additional information from the owner or operator during this period. Documentation supporting the CQA officer's certification must be furnished to the cabinet upon request.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

**PUBLIC HEARING:** A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

**CONTACT PERSON:** James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

**CONTACT PERSON:** James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of all hazardous waste interim status facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any

effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff of the agency will have an increased workload in order to get the newly regulated entities regulated.

2. Continuing costs or savings: Once the new entities are processed, there will not be extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork or reporting requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are anticipated to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with existing federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The implementation of this regulation will improve public health and the environment across the commonwealth.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. **TIERING:** Is tiering applied? Yes, tiering was used based. This administrative regulation applies to owners and operators of hazardous waste interim status facilities, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to all hazardous waste interim status facilities.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste interim status facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

**401 KAR 35:050. Manifest system, recordkeeping and reporting (IS).**

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.99, 40 CFR 265 Subpart E

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish the manifest system, recordkeeping and reporting requirements for facilities.

Section 1. Applicability. The requirements in this administrative regulation apply to owners and operators of both on-site and off-site facilities, except as Section 1 of 401 KAR 35:010 provides otherwise. Sections 2, 3 and 7 of this administrative regulation do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources.

Section 2. Use of Manifest System. (1) If a facility receives hazardous waste accompanied by a manifest, the owner or operator (or his agent) shall:

(a) Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;

(b) Note any significant discrepancies in the manifest (as defined in Section 3(1) of this administrative regulation) on each copy of the manifest;

(c) Immediately give the transporter at least one (1) copy of the signed manifest;

(d) Within thirty (30) days after the delivery, send a copy of the manifest to the generator; and

(e) Retain at the facility a copy of each manifest for at least three (3) years from the date of delivery.

(2) If a facility receives from a rail or water (bulk shipment) transporter hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification and signatures), the owner or operator (or his agent) shall:

(a) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;

(b) Note any significant discrepancies (as defined in Section 3(1) of this administrative regulation) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper;

(c) Immediately give the rail or water (bulk shipment) transporter at least one (1) copy of the manifest or shipping paper (if the manifest has not been received);

(d) Within thirty (30) days after the delivery, send a copy of the signed and dated manifest to the generator; however, if the manifest has not been received within thirty (30) days after delivery, the owner or operator (or his agent) shall send a copy of the shipping paper signed and dated to the generator; and

(e) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three (3) years from the date of delivery.

(3) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of the facility shall comply with the requirements of 401 KAR Chapter 32.

Section 3. Manifest Discrepancies. (1) Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives.

(a) Significant discrepancies in quantity are:

1. For bulk waste, variations greater than ten (10) percent in weight; and

2. For batch waste, any variation in piece count, such as a discrepancy of one (1) drum in a truckload.

(b) Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(2) Upon discovering a significant discrepancy, the owner or operator shall attempt to reconcile the discrepancy with the waste generator or transporter (with telephone conversations). If the discrepancy is not resolved within fifteen (15) days after receiving the waste, the owner or operator shall immediately submit to the cabinet a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

Section 4. Operating Record. (1) The owner or operator shall keep a written operating record at his facility.

(2) The following information shall be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(a) A description and the quantity of each hazardous waste received, and the method and date of its treatment, storage or disposal at the facility as required by 401 KAR 35:290;

(b) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste shall be recorded on a map or diagram of each cell or disposal area. For all facilities, this information shall include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest (see Section 9 of 401 KAR 35:070, Section 6 of 401 KAR 35:220 and Section 3 of 401 KAR 35:230 for related requirements);

(c) Records and results of waste analyses and trial tests performed as specified in Section 4 of 401 KAR 35:020, Section 4 of 401 KAR 35:190, Section 4 of 401 KAR 35:200, Section 3 of 401 KAR 35:210, Section 3 of 401 KAR 35:220, Section 7 of 401 KAR 35:230, Section 2 of 401 KAR 35:240, Section 3 of 401 KAR 35:250, Section 3 of 401 KAR 35:260, Section 4 of 401 KAR 35:281 [and Sections 4(1) and 7 of 401 KAR 37:010], Section 5 of 401 KAR 35:275, ~~[and]~~ Section 14 of 401 KAR 35:280, and Sections 4(1) and 7 of 401 KAR 37:010;

(d) Summary reports and details of all incidents that require implementing the contingency plan as specified in Section 7(10) of 401 KAR 35:040;

(e) Records and results of inspections as required by Section 6(4) of 401 KAR 35:020 (except these data need be kept only three (3) years);

(f) Monitoring, testing, or analytical data and corrective action where required by 401 KAR 35:060; Section 10 of 401 KAR 35:020; Sections 2, 4, and 6 of 401 KAR 35:190; Sections 2, 3, and 5 of 401 KAR 35:200; Sections 9, 10, and 11 of 401 KAR 35:210; Sections 4, 5 and 7(4)(a) of 401 KAR 35:220; Sections 2, 11, and 12 of 401 KAR 35:230; Section 4 of 401 KAR 35:240; and Section 4 of 401 KAR 35:250; Sections 5(3) to (6) and 6 of 401 KAR 35:275; ~~[and]~~ Sections 14(4) to (9) and 15 of 401 KAR 35:280; and Sections 9, 10, and 11 of 401 KAR 35:281;

(g) All closure cost estimates under Section 1 of 401 KAR 35:090 and for disposal facilities, all postclosure cost estimates under Section 1 of 401 KAR 35:100;

(h) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to Section 5 of 401 KAR 37:010, monitoring data required pursuant to a petition under 401 KAR 37:010, Section 6, or a certification under 401 KAR 37:010, Section 8, and the applicable notice required of a generator under 401 KAR 37:010, Section 7(1);

(i) For an off-site treatment facility, a copy of the notice, and the certification and demonstration if applicable, required of the generator or the owner or operator under Section 7 or 8 of 401 KAR 37:010;

(j) For an on-site treatment facility, the information contained in the notice and the certification and demonstration if applicable, required of the generator or the owner or operator under Section 7 or 8 of 401 KAR 37:010;

(k) For an off-site land disposal facility, a copy of the notice, and the certification and demonstration if applicable, required of the generator or owner or operator of a treatment facility under Section 7 or 8 of 401 KAR 37:010;

(l) For an on-site land disposal facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required of the generator or the owner or operator under Section 7 or 8 of 401 KAR 37:010;

(m) For an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required of the generator or the owner or operator under 401 KAR 37:010, Section 7 or 8; and

(n) For an on-site storage facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required of the generator or the owner or operator of a treatment facility under Section 7 or 8 of 401 KAR

37:010.

Section 5. Availability, Retention, and Disposition of Records. (1) All records, including plans, required under this chapter shall be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee or representative of the cabinet who is duly designated by the secretary.

(2) The retention period for all records required under this chapter is extended automatically during the course of any unresolved enforcement action regarding the site or facility or as requested by the cabinet.

(3) A copy of records of waste disposal locations and quantities under Section 4(2)(b) of this administrative regulation shall be submitted to the cabinet and local land authority upon closure of the facility (see Section 9 of 401 KAR 35:070).

Section 6. Annual Report. The owner or operator shall prepare and submit a single copy of the Hazardous Waste Annual Report, DEP Form 7072-91, incorporated by reference in Section 5 of 401 KAR 32:040, [an annual report] to the cabinet by March 1 of each year. The Hazardous Waste Annual Report [report form and instructions designated by the cabinet shall be used for this report. The annual report] shall cover site or facility activities during the previous calendar year. [and shall include at a minimum the following information:

~~(1) The EPA identification number, name and address of the facility;~~

~~(2) The calendar year covered by the report;~~

~~(3) For off-site facilities, the name and EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year; for imported shipments, the name, number and address of the foreign generator;~~

~~(4) A description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information shall be listed by EPA identification number of each generator;~~

~~(5) The method of treatment, storage or disposal for each hazardous waste;~~

~~(6) Monitoring data under Section 5(1)(b)2 and 3, and (2)(b) of 401 KAR 35:060, where required;~~

~~(7) Information on transportation, the use of the manifest, and other information from the manifest, as applicable;~~

~~(8) For generators who treat, store, or dispose of hazardous waste on-site, a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated;~~

~~(9) For generators who treat, store, or dispose of hazardous waste on-site, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for the years prior to 1984; and~~

~~(10) The certification signed by the owner or operator of the facility or his authorized representative.]~~

Section 7. Unmanifested Waste Report. If a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described in Section 1(5)(b) of 401 KAR 33:020, and if the waste is not excluded from the manifest requirement by Section 5 of 401 KAR 31:010, then the owner or operator shall prepare and submit a single copy of a report to the cabinet within fifteen (15) days after receiving the waste. The unmanifested waste report shall be submitted on a form approved by the cabinet. Such report shall be designated "Unmanifested Waste Report" and shall include the following information:

(1) The EPA identification number, name and address of the facility;

(2) The date the facility received the waste;

(3) The EPA identification number, name and address of the



generator and the transporter, if available;

(4) A description and the quantity of each unmanifested hazardous waste the facility received;

(5) The method of treatment, storage or disposal for each hazardous waste;

(6) The certification signed by the owner or operator of the facility or his authorized representative; and

(7) A brief explanation of why the waste was unmanifested, if known.

Section 8. Additional Reports. In addition to submitting the annual report and unmanifested waste reports described in Sections 6 and 7 of this administrative regulation, the owner or operator shall also report to the cabinet:

(1) Releases, fires and explosions as specified in Section 7(10) of 401 KAR 35:040;

(2) Groundwater contamination and monitoring data as specified in Sections 4 and 5 of 401 KAR 35:060;

(3) Facility closure as specified in Section 6 of 401 KAR 35:070; and

(4) As otherwise required by 401 KAR 35:280, 401 KAR 35:281, and 401 KAR 35:290.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of on-site and off-site hazardous waste interim status facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First year: The existing staff of the agency will have an increased workload in order to process the newly regulated entities.

2. Continuing costs or savings: Once the new entities are processed, there will not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no extra paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are anticipated to be used for the implementation and enforcement of the regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: The expected benefit is consistency with the current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and environmental welfare will improve across the commonwealth with the implementation of this regulation

b. State whether a detrimental effect on the environment and public health would result if not implemented: There would be detrimental effects if this regulation is not implemented.

c. If detrimental effect would result, explain detrimental effect: Human health and the environment could be threatened without the implementation of this regulation.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, regulations, or policies that conflict, duplicate, or overlap this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? (Explain why tiering was or was not used): Yes, tiering was applied. This administrative regulation applies to on-site and off-site hazardous waste interim status facilities across the commonwealth, consistent with federal standards, to

protect the environment and human health. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to on-site and off-site hazardous waste interim status sites. The changes are necessary to maintain consistence between state and federal programs. Additions and exclusions have been made to clarify the applicability of the standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS Chapter 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages on-site and off-site hazardous waste interim status facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 35:060. Groundwater monitoring (IS).

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265 Subpart F

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish standards for groundwater monitoring.

Section 1. Applicability. (1) By November 19, 1981, the owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste shall implement a groundwater monitoring program capable of determining the facility's impact on the quality of groundwater in the uppermost aquifer underlying the facility, except as Section 1 of 401 KAR 35:010 and subsection (3) of this section provide otherwise.

(2) Except as subsections (3) and (4) of this section provide otherwise, the owner or operator shall install, operate and maintain a groundwater monitoring system which meets the requirements of Section 2 of this administrative regulation, and shall comply with Sections 3 to 5 of this administrative regulation. This groundwater monitoring program shall be carried out during the active life of the facility and, for disposal facilities during the postclosure care period as well.

(3) All or part of the groundwater monitoring requirements of this chapter may be waived if the owner or operator can demonstrate that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells (domestic, industrial or agricultural) or to surface water. This demonstration shall be in writing and shall be kept at the facility. This demonstration shall be certified by a qualified geologist or geotechnical engineer and shall establish the following:

(a) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer by an evaluation of:

1. A water balance of precipitation, evapotranspiration, run-off and infiltration; and

2. Unsaturated zone characteristics (that is, geologic materials, physical properties and depth to groundwater); and

(b) The potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water by an evaluation of:

1. Saturated zone characteristics (that is, geologic materials, physical properties and rate of groundwater flow), and

2. The proximity of the site or facility to water supply wells or surface water.

(4) If an owner or operator assumes (or knows) that groundwater monitoring of indicator parameters in accordance with Sections 2 and 3 of this administrative regulation would show statistically significant increases (or decreases in the case of pH) when evaluated under Section 4(2) of this administrative regulation, he may install, operate and maintain an alternate groundwater monitoring system (other than the one described in Sections 2 and 3 of this administrative regulation). If the owner or operator decides to use an alternate groundwater monitoring system he shall:

(a) Submit to the cabinet a specific plan, certified by a qualified geologist or geotechnical engineer, which satisfies the requirements of Section 4(4)(c) of this administrative regulation for an alternate groundwater monitoring system;

(b) Initiate the determinations specified in Section 4(4)(d) of this administrative regulation;

(c) Prepare and submit a written report in accordance with

Section 4(4)(e) of this administrative regulation;

(d) Continue to make the determinations specified in Section 4(4)(d) of this administrative regulation on a quarterly basis until final closure of the facility; and

(e) Comply with the recordkeeping and reporting requirements in Section 5(2) of this administrative regulation.

(5)(a) The groundwater monitoring requirements of this administrative regulation may be waived with respect to any surface impoundment that:

1. Is used to neutralize wastes which are hazardous solely because they exhibit the corrosivity characteristic under Section 3 of 401 KAR 31:030 or are listed as hazardous wastes in 401 KAR 31:040 only for this reason; and

2. Contains no other hazardous wastes, if the owner or operator can demonstrate that there is no potential for migration of hazardous wastes from the impoundment.

(b) The demonstration shall establish, based upon the consideration of the characteristics of the wastes and the impoundment, that the corrosive wastes will be neutralized to the extent that they no longer meet the corrosivity characteristic before they can migrate out of the impoundment. The demonstration shall be in writing and shall be certified by a qualified professional.

Section 2. Groundwater Monitoring System. (1) A groundwater monitoring system shall be capable of yielding groundwater samples for analysis and shall consist of:

(a) Monitoring wells (at least one (1) well) installed hydraulically upgradient (that is, in the direction of increasing static head) from the limit of the waste management area. Their number, locations and depths shall be sufficient to yield groundwater samples that are:

1. Representative of background groundwater quality in the uppermost aquifer near the facility; and

2. Not affected by the facility; and

(b) Monitoring wells (at least three (3) wells) installed hydraulically downgradient (that is, in the direction of decreasing static head) at the limit of the waste management area. Their number, locations and depths shall ensure that they immediately detect any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

(c) The facility owner or operator may demonstrate that an alternate hydraulically downgradient monitoring well location shall meet the criteria outlined below. The demonstration shall be in writing and kept at the facility. The demonstration shall be certified by a qualified groundwater scientist and establish that:

1. An existing physical obstacle prevents monitoring well installation at the hydraulically downgradient limit of the waste management area; and

2. The selected alternate downgradient location is as close to the limit of the waste management area as practical; and

3. The location ensures detection that, given the alternate location, is as early as possible of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

4. Lateral expansion, new, or replacement units are not eligible for an alternate downgradient location under this paragraph.

(2) Separate monitoring systems for each waste management component of a site or facility are not required provided that provisions for sampling upgradient and downgradient water quality will detect any discharge from the waste management area.

(a) In the case of a facility consisting of only one (1) surface impoundment, landfill or land treatment area, the waste management area is described by the waste boundary (perimeter).

(b) In the case of a facility consisting of more than one (1) surface impoundment, landfill or land treatment area, the waste management area is described by an imaginary boundary line which circumscribes the several waste management components.

(3) All monitoring wells shall be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing shall be screened or perforated, and packed with gravel or sand where necessary, to enable sample collection at depths where appropriate aquifer flow zones exist. The annular space (that is, the space between the bore hole and well casing) above the sampling depth shall be sealed with a suitable material (cement grout or bentonite slurry for example) to prevent contamination of samples and the groundwater.

Section 3. Sampling and Analysis. (1) The owner or operator shall obtain and analyze samples from the installed groundwater monitoring system. The owner or operator shall develop and follow a groundwater sampling and analysis plan. He shall keep this plan at the facility. The plan shall include procedures and techniques for:

- (a) Sample collection;
- (b) Sample preservation and shipment;
- (c) Analytical procedures; and
- (d) Chain of custody control.

(2) The owner or operator shall determine the concentration or value of the following parameters in groundwater samples in accordance with subsections (3) and (4) of this section:

(a) Parameters characterizing the suitability of the groundwater as a drinking water supply, as specified in 401 KAR 35:310.

(b) Parameters establishing groundwater quality:

- 1. Chloride;
- 2. Iron;
- 3. Manganese;
- 4. Phenols;
- 5. Sodium; and
- 6. Sulfate.

(c) Parameters used as indicators of groundwater contamination:

- 1. pH;
- 2. Specific conductance;
- 3. Total organic carbon;
- 4. Total organic halogen.

(3)(a) For all monitoring wells, the owner or operator shall establish initial background concentrations or values of all parameters specified in subsection (2) of this section. He shall do this quarterly for one (1) year.

(b) For each of the indicator parameters specified in subsection (2)(c) of this section, at least four (4) replicate measurements shall be obtained for each sample and the initial background arithmetic mean and variance shall be determined by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from upgradient wells during the first year.

(4) After the first year, all monitoring wells shall be sampled and the samples analyzed with the following frequencies:

(a) Samples collected to establish groundwater quality shall be obtained and analyzed for the parameters specified in subsection (2)(b) of this section at least annually.

(b) Samples collected to indicate groundwater contamination shall be obtained and analyzed for the parameters specified in subsection (2)(c) of this section at least semiannually.

(5) Elevation of the groundwater surface at each monitoring well shall be determined each time a sample is obtained.

Section 4. Preparation, Evaluation and Response. (1) By August 1, 1982 the owner or operator shall prepare an outline of a groundwater quality assessment program. The outline shall describe a more comprehensive groundwater monitoring program (than that described in Sections 2 and 3 of this administrative regulation) capable of determining:

(a) Whether hazardous waste or hazardous waste constituents have entered the groundwater;

(b) The rate and extent of migration of hazardous waste or hazardous waste constituents in the groundwater; and

(c) The concentrations of hazardous waste or hazardous waste constituents in the groundwater.

(2) For each indicator parameter specified in Section 3(2)(c) of this administrative regulation, the owner or operator shall calculate the arithmetic mean and variance, based on at least four (4) replicate measurements on each sample, for each well monitored in accordance with Section 3(4)(b) of this administrative regulation, and compare these results with its initial background arithmetic mean. The comparison shall consider individually each of the wells in the monitoring system, and shall use the student's t-test at the 0.01 level of significance (see 401 KAR 35:320) to determine statistically significant increases (and decreases, in the case of pH) over initial background.

(3)(a) If the comparisons for the upgradient wells made under subsection (2) of this section show a significant increase (or pH decrease), the owner or operator shall submit this information in accordance with Section 5(1)(b)2 of this administrative regulation.

(b) If the comparisons for downgradient wells made under subsection (2) of this section show a significant increase (or pH decrease), the owner or operator shall then immediately obtain additional groundwater samples from those downgradient wells where a significant difference was detected, split the samples in two (2), and obtain analyses of all additional samples to determine whether the significant difference was a result of laboratory error.

(4)(a) If the analyses performed under subsection (3)(b) of this section confirm the significant increase (or pH decrease), the owner or operator shall provide written notice to the cabinet within seven (7) days of the date of such confirmation that the site or facility may be affecting groundwater quality.

(b) Within fifteen (15) days after the notification under subsection (4)(a) of this section, the owner or operator shall develop and submit to the cabinet a specific plan, based on the outline required under subsection (1) of this section and certified by a qualified geologist or geotechnical engineer, for a groundwater quality assessment program at the facility.

(c) The plan to be submitted under Section 1(4)(a) of this administrative regulation or subsection (4)(b) of this section shall specify:

1. The number, location and depth of wells;
2. Sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility;
3. Evaluation procedures, including any use of previously gathered groundwater quality information; and
4. A schedule of implementation.

(d) The owner or operator shall implement the groundwater quality assessment plan which satisfies the requirements of subsection (4)(c) of this section and, at a minimum, determine:

1. The rate and extent of migration of the hazardous wastes or hazardous waste constituents in the groundwater; and
2. The concentrations of the hazardous wastes or hazardous waste constituents in the groundwater.

(e) The owner or operator shall make his first determination under subsection (4)(d) of this section as soon as technically feasible and, within fifteen (15) days after the determination, submit to the cabinet a written report containing an assessment of the groundwater quality.

(f) If the owner or operator determines, based on the results of the first determination under subsection (4)(d) of this section, that no hazardous wastes or hazardous waste constituents from the facility have entered the groundwater, then he may reinstate the indicator evaluation program described in Section 3 of this administrative regulation and subsection (2) of this section. If the owner or operator reinstates the indicator evaluation program, he shall so notify the cabinet in the report submitted under subsection (4)(e) of this section.

(g) If the owner or operator determines, based on the first determination under subsection (4)(d) of this section, that hazardous wastes or hazardous waste constituents for the facility have entered the groundwater, then he:

1. Shall continue to make the determinations required under subsection (4)(d) of this section on a quarterly basis until final closure of the facility, if the groundwater quality assessment plan was implemented prior to final closure of the facility; or

2. May cease to make the determinations required under subsection (4)(d) of this section if the groundwater quality assessment plan was implemented during the postclosure care period.

(5) Notwithstanding any other provision of this administrative regulation, any groundwater quality assessment to satisfy the requirements of subsection (4)(d) of this section which is initiated prior to final closure of the facility shall be completed and reported in accordance with subsection (4)(e) of this section.

(6) Unless the groundwater is monitored to satisfy the requirements of subsection (4)(d) of this section, at least annually the owner or operator shall evaluate the data on groundwater surface elevations obtained under Section 3(5) of this administrative regulation to determine whether the requirements under Section 2(1) of this administrative regulation for locating the monitoring wells continues to be satisfied. If the evaluation shows that Section 2(1) of this administrative regulation is no longer satisfied, the owner or operator shall immediately modify the number, location or depth of the monitoring wells to bring the groundwater monitoring system into compliance with this requirement.

Section 5. Recordkeeping and Reporting. (1) Unless the groundwater is monitored to satisfy the requirements of Section 4(4)(d) of this administrative regulation, the owner or operator shall:

(a) Keep records of the analyses required in Section 3(3) and (4) of this administrative regulation, the associated groundwater surface elevations required in Section 3(5) of this administrative regulation and the evaluations required in Section 4(2) of this administrative regulation throughout the active life of the site or facility and, for disposal facilities, throughout the postclosure care period as well; and

(b) Report the following groundwater monitoring information to the cabinet:

1. During the first year when initial background concentrations are being established for the facility, concentrations or values of the parameters listed in Section 3(2)(a) of this administrative regulation for each groundwater monitoring well within fifteen (15) days after completing each quarterly analysis. The owner or operator shall separately identify for each monitoring well any parameters whose concentration or value has been found to exceed the maximum contaminant levels listed in 401 KAR 35:310.

2. Annually, concentrations or values of the parameters listed in Section 3(2)(c) of this administrative regulation for each groundwater monitoring well, along with the required evaluations for these parameters under Section 4(2) of this administrative regulation. The owner or operator shall separately identify any significant differences from initial background found in the upgradient wells, in accordance with Section 4(3)(a) of this administrative regulation. During the active life of the facility, this information shall be submitted as part of the annual report required under Section 6 of 401 KAR 35:050.

3. As a part of the annual report required under Section 6 of 401 KAR 35:050, results of the evaluation of groundwater surface elevations under Section 4(6) of this administrative regulation and a description of the response to that evaluation, where applicable.

(2) If the groundwater is monitored to satisfy the requirements of Section 4(4)(d) of this administrative regulation, the owner or operator shall:

(a) Keep records of the analyses and evaluations specified in the plan which satisfies the requirements of Section 4(4)(c) of this administrative regulation throughout the active life of the facility and, for disposal facilities, throughout the postclosure care period as well; and

(b) Annually, until final closure of the facility, submit to the cabinet a report containing the results of his groundwater quality assessment program which includes, but is not limited to, the calculated (or

measured) rate of migration of hazardous wastes or hazardous waste constituents in the groundwater during the report period. This report shall be submitted as part of the annual report required under Section 6 of 401 KAR 35:050.

(3) The groundwater monitoring data may be submitted on Groundwater Sample Analysis form, DEP Form 8046 (August 1995), and Hazardous Waste Groundwater Report form, DEP Form 8046A (March 1996). These forms are incorporated by reference in Section 13 of 401 KAR 34:060. The owner or operator may use their own document, provided the language is identical to that specified in DEP Form 8046 and DEP Form 8046A.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste interim status facilities who use groundwater monitoring systems. 2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any

effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First year: There will be no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are anticipated for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The health and environment will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: There could be detrimental effects on the environment and public health without the implementation of this regulation.

c. If detrimental effect would result, explain detrimental effect: Improperly managed, hazardous waste could contaminate and harm the environment and public health.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? (Explain why tiering was or was not used): Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste interim status facilities who use groundwater monitoring systems, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

AGENCY CONTACT: James Hale

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the cabinet to promul-

gate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to groundwater analysis at interim status facilities. These changes are necessary to maintain consistency between state and federal programs. These additions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements for regulation construction specified in KRS Chapter 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste interim status facilities which use groundwater monitoring systems.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 35:070. Closure and postclosure (IS).

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.99, 40 CFR 265 Subpart G

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and 224.46-530 and to establish the standards for closure

and postclosure of facilities qualifying for interim status.

Section 1. Applicability. Except as Section 1 of 401 KAR 35:010 provides otherwise:

(1) Sections 2 to 6 of this administrative regulation (which concern closure) apply to the owners and operators of all hazardous waste sites or facilities; and

(2) Sections 7 to 11 of this administrative regulation (which concern postclosure care) apply to the owners and operators of:

(a) All hazardous waste disposal facilities; and

(b) Waste piles and surface impoundments for which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to the facilities in Section 6 of 401 KAR 35:200 or Section 7 of 401 KAR 35:210; and

(c) Tank systems that are required under Section 8 of 401 KAR 35:190 to meet requirements for landfills.

(d) Containment buildings that are required under Section 3 of 401 KAR 35:245 to meet the requirement for landfills; and

(e) Drip pads that are required under Section 6 of 401 KAR 35:285.

Section 2. Closure Performance Standards. The owner or operator shall close the facility in a manner that:

(1) Minimizes the need for further maintenance;

(2) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, postclosure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere;

(3) Complies with the closure requirements of this chapter including, but not limited to, the requirements of Section 3 of 401 KAR 34:245, Section 8 of 401 KAR 35:190, Section 6 of 401 KAR 35:200, Section 7 of 401 KAR 35:210, Section 7 of 401 KAR 35:220, Section 4 of 401 KAR 35:230, Section 5 of 401 KAR 35:240, Section 5 of 401 KAR 35:250, ~~and~~ Section 5 of 401 KAR 35:260, and Section 6 of 401 KAR 35:285;

(4) Includes any corrective action necessary to bringing the facility into compliance with the applicable facility standards contained in Section 12 of 401 KAR 34:060 and 34:287; and

(5) Complies with KRS 224.46-520(8), requiring sites and facilities to be maintained in operational condition.

Section 3. Closure Plan; Amendment of Plan. (1) Written plan. By May 19, 1981 or by six (6) months after the effective date of the administrative regulation that first subjects a facility to the provisions of this section, the owner or operator of a hazardous waste site or facility shall have a written closure plan. Until final closure is completed and certified in accordance with Section 6 of this administrative regulation, a copy of the most current plan shall be furnished to the cabinet upon request, including request by mail. In addition, for facilities without approved plans, the most current plan shall also be provided during site inspections, on the day of inspection, to any officer, employee or representative of the cabinet who is duly designated by the secretary.

(2) Content of plan. The plan shall identify steps necessary to perform partial and final closure of the facility at any point during its active life. The closure plan shall include, at least:

(a) A description of how each hazardous waste management unit at the facility will be closed in accordance with Section 2 of this administrative regulation;

(b) A description of how final closure of the facility will be conducted in accordance with Section 2 of this administrative regulation. The description shall identify the maximum extent of the operation which will be unclosed during the active life of the facility;

(c) An estimate of the maximum inventory of hazardous wastes ever on site over the active life of the facility and a detailed description of the methods to be used during partial closures and final



closure, including, but not limited to, methods for removing, transporting, recycling, treating, storing, or disposing of all hazardous wastes, identification of and the type(s) of the off-site hazardous waste management unit(s) to be used, if applicable;

(d) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard in Section 2 of this administrative regulation;

(e) A detailed description of other activities necessary during the partial and final closure period to ensure that all partial closures and final closure satisfy the closure performance standards in Section 2 of this administrative regulation, including, but not limited to, groundwater monitoring, leachate collection, and run-on and run-off control;

(f) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule shall include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover shall be included); and

(g) An estimate of the expected year of final closure for facilities that use trust funds to demonstrate financial assurance under Sections 2 to 11 of 401 KAR 35:090 or Sections 2 to 11 of 401 KAR 35:100 and whose remaining operating life is less than twenty (20) years, and for facilities without approved closure plans.

(3) Amendment of plan. The owner or operator may amend the closure plan at any time prior to the notification of partial or final closure of the facility. An owner or operator with an approved closure plan shall submit a written request to the cabinet to authorize a change to the approved closure plan. The written request shall include a copy of the amended closure plan for approval by the cabinet.

(a) The owner or operator shall amend the closure plan whenever:

1. Changes in operating plans or facility design affect the closure plan; or
2. There is a change in the expected year of closure, if applicable; or
3. In conducting partial or final closure activities, unexpected events require a modification of the closure plan.

(b) The owner or operator shall amend the closure plan at least sixty (60) days prior to the proposed change in facility design or operation, or no later than sixty (60) days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator shall amend the closure plan no later than thirty (30) days after the unexpected event. These provisions also apply to owners or operators of surface impoundments and waste piles who intended to remove all hazardous wastes at closure, but are required to close as landfills in accordance with Section 4 of 401 KAR 35:230.

(c) An owner or operator with an approved closure plan shall submit the modified plan to the cabinet at least sixty (60) days prior to the proposed change in facility design or operation, or no more than sixty (60) days after an unexpected event has occurred which has affected the closure plan. If an unexpected event has occurred during the partial or final closure period, the owner or operator shall submit the modified plan no more than thirty (30) days after the unexpected event. These provisions also apply to owners or operators of surface impoundments and waste piles who intended to remove all hazardous wastes at closure but are required to close as landfills in accordance with Section 4 of 401 KAR 35:230. If the

amendment to the plan is a major modification according to the criteria in Sections 2 and 3 of 401 KAR 38:040, the modification to the plan shall be approved according to the procedures in subsection (4)(d) of this section.

(d) The cabinet may request modifications to the plan under the conditions described in paragraph (a) of this subsection. An owner or operator with an approved closure plan shall submit the modified plan within sixty (60) days of the request from the cabinet or within thirty (30) days if the unexpected event occurs during partial or final closure. If the amendment is considered a major modification according to the criteria in Sections 2 and 3 of 401 KAR 38:040, the modification to the plan shall be approved in accordance with the procedures in subsection (4)(d) of this section.

(4) Notification of partial closure and final closure.

(a) The owner or operator shall submit the closure plan to the cabinet at least 180 days prior to the date on which he expects to begin closure of the first surface impoundment, waste pile, land treatment or landfill unit, or final closure of a facility with such a unit, whichever is earlier. The owner or operator shall submit the closure plan to the cabinet at least forty-five (45) days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace. The owner or operator shall submit the closure plan to the cabinet at least forty-five (45) days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units. An owner or operator with approved closure plans shall notify the cabinet in writing at least sixty (60) days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, landfill, or land treatment unit, or final closure of a facility involving such a unit. An owner or operator with an approved closure plan shall notify the cabinet in writing at least forty-five (45) days prior to the date he expects to begin partial or final closure of a boiler or industrial furnace. An owner or operator with an approved closure plan shall notify the cabinet in writing at least forty-five (45) days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units.

(b) The date when the owner or operator "expects to begin closure" shall be either:

1. Within thirty (30) days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one (1) year after the date on which the unit received the most recent volume of hazardous waste. If the owner or operator of a hazardous waste management unit can demonstrate to the cabinet that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and that he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all interim status requirements, the cabinet may approve an extension to this one (1) year limit; or

2. For units meeting the requirements of Section 4(4) of this administrative regulation, no later than thirty (30) days after the date on which the hazardous waste management unit receives the known final volume of nonhazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional nonhazardous wastes, no later than one (1) year after the date on which the unit received the most recent volume of nonhazardous wastes. If the owner or operator can demonstrate to the cabinet that the hazardous waste management unit has the capacity to receive additional nonhazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements, the cabinet may approve an extension to this one (1) year limit.

(c) The owner or operator shall submit his closure plan to the cabinet no later than fifteen (15) days after:

1. Termination of interim status except when a permit is issued simultaneously with termination of interim status; or

2. Issuance of a judicial decree or final order under KRS 224.10-100, 224.10-420, and 224.46-530 or 224.99-010 to cease receiving hazardous wastes or close.

(d) The cabinet shall provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the plan and request modifications to the plan no later than thirty (30) days from the date of the notice. The cabinet shall also, in response to a request or at its own discretion, hold a public hearing whenever such a hearing might clarify one (1) or more issues concerning a closure plan. The cabinet shall give public notice of the hearing at least thirty (30) days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two (2) notices may be combined.) The cabinet shall approve, modify, or disapprove the plan within ninety (90) days of its receipt. If the cabinet does not approve the plan it shall provide the owner or operator with a detailed written statement of reasons for the refusal and the owner or operator shall modify the plan or submit a new plan for approval within thirty (30) days after receiving such written statement. The cabinet shall approve or modify this plan in writing within sixty (60) days. If the cabinet modifies the plan, this modified plan becomes the approved closure plan. The cabinet shall assure that the approved plan is consistent with Sections 2 to 6 of this administrative regulation and the applicable requirements of 401 KAR 35:060, Section 5 of 401 KAR 35:190, Section 6 of 401 KAR 35:200, Section 7 of 401 KAR 35:210, Section 7 of 401 KAR 35:220, Section 4 of 401 KAR 35:230, Section 5 of 401 KAR 35:240, Section 5 of 401 KAR 35:250, ~~and~~ Section 5 of 401 KAR 35:260, Section 3 of 401 KAR 34:275, and Section 6 of 401 KAR 35:285. A copy of the modified plan with a detailed statement of reasons for the modifications shall be mailed to the owner or operator.

(5) Removal of wastes and decontamination or dismantling of equipment. Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

Section 4. Closure; Time Allowed for Closure. (1) Within ninety (90) days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with all applicable requirements in subsections (4) and (5) of this section, at a hazardous waste management unit or facility, or within ninety (90) days after approval of the closure plan, whichever is later, the owner or operator shall treat, remove from the unit or facility, or dispose of on site, all hazardous wastes in accordance with the approved closure plan. The cabinet may approve a longer period if the owner or operator demonstrates that:

(a)1. The activities required to comply with this subsection will, of necessity, take longer than ninety (90) days to complete; or

2.a. The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes or has the capacity to receive nonhazardous wastes if the facility owner or operator complies with subsections (4) and (5) of this section; and

b. There is a reasonable likelihood that the owner or operator or another person will recommence operation of the hazardous waste management unit or the facility within one (1) year; and

c. Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(b) The owner or operator has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements.

(2) The owner or operator shall complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final

volume of nonhazardous wastes if the owner or operator complies with all applicable requirements of subsections (4) and (5) of this section, at the hazardous waste management unit or facility, or 180 days after approval of the closure plan, if that is later. The cabinet may approve an extension to the closure period if the owner or operator demonstrates that:

(a)1. The partial or final closure activities will, of necessity, take longer than 180 days to complete; or

2.a. The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes or has the capacity to receive nonhazardous wastes if the facility owner or operator complies with subsections (4) and (5) of this section; and

b. There is reasonable likelihood that the owner or operator or another person will recommence operation of the hazardous waste management unit or the facility within one (1) year; and

c. Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(b) The owner or operator has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable interim status requirements.

(3) The demonstrations referred to in subsections (1)(a) and (2)(a) of this section shall be made as follows:

(a) The demonstrations in subsection (1)(a) of this section shall be made at least thirty (30) days prior to the expiration of the ninety (90) day period in subsection (1) of this section; and

(b) The demonstrations in subsection (2)(a) of this section shall be made at least thirty (30) days prior to the expiration of the 180 day period in subsection (2) of this section unless the owner or operator is otherwise subject to subsection (4) of this section.

(4) The cabinet may allow an owner or operator to receive nonhazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if:

(a) The owner or operator submits an amended part B application, or a part B application, if not previously required, and demonstrates that:

1. The unit has the existing design capacity as indicated on the part A application to receive nonhazardous wastes; and

2. There is a reasonable likelihood that the owner or operator or another person will receive nonhazardous wastes in the unit within one (1) year after the final receipt of hazardous wastes; and

3. The nonhazardous wastes will not be incompatible with any remaining wastes in the unit or with the facility design and operating requirements of the unit or facility under this administrative regulation; and

4. Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

5. The owner or operator is operating and will continue to operate in compliance with all applicable interim status requirements; and

(b) The part B application includes an amended waste analysis plan, groundwater monitoring and response program, human exposure assessment required under Section 9 of 401 KAR 38:070, and closure and postclosure plans, and updated cost estimates and demonstrations of financial assurance for closure and postclosure care as necessary and appropriate to reflect any changes due to the presence of hazardous constituents in the nonhazardous wastes, and changes in closure activities, including the expected year of closure if applicable under Section 3(2)(g) of this administrative regulation, as a result of the receipt of nonhazardous wastes following the final receipt of hazardous wastes; and

(c) The part B application is amended, as necessary and appropriate, to account for the receipt of nonhazardous wastes following receipt of the final volume of hazardous wastes; and

(d) The part B application and the demonstrations referred to in paragraphs (a) and (b) of this subsection are submitted to the cabinet

no later than 180 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes, or no later than ninety (90) days after the effective date of the administrative regulation, whichever is later.

(5) In addition to the requirements in subsection (4) of this section, an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in 401 KAR 35:200 shall:

(a) Submit with the part B application:

1. A contingent corrective measures plan; and

2. A plan for removing hazardous wastes in compliance with paragraph (b) of this subsection; and

(b) Remove all hazardous wastes from the unit by removing all hazardous liquids and removing all hazardous waste sludges to the extent practicable without impairing the integrity of the liner(s), if any.

(c) Removal of hazardous wastes shall be completed no later than ninety (90) days after the final receipt of hazardous wastes. The cabinet may approve an extension to this deadline if the owner or operator demonstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

(d) If a release that is a statistically significant increase (or decrease in the case of pH) in hazardous constituents over background levels is detected in accordance with the requirements of 401 KAR 35:060, the owner or operator of the unit:

1. Shall comply with the reporting requirements of KRS 224.01-400, if applicable;

2. Shall implement corrective measures in accordance with the approved contingent corrective measures plan required by paragraph (a) of this subsection no later than one (1) year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

3. May receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action; and

4. May be required by the cabinet to implement corrective measures in less than one (1) year or to cease receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment.

(e) During the period of corrective action, the owner or operator shall provide semiannual reports to the cabinet that describe the progress of the corrective action program, compile all groundwater monitoring data, and evaluate the effect of the continued receipt of nonhazardous wastes on the effectiveness of the corrective action.

(f) The cabinet may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one (1) year as required in paragraph (d) of this subsection, or fails to make substantial progress in implementing corrective action and achieving the facility's background levels.

(g) If the owner or operator fails to implement corrective measures as required in paragraph (d) of this subsection, or if the cabinet determines that substantial progress has not been made pursuant to paragraph (f) of this subsection he shall:

1. Notify the owner or operator in writing that the owner or operator shall begin closure in accordance with the deadline in subsections (1) and (2) of this section and provide a detailed statement of reasons for this determination; and

2. Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than twenty (20) days after the date of the notice.

3. If the cabinet receives no written comments, the decision shall become final five (5) days after the close of the comment period. The cabinet shall notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, shall be submitted

within fifteen (15) days of the final notice and that closure shall begin in accordance with the deadlines in subsections (1) and (2) of this section.

4. If the cabinet receives written comments on the decision, a final decision shall be made within thirty (30) days after the end of the comment period. The cabinet shall provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the cabinet determines that substantial progress has not been made, closure shall be initiated in accordance with the deadlines in subsections (1) and (2) of this section.

5. The final determinations made by the cabinet under subparagraphs 3 and 4 of this paragraph are not subject to administrative appeal.

Section 5. Disposal or Decontamination of Equipment, Structures and Soils. During the partial and final closure periods, all contaminated equipment, structures and soil shall be properly disposed of or decontaminated unless specified otherwise in Section 6 of 401 KAR 35:200, Section 7 of 401 KAR 35:210, Section 7 of 401 KAR 35:220, or Section 4 of 401 KAR 35:230. By removing all hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and shall handle that hazardous waste in accordance with all applicable requirements of 401 KAR Chapter 32.

Section 6. Certification of Closure. Within sixty (60) days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within sixty (60) days of completion of final closure, the owner or operator shall submit to the cabinet, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification shall be signed by the owner or operator and by an independent professional engineer who is registered in the Commonwealth of Kentucky. Documentation supporting the engineer's certification shall be furnished to the cabinet upon request until it releases the owner or operator from the financial assurance requirements for closure under Section 11 of 401 KAR 35:090.

Section 7. Survey Plat. No later than the submission of the certification of closure of each hazardous waste disposal unit, an owner or operator shall submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the cabinet a survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat shall be prepared and certified by a professional land surveyor registered in the Commonwealth of Kentucky. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use shall contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with this administrative regulation.

Section 8. Postclosure Care and Use of Property. (1)(a) Postclosure care for each hazardous waste management unit subject to the requirements of Sections 8 to 11 of this administrative regulation shall begin after completion of closure of the unit and continue for thirty (30) years after that date. It shall consist of at least the following:

1. Monitoring and reporting in accordance with the requirements of 401 KAR 35:060, 401 KAR 35:200, 401 KAR 35:210, 401 KAR 35:220 and 401 KAR 35:230; and

2. Maintenance and monitoring of waste containment systems in accordance with the requirements of 401 KAR 35:060, 401 KAR 35:200, 401 KAR 35:210, 401 KAR 35:220, and 401 KAR 35:230.

(b) Any time preceding closure of a hazardous waste management unit subject to postclosure care requirements or final closure, or

any time during the postclosure period for a particular hazardous waste disposal unit, the cabinet may in accordance with the permit modification procedures in 401 KAR Chapter 38: extend the postclosure care period applicable to the hazardous waste management unit or facility, if it finds that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(2) The cabinet may require, at partial and final closure, continuation of any of the security requirements of Section 5 of 401 KAR 35:020 during part or all of the postclosure period when:

(a) Hazardous wastes may remain exposed after completion of partial or final closure; or

(b) Access by the public or domestic livestock may pose a hazard to human health.

(3) Postclosure use of property on or in which hazardous wastes remain after partial or final closure shall not be allowed to disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the facility's monitoring systems, unless the cabinet finds that the disturbance:

(a) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(b) Is necessary to reduce a threat to human health or the environment.

(4) All postclosure care activities shall be in accordance with the provisions of the approved postclosure plan as specified in Section 9 of this administrative regulation. (Note: KRS 224.46-520(4) establishes that the postclosure care period is a minimum of thirty (30) years after closure of the disposal facility.)

Section 9. Postclosure Plan; Amendment of Plan. (1) Written plan. By May 19, 1981, the owner or operator of a hazardous waste disposal unit shall have a written postclosure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous wastes at closure shall prepare a postclosure plan and submit it to the cabinet within ninety (90) days of the date that the owner or operator or the cabinet determines that the hazardous waste management unit or facility shall be closed as a landfill, subject to the requirements of Sections 8 to 11 of this administrative regulation.

(2) Until final closure of the facility, a copy of the most current postclosure plan shall be furnished to the cabinet upon request, including request by mail. In addition, for facilities without approved postclosure plans, the most current postclosure plan shall also be provided during site inspections, on the day of inspection, to any designated officer, employee or representative of the cabinet who is duly designated by the cabinet. After final closure has been certified, the person or office specified in subsection (3)(c) of this section shall keep the approved postclosure plan during the postclosure period.

(3) For each hazardous waste management unit subject to the requirements of this section, the postclosure plan shall identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:

(a) A description of the planned monitoring activities and the frequencies at which they will be performed to comply with 401 KAR 35:060, 401 KAR 35:200, 401 KAR 35:210, 401 KAR 35:220, and 401 KAR 35:230 during the postclosure care period; and

(b) A description of the planned maintenance activities, and the frequencies at which they will be performed, to ensure:

1. The integrity of the cap and final cover or other containment systems in accordance with the requirements of 401 KAR 35:200, 401 KAR 35:210, 401 KAR 35:220, and 401 KAR 35:230; and

2. The function of the monitoring equipment in accordance with the requirements of 401 KAR 35:060, 401 KAR 35:200, 401 KAR 35:210, 401 KAR 35:220, and 401 KAR 35:230; and

(c) The name, address and phone number of the person or office

to contact about the hazardous waste disposal unit or facility during the postclosure care period.

(4) Amendment of plan. The owner or operator may amend the postclosure plan any time during the active life of the facility or during the postclosure care period. An owner or operator with an approved postclosure plan shall submit a written request to the cabinet to authorize a change to the approved plan. The written request shall include a copy of the amended postclosure plan for approval by the cabinet.

(a) The owner or operator shall amend the postclosure plan whenever:

1. Changes in operating plans or facility design affect the postclosure plan; or

2. Events which occur during the active life of the facility, including partial and final closures, affect the postclosure plan.

(b) The owner or operator shall amend the postclosure plan at least sixty (60) days prior to the proposed change in facility design or operation, or no later than sixty (60) days after an unexpected event has occurred which has affected the postclosure plan.

(c) An owner or operator with an approved postclosure plan shall submit the modified plan to the cabinet at least sixty (60) days prior to the proposed change in facility design or operation, or no more than sixty (60) days after an unexpected event has occurred which has affected the postclosure plan. If an owner or operator of a surface impoundment or a waste pile who intended to remove all hazardous wastes at closure in accordance with Section 6(2) of 401 KAR 35:200 or Section 7(1) of 401 KAR 35:210 is required to close as a landfill in accordance with Section 4 of 401 KAR 35:230, the owner or operator shall submit a postclosure plan within ninety (90) days of the determination by the owner or operator or cabinet that the unit shall be closed as a landfill. If the amendment to the postclosure plan is a major modification according to the criteria in Sections 2 and 3 of 401 KAR 38:040, the modification to the plan shall be approved according to the procedures in subsection (6) of this section.

(d) The cabinet may request modifications to the plan under the conditions described in paragraph (a) of this subsection. An owner or operator with an approved postclosure plan shall submit the modified plan within no later than sixty (60) days of the request from the cabinet. If the amendment to the plan is considered a major modification according to the criteria in Sections 2 and 3 of 401 KAR 38:040, the modifications to the postclosure plan shall be approved in accordance with the procedures in subsection (6) of this section. If the cabinet determines that an owner or operator of a surface impoundment or waste pile who intended to remove all hazardous wastes at closure shall close the facility as a landfill, the owner or operator shall submit a postclosure plan for approval to the cabinet within ninety (90) days of the determination.

(5) The owner or operator of a facility with hazardous waste management units subject to these requirements shall submit his postclosure plan to the cabinet at least 180 days before the date he expects to begin partial or final closure of the first hazardous waste disposal unit. The date when he "expects to begin closure" of the first hazardous waste disposal unit shall be either within thirty (30) days after the date on which the hazardous waste management unit receives the known final volume of hazardous waste or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one (1) year after the date on which the unit received the most recent volume of hazardous waste. The owner or operator shall submit the postclosure plan to the cabinet no later than fifteen (15) days after:

(a) Termination of interim status (except when a permit is issued to the facility simultaneously with termination of interim status); or

(b) Issuance of a judicial decree or final orders under KRS Chapter 224 to cease receiving wastes or close.

(6) The cabinet shall provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the postclosure plan and request modifications to the

plan no later than thirty (30) days from the date of the notice. The cabinet shall also, in response to a request or at its own discretion hold a public hearing whenever a hearing might clarify one (1) or more issues concerning a postclosure plan. The cabinet shall give public notice of the hearing at least thirty (30) days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two (2) notices may be combined). The cabinet shall approve, modify, or disapprove the plan within ninety (90) days of its receipt. If the cabinet does not approve the plan it shall provide the owner or operator with a detailed written statement of reasons for the refusal and the owner or operator shall modify the plan or submit a new plan for approval within thirty (30) days after receiving such written statement. The cabinet shall approve or modify this plan in writing within sixty (60) days. If the cabinet modifies the plan, this modified plan shall become the approved postclosure plan. The cabinet shall ensure that the approved postclosure plan is consistent with Sections 8 to 11 of this administrative regulation. A copy of the modified plan with a detailed statement of reasons for the modifications shall be mailed to the owner or operator.

(7) The postclosure plan and length of the postclosure care period may be modified any time prior to the end of the postclosure care period in either of the following two (2) ways:

(a) The owner or operator or any member of the public may petition the cabinet to extend or reduce the postclosure care period applicable to a hazardous waste management unit or facility based on cause, or alter the requirements of the postclosure care period based on cause.

1. The petition shall include evidence demonstrating that:

a. The secure nature of the hazardous waste management unit or facility makes the postclosure care requirement(s) unnecessary or supports reduction of the postclosure care period specified in the current postclosure plan (for example, leachate or groundwater monitoring results, characteristics of the wastes, application of advanced technology, or alternative disposal, treatment, or reuse techniques indicate that the facility is secure) and the site has been closed for thirty (30) years; or

b. The requested extension in the postclosure care period or alteration of postclosure care requirements is necessary to prevent threats to human health and the environment (for example, leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

2. These petitions shall be considered by the cabinet only when they present new and relevant information not previously considered by the cabinet. Whenever the cabinet is considering a petition, it shall provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments within thirty (30) days of the date of the notice. The cabinet shall also, in response to a request or at its own discretion, hold a public hearing whenever a hearing might clarify one (1) or more issues concerning the postclosure plan. The cabinet shall give the public notice of the hearing at least thirty (30) days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for written public comments, and the two (2) notices may be combined). After considering the comments, the cabinet shall issue a final determination, based upon the criteria set forth in this paragraph.

3. If the cabinet denies the petition, it shall send the petitioner a brief written response giving a reason for the denial.

(b) The cabinet may tentatively decide to modify the postclosure plan if it deems it necessary to prevent threats to human health and the environment. The cabinet may propose to extend or reduce (except that the postclosure period shall not be less than thirty (30) years) the postclosure care period applicable to a hazardous waste management unit or facility based on cause or alter the requirements of the postclosure care period based on cause.

1. The cabinet shall provide the owner or operator and the

affected public, through a newspaper notice, the opportunity to submit written comments within thirty (30) days of the date of the notice and the opportunity for a public hearing as in paragraph (a)2 of this subsection. After considering the comments, the cabinet shall issue a final determination.

2. The cabinet shall base its final determination upon the same criteria as required for petitions under paragraph (a)1 of this subsection. A modification of the postclosure plan may include, where appropriate, the temporary suspension rather than permanent deletion of one (1) or more postclosure care requirements. At the end of the specified period of suspension, the cabinet shall then determine whether the requirement(s) should be permanently discontinued or reinstated to prevent threats to human health and the environment. The suspension or discontinuance shall be based on the risk assessment provisions in KRS 224.01-400.

Section 10. Postclosure Notices. (1) No later than sixty (60) days after certification of closure of each hazardous waste disposal unit, the owner or operator shall submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the cabinet, a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator shall identify the type, location and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

(2) Within sixty (60) days of certification of closure of the first hazardous waste disposal unit and within sixty (60) days of certification of closure of the last hazardous waste disposal unit, the owner or operator shall:

(a) Record, in accordance with state law, a notation on the deed to the facility property - or on some other instrument which is normally examined during title search - that will in perpetuity notify any potential purchaser of the property that:

1. The land has been used to manage hazardous wastes; and

2. Its use is restricted under this administrative regulation; and

3. The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by Section 7 of this administrative regulation and subsection (1) of this section have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the cabinet; and

(b) Submit to the cabinet a certification, signed by the owner or operator, that he has recorded the notation specified in paragraph (a) of this subsection, and a copy of the document in which the notation has been placed.

(3) If the owner or operator or any subsequent owner of the land upon which a hazardous waste disposal unit was located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, and all contaminated structures, equipment, and soils, he shall request a modification to the approved postclosure plan in accordance with the requirements of Section 9(7) of this administrative regulation. The owner or operator shall demonstrate that the removal of hazardous wastes will satisfy the criteria of Section 8(3) of this administrative regulation. By removing hazardous waste, the owner or operator may become a generator of hazardous waste and shall manage it in accordance with all applicable requirements of this chapter and 401 KAR Chapter 32. If the owner or operator is granted approval to conduct the removal activities, the owner or operator may request that the cabinet approve either:

(a) The removal of the notation on the deed to the facility property or other instrument normally examined during title search; or

(b) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

Section 11. Certification of Completion of Postclosure Care. No later than sixty (60) days after the completion of the established

## ADMINISTRATIVE REGISTER - 700

postclosure care period for each hazardous waste disposal unit, the owner or operator shall submit to the cabinet by registered mail, a certification that the postclosure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved postclosure plan. The certification shall be signed by the owner or operator and an independent professional engineer registered in the Commonwealth of Kentucky. Documentation supporting the independent registered professional engineer's certification shall be furnished to the cabinet upon request until it releases the owner or operator from the financial assurance requirements for postclosure care under Section 11 of 401 KAR 35:100.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste interim status facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any

effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First year: There will be no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no extra paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards, and clarify existing requirements.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: Not applicable.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? (Explain why tiering was or was not used): Yes, tiering was used. This administrative regulation applies to hazardous waste interim status facilities, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes including standards for closure and postclosure of hazardous waste interim status facilities. These changes are necessary to



maintain consistency between state and federal standards. Additions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS Chapter 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste interim status facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 35:080. General financial requirements (IS).

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265 Subpart H

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish general financial requirements for sites or facilities qualifying for interim status.

Section 1. Financial Requirement Definitions. The definitions previously found in this section have been relocated to the definition administrative regulation for this chapter, which is 401 KAR 35:005.  
~~[(1) When used in this administrative regulation the following terms shall have the meanings indicated:~~

~~(a) "Closure plan" means the plan for closure prepared in~~

~~accordance with the requirements of Section 3 of 401 KAR 35:070.~~

~~(b) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with Section 1(1), (2) and (3) of 401 KAR 35:090.~~

~~(c) "Current postclosure cost estimate" means the most recent of the estimates prepared in accordance with Section 1(1), (2) and (3) of 401 KAR 35:100.~~

~~(d) "Parent corporation" means a corporation which directly owns at least fifty (50) percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.~~

~~(e) "Postclosure plan" means the plan for postclosure care prepared in accordance with the requirements of Sections 8 to 11 of 401 KAR 35:070.~~

~~(2) The following terms are used in the specifications for the financial test for closure, postclosure care and liability self insurance. The definitions are intended to assist in the understanding of these administrative regulations and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.~~

~~(a) "Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.~~

~~(b) "Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.~~

~~(c) "Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.~~

~~(d) "Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with 40 CFR 144.62(a), (b), and (c).~~

~~(e) "Fiscal year" means a twelve (12) month period for accounting and other financial purposes.~~

~~(f) "Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.~~

~~(g) "Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.~~

~~(h) "Net working capital" means current assets minus current liabilities.~~

~~(i) "Net worth" means total assets minus total liabilities and is equivalent to owner's equity.~~

~~(j) "Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.~~

~~(3) In the liability insurance requirements the terms "bodily injury" and "property damage" shall have the meanings given these terms by applicable Kentucky statutes. However, these terms do not include those liabilities which, consistent with standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. The cabinet intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions of the terms given below are intended to assist in the understanding of these administrative regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.~~

~~(4) The definitions given below of the terms are intended to assist in the understanding of these administrative regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.~~

~~(a) "Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the~~



standpoint of the insured.

~~(b) "Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.~~

~~(c) "Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.~~

~~(d) "Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature.~~

~~(5) "Substantial business relationship" means the extent of a business relationship necessary to make a guarantee contract issued incident to that relationship valid and enforceable. A "substantial business relationship" shall arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the cabinet.]~~

Section 2. Applicability. (1) The requirements of 401 KAR 35:090, 401 KAR 35:120 and 401 KAR 35:130 apply to owners or operators of all hazardous waste sites or facilities, except as provided otherwise in this section or in Section 1 of 401 KAR 35:010.

(2) The requirements of 401 KAR 35:100 and 35:110 apply only to owners and operators of:

(a) Disposal facilities; and

(b) Tank systems that are required under Section 5 of 401 KAR 35:190 to meet the requirements for landfills; and

(c) Containment buildings that are required under Section 3 of 401 KAR 35:245 to meet the requirements of landfills.

(d) Drip pads that are required under Section 6 of 401 KAR 35:285.

(3) States and the federal government are exempt from the requirements of Section 1 of this administrative regulation.

Section 3. General Financial Requirements. (1) This administrative regulation and 401 KAR 35:090 to 35:130, inclusively, contain the financial requirements to establish adequate financial responsibility for interim status facilities as required by KRS 224.46-520(3) for hazardous waste sites or facilities. A reference to this section is a citation of this administrative regulation and 401 KAR 35:090 to 35:130.

(2) Except as specifically provided in this administrative regulation and 401 KAR 35:090 to 35:130, no variance (Section 2 of 401 KAR 30:020) or other waivers of these financial requirements shall be granted by the cabinet.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format

for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

## REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste interim status facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There are no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no extra paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of the regulation

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with federal standards, and clearly incorporate the forms necessary demonstrate financial assurance.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: Not

## ADMINISTRATIVE REGISTER - 703

applicable.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that overlap, duplicate, or conflict with this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? (Explain why tiering was or was not used): Yes, tiering was used. This administrative regulation applies to hazardous waste interim status facilities, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to all hazardous waste interim status facilities. These changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS Chapter 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste interim status facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies applicable to this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year

the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 35:090. Closure financial requirements (IS).

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265.142, 265.143

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish closure financial requirements for sites or facilities qualifying for interim status.

Section 1. Cost Estimate for Facility Closure. (1) The owner or operator shall have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in Sections 2 to 6 of 401 KAR 35:070 and applicable closure requirements of Section 5 of 401 KAR 35:190, Section 6 of 401 KAR 35:200, Section 7 of 401 KAR 35:210, Section 7 of 401 KAR 35:220, Section 4 of 401 KAR 35:230, Section 5 of 401 KAR 35:240, Section 3 of 401 KAR 35:245, Section 5 of 35:250, and Section 5 of 401 KAR 35:260, and Section 6 of 401 KAR 35:285.

(a) The estimate shall equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see Section 3(2) of 401 KAR 35:070); and

(b) The closure cost estimate shall be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator (see definition of parent corporation in Section 1 of 401 KAR 35:080). The owner or operator shall use costs for on-site disposal if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(c) The closure cost estimate shall not incorporate any salvage value that may be realized by the sale of hazardous wastes, or nonhazardous wastes if applicable under Section 4(4) of 401 KAR 35:070, facility structures or equipment, land, or other facility assets at the time of partial or final closures.

(d) The owner or operator shall not incorporate a zero cost for hazardous wastes, or nonhazardous wastes if applicable under Section 4(4) of 401 KAR 35:070, that might have economic value.

(2) During the active life of the facility, the owner or operator shall adjust the closure cost estimate for inflation within sixty (60) days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with Section 2 of this administrative regulation. For owners and operators using the financial test or corporate guarantee, the closure cost estimate shall be updated for inflation within thirty (30) days after the close of the firm's fiscal year and before submission of updated information to the cabinet as specified in Section 7(3) of this administrative regulation. The adjustment may be made by recalculating the closure cost estimate in current dollars, or by using an inflation factor derived from the most

recent Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its Survey of Current Business, as specified in paragraphs (a) and (b) of this subsection. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(a) The first adjustment shall be made by multiplying the closure cost estimate by the inflation factor. The result shall be the adjusted closure cost estimate.

(b) Subsequent adjustments shall be made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(3) During the active life of the facility, the owner or operator shall revise the closure cost estimate no later than thirty (30) days after a revision has been made to the closure plan which increases the cost of closure. If the owner or operator has an approved closure plan, the closure cost estimate shall be revised no later than thirty (30) days after the cabinet has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate shall be adjusted for inflation as specified in subsection (2) of this section.

(4) The owner or operator shall keep the following at the facility during the operating life of the facility:

(a) The latest closure cost estimate prepared in accordance with subsections (1) and (3) of this section; and

(b) When this estimate has been adjusted in accordance with subsection (2) of this section, the latest adjusted closure cost estimate.

Section 2. Financial Assurance for Facility Closure. An owner or operator of each facility shall establish financial assurance for closure of the facility. He shall choose from the options as specified in Sections 3 to 8 of this administrative regulation.

Section 3. Closure Trust Fund. (1) An owner or operator may satisfy the requirements of this administrative regulation by establishing a closure trust fund which conforms to the requirements of this section and submitting an originally signed duplicate of the trust agreement to the cabinet. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(2) The Trust Agreement for Closure and Postclosure Assurance, including the formal certification of acknowledgement, shall be executed on DEP Form 6035A ~~(the form)~~ incorporated by reference in Section 4 of 401 KAR 34:080. Schedule A of the Trust Agreement for Closure and Postclosure Assurance shall be updated within sixty (60) days after a change in the amount of the current closure cost estimate covered by the agreement.

(3) Payments to the trust fund shall be made annually by the owner or operator over twenty (20) years beginning with October 8, 1982, or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereinafter referred to as the "pay-in period." The payments into the closure trust fund shall be made as follows:

(a) The first payment shall be made by October 8, 1982, except as provided in subsection (5) of this section. The first payment shall be at least equal to the current closure cost estimate (see Section 1 of this administrative regulation), except as provided in Section 9 of this administrative regulation, divided by the number of years in the pay-in period.

(b) Subsequent payments shall be made no later than thirty (30) days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{NEXT payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

Where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the closure cost estimate at the time the fund is established. However, he shall maintain the value of the fund at no less than the value the fund would have been if annual payments were made as specified in subsection (3) of this section.

(5) If the owner or operator establishes a closure trust fund after having used one (1) or more alternate mechanisms specified in this administrative regulation, his first payment shall be at least the amount that the fund would have contained if the trust fund were established initially and annual payments made according to specifications of subsection (3) of this section.

(6) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within sixty (60) days of the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the cabinet for release of the amount in excess of the current closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this administrative regulation for all or part of the trust fund, he may submit a written request to the cabinet for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(9) Within sixty (60) days after receiving a request from the owner or operator for release of funds as specified in subsections (7) and (8) of this section, the cabinet will instruct the trustee to release to the owner or operator such funds as the cabinet specifies in writing.

(10) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the cabinet. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. No later than sixty (60) days after receiving bills for partial or final closure activities, the cabinet will instruct the trustees to make reimbursements in those amounts as the cabinet specifies in writing, if the cabinet determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the cabinet has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with Section 11 of this administrative regulation, that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the cabinet does not instruct the trustee to make such reimbursements, he shall provide to the owner or operator a detailed written statement of reasons.

(11) The cabinet shall agree to termination of the trust when:

(a) An owner or operator substitutes alternate financial assurance for closure as specified in this section; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 11 of this administrative regulation.

Section 4. Surety Bond Guaranteeing Payment into a Closure Trust Fund. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining a surety bond which conforms to the requirements of this section and submitting the bond to the cabinet. The surety company issuing the bond shall, at a

minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care [surety bond] shall be executed on DEP Form 6035B [the form] incorporated by reference in Section 4 of 401 KAR 34:080.

(3) The owner or operator who uses a Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care [surety bond] to satisfy the requirements of this administrative regulation shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder shall be deposited by the surety directly into the standby trust fund in accordance with instructions from the cabinet. This standby trust fund shall meet the requirements specified in Section 3 of this administrative regulation, except that:

(a) An originally signed duplicate of the trust agreement shall be submitted to the cabinet with the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care [surety bond]; and

(b) Until the standby trust fund is funded pursuant to the requirements of this administrative regulation, the following are not required by these administrative regulations:

1. Payments into the trust fund as specified in Section 3 of this administrative regulation;

2. Updating of Schedule A of the Trust Agreement for Closure and Postclosure Assurance to show current closure cost estimates;

3. Annual valuations as required by the Trust Agreement for Closure and Postclosure Assurance; and

4. Notices of nonpayment as required by the Trust Agreement for Closure and Postclosure Assurance.

(4) The bond shall guarantee that the owner or operator will:

(a) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(b) Fund the standby trust fund in an amount equal to the penal sum within fifteen (15) days after an order to begin final closure issued by the secretary becomes final, or within fifteen (15) days after an order to begin final closure is issued by a circuit court or other court of competent jurisdiction pursuant to KRS Chapter 224, or within fifteen (15) days after issuance of a notice of termination of the permit pursuant to 401 KAR Chapter 38; or

(c) Provide alternate financial assurance as specified in this administrative regulation and obtain the cabinet's written approval of the assurance provided, within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice of cancellation of the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care [bond] from the surety.

(5) Under the terms of the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care [bond], the surety shall become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond shall be in an amount at least equal to the amount of the current closure cost estimate, except as provided in Section 9 of this administrative regulation.

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the penal sum, the owner or operator within sixty (60) days after the increase, shall either cause the penal sum of the bond to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the cabinet.

(8) Under the terms of the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care [bond], the surety may cancel the bond by sending a notice of cancellation by certified mail to the owner or operator and to the cabinet. Cancellation shall not occur, however, during the 120 days beginning on the date of receipt of the

notice of cancellation by both the owner or operator and the cabinet, as evidenced by return receipt.

(9) The owner or operator may cancel the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care if the cabinet has given prior written consent. The cabinet shall provide such written consent when:

(a) An owner or operator substitutes alternate financial assurance for closure as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation [The owner or operator may cancel the bond if the cabinet has given prior written consent based on the cabinet's receipt of evidence of alternate financial assurance as specified in this administrative regulation.]

Section 5. Closure Letter of Credit. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining an irrevocable standby letter of credit which conforms to the requirements of this section and by submitting the letter to the cabinet. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(2) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit] shall be executed on DEP Form 6035D [the form] incorporated by reference in Section 4 of 401 KAR 34:080. The owner or operator may use his own document, provided the language is identical to that specified in DEP Form 6035D. However, the Trust Agreement for Closure and Postclosure Assurance [The Trust Agreement] required to be filed with the letter of credit shall be executed on DEP Form 6035A [the form] incorporated by reference in Section 4 of 401 KAR 34:080.

(3) An owner or operator who uses the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [a letter of credit] to satisfy the requirements of this administrative regulation shall also establish a standby trust fund. Under the terms of the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit], all amounts paid pursuant to a draft by the cabinet shall be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the cabinet. This standby trust fund shall meet the requirements of the trust fund specified in Section 3 of this administrative regulation, except that:

(a) An originally signed duplicate of the Trust Agreement for Closure and Postclosure Assurance shall be submitted to the cabinet with the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit]; and

(b) Unless the standby trust fund is funded pursuant to the requirements of this administrative regulation, the following are not required by these administrative regulations:

1. Payments into the trust fund as specified in Section 3 of this administrative regulation;

2. Updating the Schedule A of the Trust Agreement for Closure and Postclosure Assurance to show current closure cost estimates;

3. Annual valuations as required by the Trust Agreement for Closure and Postclosure Assurance; and

4. Notices of nonpayment as required by the Trust Agreement for Closure and Postclosure Assurance.

(4) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit] shall be accompanied by a letter from the owner or operator referring to the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit] by number, issuing institution, and date, and providing the following information: the EPA identification number, name, and address of the facility, and the amounts of funds assured for closure of the facility by the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit].

(5) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit] shall be irrevocable and issued for

a period of at least one (1) year. The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ shall provide that the expiration date will be automatically extended for a period of at least one (1) year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the cabinet by certified mail of a decision not to extend the expiration date. Under the terms of the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~, the 120 days shall begin on the date when both the owner or operator and the cabinet have received the notice, as evidenced by the return receipts.

(6) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ shall be issued for at least the amount of the current closure cost estimate except as provided in Section 9 of this administrative regulation.

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within sixty (60) days of the increase, shall either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the adjusted closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the cabinet.

(8) Following a final administrative determination pursuant to KRS 224.10-100 that the owner or operator has failed to perform final closure in accordance with the approved closure plan when required to do so, the cabinet may draw on the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~.

(9) If the owner or operator does not establish alternate financial assurance as specified in this administrative regulation and obtain written approval of such alternate assurance from the cabinet within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the cabinet shall draw on the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~. The cabinet may delay the drawing if the issuing institution grants an extension of the term of credit. During the last thirty (30) days of any such extension, the cabinet shall draw on the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ if the owner or operator has failed to provide alternate financial assurance as specified in this administrative regulation and obtain written approval of such assurance from the cabinet.

(10) The cabinet shall return the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter of credit]~~ to the issuing institution for termination when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 11 of this administrative regulation.

Section 6. Closure Insurance. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining closure insurance which conforms to the requirements of this section and by submitting a certificate of such insurance to the cabinet. By October 8, 1982, the owner or operator shall submit to the cabinet a letter from the insurer stating that the insurer is considering issuance of closure insurance conforming to the requirements of this section to the owner or operator. By January 8, 1983, the owner or operator shall submit the certificate of insurance to the cabinet or establish other financial assurance as specified in this administrative regulation. Each insurance policy providing primary coverage shall be issued by an insurer who is authorized to transact insurance in Kentucky except as KRS 304.11-030 provides otherwise. Each insurance policy

providing excess coverage shall be issued by an insurer who is licensed to transact insurance in a state.

(2) The Certificate of Insurance for Closure or Postclosure Care shall be executed on DEP Form 6035E ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080.

(3) The closure insurance policy shall be issued for a face amount at least equal to the current closure cost estimate, except as provided in Section 9 of this administrative regulation. ~~[The term "face amount" means the total amount the insurer is obligated to pay under the policy.]~~ Actual payments by the insurer shall not change the face amount, although the insurer's future liability shall be lowered by the amount of the payments.

(4) The closure insurance policy shall guarantee that funds will be available to close a facility whenever final closure occurs. The policy shall also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the cabinet to such party or parties as the cabinet specifies.

(5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursement for closure expenditures by submitting itemized bills to the cabinet. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within sixty (60) days after receiving bills for closure activities, the cabinet shall instruct the insurer to make reimbursements in such amounts as the cabinet specifies in writing if the cabinet determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the cabinet has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with Section 11 of this administrative regulation, that the owner or operator is no longer required to maintain financial assurance for final closure of the particular facility. If the cabinet does not instruct the insurer to make such reimbursements, he shall provide to the owner or operator a detailed written statement of reasons.

(6) The owner or operator shall maintain the policy in effect until the cabinet consents to termination of the policy by the owner or operator as specified in subsection (10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this administrative regulation, shall constitute a significant violation of these administrative regulations, warranting such remedy as the cabinet deems necessary. Such violation will be deemed to begin upon receipt by the cabinet of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer provided such consent is not unreasonably refused.

(8) The policy shall provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the cabinet. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the cabinet and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy shall remain in effect in the event that on or before the date of expiration:

(a) The cabinet deems the facility abandoned; or

(b) Interim status is terminated or revoked; or

## ADMINISTRATIVE REGISTER - 707

(c) Closure is ordered by the cabinet or a circuit court or other court of competent jurisdiction; or

(d) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(e) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within sixty (60) days of the increase, shall either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the cabinet.

(10) The cabinet shall give written consent to the owner or operator that he may terminate the insurance policy when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 11 of this administrative regulation.

### Section 7. Financial Test and Corporate Guarantee for Closure.

(1) An owner or operator may satisfy the requirements of this administrative regulation by demonstrating that he passes a financial test as specified in this section. To pass this test the owner or operator shall meet the criteria of either paragraph of this subsection:

(a) The owner or operator shall have:

1. Two (2) of the following three (3) ratios: a ratio of total liabilities to net worth less than two (2.0); a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than one-tenth (0.1); and a ratio of current assets to current liabilities greater than one and five-tenths (1.5); and

2. Net working capital and tangible net worth each at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

3. Tangible net worth of at least \$10 million; and

4. Assets located in the United States amounting to at least ninety (90) percent of total assets or at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(b) The owner or operator shall have:

1. A current rating for his most recent bond issuance of AAA, AA, A or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

2. Tangible net worth at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

3. Tangible net worth of at least \$10 million; and

4. Assets located in the United States amounting to at least ninety (90) percent of his total assets or at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and postclosure cost estimates" as used in subsection (1) of this section refers to the cost estimates required to be shown in subparagraphs 1 to 4 of the letter from the owner's or operator's chief financial officer. The phrase "current plugging and abandonment cost estimates" as used in subsection (1) of this section refers to the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's and operator's chief financial officer (see 40 CFR 144.0(f)).

(3) To demonstrate that he meets this test, the owner or operator shall submit the following three (3) items to the cabinet:

(a) A Letter from Chief Financial Officer executed on DEP Form 6035F or DEP Form 6035G ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080, signed by the owner's or operator's

chief financial officer; and

(b) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(c) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

1. He has compared the data which the Letter from ~~the~~ Chief Financial Officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

2. In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in subsection (3) of this section if the fiscal year of the owner or operator ends during the ninety (90) days prior to October 8, 1982 and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension shall end no later than ninety (90) days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer shall send, by October 8, 1982, a letter to the cabinet. This letter from the chief financial officer shall:

(a) Request the extension;

(b) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(c) Specify for each facility to be covered by the test the EPA identification number, name, address and current closure and postclosure estimates to be covered by the test;

(d) Specify the date ending the owner's or operator's last complete fiscal year before October 8, 1982;

(e) Specify the date, no later than ninety (90) days after the end of such fiscal year, when he will submit the documents specified in subsection (3) of this section; and

(f) Certify that the year-end financial statements of the owner or operator for such fiscal year will be submitted by an independent certified accountant.

(5) After the initial submission of items specified in subsection (3) of this section, the owner or operator shall send updated information to the cabinet within ninety (90) days after the close of each succeeding fiscal year. This information shall consist of all three (3) items specified in subsection (3) of this section.

(6) If the owner or operator no longer meets the requirements of subsection (1) of this section, he shall send notice to the cabinet of intent to establish alternate financial assurance as specified in this administrative regulation. The notice shall be sent by certified mail within ninety (90) days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator shall provide alternate financial assurance within 120 days after the end of such fiscal year.

(7) The cabinet may, based on a reasonable belief that the owner or operator may no longer meet the requirements of subsection (1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in subsection (3) of this section. If the cabinet finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of subsection (1) of this section, the owner or operator shall provide alternate financial assurance as specified in this administrative regulation within thirty (30) days after notification of such a finding.

(8) The cabinet may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see subsection (3)(c) of this section). An adverse opinion or a disclaimer of opinion shall be cause for disallowance. The cabinet shall evaluate other qualifications on an individual basis. The owner or operator shall provide alternate



financial assurance as specified in this administrative regulation within thirty (30) days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in subsection (3) of this section when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation;

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation by terminating the financial requirements in accordance with Section 11 of this administrative regulation.

(10) An owner or operator may meet the requirements of this administrative regulation by obtaining a written guarantee[~~hereafter referred to as the "corporate guarantee"~~]. The guarantor shall be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" as defined in Section 1 of 401 KAR 35:005 [000] with the owner or operator. The guarantor shall meet the requirements for owners or operators in subsections (1) through [te] (8) of this section and shall comply with the terms of the corporate guarantee. The Corporate Guarantee for Closure or Postclosure Care shall be executed on DEP Form 6035H1 [the form] incorporated by reference in Section 4 of 401 KAR 34:080. A certified copy of the Corporate Guarantee for Closure and Postclosure Care [The corporate guarantee] shall accompany the items sent to the cabinet as specified in subsection (3) of this section. One (1) of the items shall be the Letter from [the guarantor's] Chief Financial Officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the Letter from Chief Financial Officer shall describe the value received in consideration of the guarantee. If the guarantor is a firm with a substantial business relationship with the owner or operator, this Letter from Chief Financial Officer shall describe this substantial business relationship and the value received in consideration of the guarantee. The terms of the corporate guarantee shall provide that:

(a) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plans and other interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in Section 3 of this administrative regulation in the name of the owner or operator.

(b) The corporate guarantee shall remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the cabinet. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by the return receipts.

(c) If the owner or operator fails to provide alternate financial assurance as specified in this administrative regulation and obtain the written approval of such alternate assurance from the cabinet within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor shall provide such alternate financial assurance in the name of the owner or operator.

Section 8. Cash Account and Certificates of Deposit. (1) An owner or operator may satisfy the requirements of this administrative regulation by submitting to the cabinet a bond guaranteeing compliance with KRS Chapter 224 and administrative regulations promulgated pursuant thereto. The bond shall be supported by a cash account or certificate(s) of deposit. The cash account or the certificate(s) of deposit shall be held in escrow pursuant to an escrow agreement. The bank or financial institution holding the cash account or certificate(s) of deposit in escrow shall be regulated and examined by a federal or state agency.

(2) The Hazardous Waste Site of Facility Bond to Demonstrate Closure and/or Postclosure Care [bond] shall be executed on DEP Form 60351 [the form] incorporated by reference in Section 4 of 401

KAR 34:080. The Escrow Agreement to Demonstrate Closure and/or Postclosure Care for the cash account or certificate(s) of deposit shall be executed on DEP Form 6035J [the form] incorporated by reference in Section 4 of 401 KAR 34:080.

(3) The cabinet shall be the beneficiary of the Escrow Agreement to Demonstrate Closure and/or Postclosure Care for the cash account or certificate(s) of deposit. The cabinet shall be empowered to draw upon the funds if the owner or operator fails to perform closure or postclosure care in accordance with the closure plan and other permit requirements.

(4) The sum of the cash account or certificate(s) of deposit shall be in an amount at least equal to the amount of the current closure cost estimate, except as provided in Section 9 of this administrative regulation.

(5) After each interest period is completed, whenever the current closure cost estimate changes, the owner or operator shall compare the new estimate with the trustee's most recent annual evaluation of the cash accounts or the certificate(s) of deposit. If the value of the cash accounts or the certificate(s) of deposit is less than the amount of the new estimate, the owner or operator, within sixty (60) days of the change in the cost estimate, shall either deposit an amount into the cash account or the certificate(s) of deposit so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(6) If the value of the cash account or the certificate(s) of deposit is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the cabinet for release of the amount in excess of the current closure cost estimate.

(7) Under the terms of the cash account or certificate(s) of deposit, the bank or financial institution may cancel the cash account or certificate(s) of deposit by sending a notice of cancellation by certified mail to the owner or operator and to the cabinet. Cancellation shall not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by return receipt.

(8) The cabinet shall agree to termination of the cash account or certificate of deposit when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 11 of this administrative regulation. [The owner or operator may terminate the cash account or certificate(s) of deposit if the cabinet has given prior written consent based on the cabinet's receipt of evidence of alternate financial assurance as specified in this administrative regulation.]

(9) After beginning final closure, an owner or operator or any other person authorized to perform closure may request reimbursement for closure expenditures by submitting itemized bills to the cabinet. Within sixty (60) days after receiving bills for closure activities, the cabinet shall determine whether the closure expenditures are in accordance with the closure plan or otherwise justified, and if so, the cabinet shall instruct the trustee to make reimbursement in such amounts as the cabinet specifies in writing. If the cabinet has reason to believe that the cost of closure will be significantly greater than the value of the trust fund, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with Section 11 of this administrative regulation, that the owner or operator is no longer required to maintain financial assurance for closure.

Section 9. Use of Multiple Financial Mechanisms. An owner or operator may satisfy the requirements of this administrative regulation by establishing more than one (1) financial mechanism per facility. These mechanisms shall be limited to trust funds, surety bonds, letters of credit, insurance, certificate(s) of deposit and cash accounts.



## ADMINISTRATIVE REGISTER - 709

The mechanisms shall be as specified in Sections 3, 4, 5, 6, and 8, respectively, of this administrative regulation, except that it is the combination of mechanisms rather than each single mechanism which shall provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for other mechanisms. A single standby trust fund may be established for two (2) or more mechanisms. The cabinet may use any or all of the mechanisms to provide for closure of the facility.

**Section 10. Use of a Financial Mechanism for Multiple Facilities.** An owner or operator may use a financial assurance mechanism specified in this administrative regulation to meet the requirements of this administrative regulation for more than one (1) facility. Evidence of financial assurance submitted to the cabinet shall include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the cabinet may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

**Section 11. Release of the Owner or Operator from the Requirements of this administrative regulation.** Within sixty (60) days after approving certifications from the owner or operator and an engineer that final closure has been completed in accordance with the approved closure plan, the cabinet shall notify the owner or operator in writing that he is no longer required by this administrative regulation to maintain financial assurance for final closure of the facility, unless the cabinet has reason to believe that final closure has not been in accordance with the approved closure plan. The cabinet shall provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

**PUBLIC HEARING:** A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in

employment or the provision of services. upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

**CONTACT PERSON:** James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

## REGULATORY IMPACT ANALYSIS

**CONTACT PERSON:** James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of all hazardous waste interim status facilities who must submit closure financial assurance.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First year: There will be no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with federal standards, and clarify the procedure for demonstrating closure financial assurance.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: There are no effects on public health or environmental welfare with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: There are no detrimental effects.

## ADMINISTRATIVE REGISTER - 710

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? (Explain why tiering was or was not used): Yes, tiering was used. This administrative regulation applies to hazardous waste interim status facilities, consistent with federal standards, to protect the environment and human health. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to closure financial requirements for hazardous waste interim status facilities. These changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of the standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS Chapter 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste interim status facilities which must submit closure financial assurance.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of

the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 35:100. Postclosure financial requirements (IS).

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265.144, 265.145

STATUTORY AUTHORITY: KRS 224.46-505, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-505 and 224.46-520 relative to postclosure financial requirements for hazardous waste sites or facilities qualifying for interim status.

Section 1. Cost Estimate for Facility Postclosure Care. (1) The owner or operator of a hazardous waste disposal unit shall have a detailed written estimate, in current dollars, of the annual cost of postclosure monitoring and maintenance of the facility in accordance with the applicable postclosure administrative regulations in Sections 8 to 11 of 401 KAR 35:070, Section 6 of 401 KAR 35:200, Section 7 of 401 KAR 35:210, Section 7 of 401 KAR 35:220, and Section 4 of 401 KAR 35:230.

(a) The postclosure cost estimate shall be based on the costs to the owner or operator of hiring a third party to conduct postclosure care activities. A third party is a party who is neither a parent nor subsidiary of the owner or operator (see definition of parent corporation in Section 1(1)(e)] of 401 KAR 35:080.

(b) The postclosure cost estimate shall be calculated by multiplying the annual postclosure cost estimate by the number of years of postclosure care required under Section 8 of 401 KAR 35:070.

(2) During the active life of the facility, the owner or operator shall adjust the postclosure cost estimate for inflation within sixty (60) days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with Sections 2 to 11 of this administrative regulation. For owners or operators using the financial test or corporate guarantee, the postclosure care cost estimate shall be updated for inflation no later than thirty (30) days after the close of the firm's fiscal year and before submission of updated information to the cabinet as specified in Section 6(5) of this administrative regulation. The adjustment may be made by recalculating the postclosure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business as specified in paragraphs (a) and (b) of this subsection. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(a) The first adjustment is made by multiplying the postclosure cost estimate by the inflation factor. The result is the adjusted postclosure cost estimate.

(b) Subsequent adjustments are made by multiplying the latest adjusted postclosure cost estimate by the latest inflation factor.

(3) During the active life of the facility, the owner or operator shall revise the postclosure cost estimate no later than thirty (30) days after a revision the postclosure plan which increases the cost of postclo-

sure care. If the owner or operator has an approved postclosure plan, the postclosure cost estimate shall be revised no later than thirty (30) days after the cabinet has approved the request to modify the plan, if the change in the postclosure plan increases the cost of postclosure care. The revised postclosure cost estimate shall be adjusted for inflation as specified in subsection (2) of this section.

(4) The owner or operator shall keep the following at the facility during the operating life of the facility: The latest postclosure cost estimate prepared in accordance with subsections (1) and (3) of this section and, when this estimate has been adjusted in accordance with subsection (2) of this section, the latest adjusted postclosure cost estimate.

Section 2. Financial Assurance for Postclosure Care. An owner or operator of a facility with a hazardous waste disposal unit shall establish financial assurance for postclosure care of the disposal unit(s). Financial assurance shall be established as specified in Sections 3 to 8 of this administrative regulation.

Section 3. Postclosure Trust Fund. (1) An owner or operator may satisfy the requirements of this administrative regulation by establishing a postclosure trust fund which conforms to the requirements of this section and by submitting an originally signed duplicate of the trust agreement to the cabinet. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(2) The Trust Agreement for Closure and Postclosure Assurance shall be executed on DEP Form 6035A ~~(the form)~~ incorporated by reference in Section 4 of 401 KAR 34:080. The trust agreement shall be accompanied by a formal certification of acknowledgment. Schedule A of the Trust Agreement for Closure and Postclosure Assurance shall be updated within sixty (60) days after a change in the amount of the current postclosure cost estimate covered by the agreement.

(3) Payments to the trust fund shall be made annually by the owner or operator over the twenty (20) year period beginning with October 8, 1982, or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the postclosure trust fund shall be made as follows:

(a) The first payment shall be made by October 8, 1982, except as provided in subsection (5) of this section. The first payment shall be at least equal to the current postclosure cost estimate, except as provided in Section 9 of this administrative regulation, divided by the number of years in the pay-in period.

(b) Subsequent payments shall be made no later than thirty (30) days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by this formula:

$$\text{NEXT payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

Where CE is the current postclosure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current postclosure cost estimate at the time the fund is established. However, he shall maintain the value of the fund at no less than the value that the fund would have been if annual payments were made as specified in subsection (3) of this section.

(5) If the owner or operator establishes a postclosure trust fund after having used one (1) or more alternate mechanisms specified in this administrative regulation, his first payment shall be at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of

subsection (3) of this section.

(6) After the pay-in period is completed, whenever the current postclosure cost estimate changes during the operating life of the facility, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within sixty (60) days after the change in the cost estimate, shall either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current postclosure cost estimate, or obtain other financial assurance as specified in this administrative regulation to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current postclosure cost estimate, the owner or operator may submit a written request to the cabinet for release of the amount in excess of the current postclosure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this administrative regulation for all or part of the trust fund, he may submit a written request to the cabinet for release of the amount in excess of the current postclosure cost estimate covered by the trust fund.

(9) Within sixty (60) days after receiving a request from the owner or operator for release of funds as specified in subsections (7) and (8) of this section, the cabinet shall instruct the trustee to release to the owner or operator such funds as the cabinet specifies in writing.

(10) During the period of postclosure care, the cabinet may approve a release of funds if the owner or operator demonstrates to the cabinet that the value of the trust fund exceeds the remaining cost of postclosure care.

(11) An owner or operator or any other person authorized to conduct postclosure care may request reimbursements for postclosure expenditures by submitting itemized bills to the cabinet. Within sixty (60) days after receiving bills for postclosure care activities, the cabinet shall instruct the trustee to make reimbursement in those amounts as the cabinet specifies in writing, if the cabinet determines that the postclosure expenditures are in accordance with the approved postclosure plan or otherwise justified. If the cabinet does not instruct the trustee to make such reimbursements, he shall provide the owner or operator with a detailed written statement of reasons.

(12) The cabinet shall agree to termination of the trust when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 11 of this administrative regulation.

Section 4. Surety Bond Guaranteeing Payment Into a Postclosure Trust Fund. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining a surety bond which conforms to the requirements of this section and submitting the bond to the cabinet. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care ~~[surety bond]~~ shall be executed on DEP Form 6035B ~~(the form)~~ incorporated by reference in Section 4 of 401 KAR 34:080.

(3) The owner or operator who uses a surety bond to satisfy the requirements of this administrative regulation shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder shall be deposited by the surety directly into the standby trust fund in accordance with instructions from the cabinet. This standby trust fund shall meet the requirements specified in Section 3 of this administrative regulation, except that:

(a) An originally signed duplicate of the Trust Agreement for Closure and Postclosure Assurance shall be submitted to the cabinet

with the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care ~~[surety bond]~~; and

(b) Until the standby trust fund is funded pursuant to the requirements of this administrative regulation, the following are not required by these administrative regulations:

1. Payments into the trust fund as specified in Section 3 of this administrative regulation;

2. Updating of Schedule A of the Trust Agreement for Closure and Postclosure Assurance to show current postclosure cost estimates;

3. Annual valuations as required by the Trust Agreement for Closure and Postclosure Assurance; and

4. Notices of nonpayment as required by the Trust Agreement for Closure and Postclosure Assurance.

(4) The bond shall guarantee that the owner or operator will:

(a) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(b) Fund the standby trust fund in an amount equal to the penal sum within fifteen (15) days after an order to begin final closure issued by the secretary becomes final, or within fifteen (15) days after an order to begin final closure is issued by a circuit court or other court of competent jurisdiction; or

(c) Provide alternate financial assurance as specified in this administrative regulation, and obtain the cabinet's written approval of the assurance provided, within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety shall become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond shall be in an amount at least equal to the amount of the current postclosure cost estimate, except as provided in Section 9 of this administrative regulation.

(7) Whenever the current postclosure cost estimate increases to an amount greater than the penal sum, the owner or operator, within sixty (60) days after the increase, shall either cause the penal sum to be increased to an amount at least equal to the current postclosure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the current postclosure cost estimate decreases, the penal sum may be reduced to the amount of the current postclosure cost estimate following written approval by the cabinet.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to both the owner or operator and to the cabinet. Cancellation shall not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by return receipt.

(9) The owner or operator may cancel the Financial Guarantee Bond to Demonstrate Closure and/or Postclosure Care if the cabinet has given prior written consent. The cabinet shall provide such written consent when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 12 of this administrative regulation. [The owner or operator may cancel the bond if the cabinet has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this administrative regulation.]

Section 5. Postclosure Letter of Credit. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining an irrevocable standby letter of credit which conforms to the requirements of this section and by submitting the letter to the

cabinet. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(2) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit] shall be executed on DEP Form 6035D [the form] incorporated by reference in Section 4 of 401 KAR 34:080. The owner or operator may use his own document, provided the language is identical to that specified in DEP Form 6035D. However, the Trust Agreement for Closure and Postclosure Assurance required to be filed with the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit] shall be executed on the form incorporated by reference in Section 4 of 401 KAR 34:080.

(3) An owner or operator who uses a Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit] to satisfy the requirements of this administrative regulation shall also establish a standby trust fund. Under the terms of the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit], all amounts paid pursuant to a draft by the cabinet shall be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the cabinet. This standby trust fund shall meet the requirements of the trust fund specified in Section 3 of this administrative regulation, except that:

(a) An originally signed duplicate of the Trust Agreement for Closure and Postclosure Assurance shall be submitted to the cabinet with the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit]; and

(b) Unless the standby trust fund is funded pursuant to the requirements of this administrative regulation, the following are not required by these administrative regulations:

1. Payments into the trust fund as specified in Section 3 of this administrative regulation;

2. Updating the Schedule A of the Trust Agreement for Closure and Postclosure Assurance to show current postclosure cost estimates;

3. Annual valuations as required by the Trust Agreement for Closure and Postclosure Assurance; and

4. Notices of nonpayment as required by the Trust Agreement for Closure and Postclosure Assurance.

(4) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit] shall be accompanied by a letter from the owner or operator referring to the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit] by number, issuing institution, and date, and providing the following information: the EPA identification number, name, and address of the facility, and the amount of funds assured for postclosure care of the facility by the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit].

(5) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit] shall be irrevocable and issued for a period of at least one (1) year. The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit] shall provide that the expiration date will be automatically extended for a period of at least one (1) year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the cabinet by certified mail of a decision not to extend the expiration date. Under the terms of the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit], the 120 days will begin on the date when both the owner or operator and the cabinet have received the notice, as evidenced by the return receipts.

(6) The Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care [letter of credit] shall be issued in an amount at least equal to the current postclosure cost estimate, except as provided in Section 9 of this administrative regulation.

(7) Whenever the current postclosure cost estimate increases to an amount greater than the amount of the credit during the operating

life of the facility, the owner or operator, within sixty (60) days after the increase, shall either cause the amount of the credit to be increased so that it at least equals the current postclosure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the current postclosure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current postclosure cost estimate following written approval by the cabinet.

(8) During the period of postclosure care, the cabinet may approve a decrease in the amount of the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ if the owner or operator demonstrates to the cabinet that the amount exceeds the remaining cost of postclosure care.

(9) Following a final administrative determination pursuant to KRS 224.46-520 that the owner or operator has failed to perform postclosure care in accordance with the approved postclosure plan and other permit requirements, the cabinet may draw on the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~.

(10) If the owner or operator does not establish alternate financial assurance as specified in this administrative regulation and obtain written approval of such alternate assurance from the cabinet within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice from the issuing institution that it has decided not to extend the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ beyond the current expiration date, the cabinet shall draw on the letter of credit. The cabinet may delay the drawing if the issuing institution grants an extension of the term of credit. During the last thirty (30) days of any such extension, the cabinet shall draw on the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ if the owner or operator has failed to provide alternate financial assurance as specified in this administrative regulation and obtain written approval of such financial assurance from the cabinet.

(11) The cabinet shall return the Irrevocable Standby Letter of Credit for Closure and/or Postclosure Care ~~[letter-of-credit]~~ to the issuing institution for termination when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 11 of this administrative regulation.

Section 6. Postclosure Insurance. (1) An owner or operator may satisfy the requirements of this administrative regulation by obtaining postclosure insurance which conforms to the requirements of this section and submitting a certificate of such insurance to the cabinet. By October 8, 1982, the owner or operator shall submit to the cabinet a letter from an insurer stating that the insurer is considering issuance of postclosure insurance conforming to the requirements of this section to the owner or operator. By January 8, 1983, the owner or operator shall submit the certificate of insurance to the cabinet or establish other financial assurance as specified in this administrative regulation. Each insurance policy providing primary coverage shall be issued by an insurer who is authorized to transact insurance in Kentucky except as KRS 304.11-030 provides otherwise. Each insurance policy providing excess coverage shall be issued by an insurer who is authorized to transact insurance in a state.

(2) The Certificate of Insurance for Closure or Postclosure Care shall be executed on DEP Form 6035E ~~(the form)~~ incorporated by reference in Section 4 of 401 KAR 34:080.

(3) The postclosure insurance policy shall be issued for a face amount at least equal to the current postclosure cost estimate, except as provided in Section 9 of this administrative regulation. ~~[The term "face amount" means the total amount the insurer is obligated to pay under the policy.]~~ Actual payments by the insurer shall not change the

face amount, although the insurer's future liability shall be lowered by the amount of the payments.

(4) The postclosure insurance policy shall guarantee that funds will be available to provide postclosure care of the facility whenever the postclosure care period begins. The policy shall also guarantee that once postclosure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the cabinet to such party or parties as the cabinet specifies.

(5) An owner or operator or any other person authorized to perform postclosure care may request reimbursement for postclosure expenditures by submitting itemized bills to the cabinet. Within sixty (60) days after receiving bills for postclosure care activities, the cabinet shall instruct the insurer to make reimbursements in such amounts as the cabinet specifies in writing, if the cabinet determines that the postclosure expenditures are in accordance with the approved postclosure plan or otherwise justified. If the cabinet does not instruct the insurer to make such reimbursements, he shall provide the owner or operator with a detailed written statement of reasons.

(6) The owner or operator shall maintain the policy in effect until the cabinet consents to termination of the policy by the owner or operator as specified in subsection (11) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this administrative regulation, shall constitute a significant violation of these administrative regulations, warranting such remedy as the cabinet deems necessary. Such violation shall be deemed to begin upon receipt by the cabinet of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer provided such consent is not unreasonably refused.

(8) The policy shall provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the cabinet. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by the cabinet and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in effect in the event that on or before the date of expiration:

(a) The cabinet deems the facility abandoned; or

(b) Interim status is terminated or revoked; or

(c) Closure is ordered by the cabinet or a circuit court or other court of competent jurisdiction; or

(d) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(e) The premium due is paid.

(9) Whenever the current postclosure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within sixty (60) days after the increase, shall either cause the face amount to be increased to an amount at least equal to the current postclosure cost estimate and submit evidence of such increase to the cabinet, or obtain other financial assurance as specified in this administrative regulation to cover the increase. Whenever the current postclosure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current postclosure cost estimate following written approval by the cabinet.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer shall thereafter annually

increase the face amount of the policy. Such increase shall be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to eighty-five (85) percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for twenty-six (26) week Treasury securities.

(11) The cabinet shall give written consent to the owner or operator that he may terminate the insurance policy when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements in accordance with Section 11 of this administrative regulation.

Section 7. Financial Test with Corporate Guarantee for Postclosure Care. (1) An owner or operator may satisfy the requirements of this administrative regulation by demonstrating that he passes a financial test as specified in this section. To pass this test the owner or operator shall meet the criteria of either paragraph (a) or (b) of this subsection:

(a) The owner or operator shall have:

1. Two (2) of the following three (3) ratios: a ratio of total liabilities to net worth less than two (2.0); a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than one-tenth (0.1); and a ratio of current assets to current liabilities greater than one and five-tenths (1.5); and

2. Net working capital and tangible net worth each at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

3. Tangible net worth of at least \$10 million; and

4. Assets in the United States amounting to at least ninety (90) percent of his total assets or at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(b) The owner or operator shall have:

1. A current rating for his most recent bond issuance of AAA, AA, A or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

2. Tangible net worth at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

3. Tangible net worth of at least \$10 million; and

4. Assets located in the United States amounting to at least ninety (90) percent of his total assets or at least six (6) times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and postclosure cost estimates" as used in subsection (1) of this section refers to the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer. The phrase "current plugging and abandonment cost estimates" as used in subsection (1) of this section refers to the cost estimates required to be shown in paragraphs 1 to 4 of the letter from the owner's or operator's chief financial officer (see 40 CFR 144.70(f)).

(3) To demonstrate that he meets this test, the owner or operator shall submit the following three (3) items to the cabinet:

(a) A Letter from Chief Financial Officer executed on DEP Form 6035F or DEP Form 6035G (the form) incorporated by reference in Section 4 of 401 KAR 34:080, signed by the owner's or operator's chief financial officer; and

(b) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(c) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

1. He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year

with the amounts in such financial statements; and

2. In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in subsection (3) of this section if the fiscal year of the owner or operator ends during the ninety (90) days prior to October 8, 1982 and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than ninety (90) days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer shall send, by October 8, 1982, a letter to the cabinet. This letter from the chief financial officer shall:

(a) Request the extension;

(b) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(c) Specify for each facility to be covered by the test the EPA identification number, name, address, and the current closure and postclosure cost estimates to be covered by the test;

(d) Specify the date ending the owner's or operator's latest complete fiscal year before October 8, 1982;

(e) Specify the date, no later than ninety (90) days after the end of such fiscal year, when he will submit the documents specified in subsection (3) of this section; and

(f) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in subsection (3) of this section, the owner or operator shall send updated information to the cabinet within ninety (90) days after the close of each succeeding fiscal year. This information shall consist of all three (3) items specified in subsection (3) of this section.

(6) If the owner or operator no longer meets the requirements of subsection (1) of this section, he shall send notice to the cabinet of intent to establish alternate financial assurance as specified in this administrative regulation. The notice shall be sent by certified mail within ninety (90) days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator shall provide alternate financial assurance within 120 days after the end of such fiscal year.

(7) The cabinet may, based on a reasonable belief that the owner or operator may no longer meet the requirements of subsection (1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in subsection (3) of this section. If the cabinet finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of subsection (1) of this section, the owner or operator shall provide alternate financial assurance as specified in this administrative regulation within thirty (30) days after notification of such a finding.

(8) The cabinet may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see subsection (3) of this section). An adverse opinion or a disclaimer of opinion shall be cause for disallowance. The cabinet shall evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this administrative regulation within thirty (30) days after notification of the disallowance.

(9) During the period of postclosure care, the cabinet may approve a decrease in the current postclosure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the cabinet that the amount of the cost estimate exceeds the remaining cost of postclosure care.

(10) The owner or operator is no longer required to submit the items specified in subsection (3) of this section when:



(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation by terminating the financial requirements in accordance with Section 11 of this administrative regulation.

(11) An owner or operator may meet the requirements of this administrative regulation by obtaining a written guarantee ~~hereafter referred to as "corporate guarantee"~~. The guarantor shall be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" ~~as defined in Section 1 of 401 KAR 35:080~~ with the owner or operator. The guarantor shall meet the requirements for owners or operators in subsections (1) ~~through~~ (9) of this section and shall comply with the terms of the corporate guarantee. The Corporate Guarantee for Closure or Postclosure Care shall be executed on DEP Form 6035H1 ~~(the form)~~ incorporated by reference in Section 4 of 401 KAR 34:080. A certified copy of the ~~corporate~~ guarantee shall accompany the items sent to the cabinet as specified in subsection (3) of this section. One (1) of these items shall be the Letter from Chief Financial Officer executed on DEP Form 6035F ~~(the guarantor's chief financial officer)~~. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter shall describe the value received in consideration of the guarantee. If the guarantor is a firm with a substantial business relationship with the owner or operator, this letter shall describe this substantial business relationship and the value received in consideration of the guarantee. The terms of the corporate guarantee shall provide that:

(a) If the owner or operator fails to perform postclosure care of a facility covered by the corporate guarantee in accordance with the postclosure plan and other interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in Section 3 of this administrative regulation in the name of the owner or operator.

(b) The corporate guarantee shall remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the cabinet. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by the return receipts.

(c) If the owner or operator fails to provide alternate financial assurance as specified in this administrative regulation and obtain the written approval of such alternate assurance from the cabinet within ninety (90) days after receipt by both the owner or operator and the cabinet of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor shall provide such alternate financial assurance in the name of the owner or operator.

Section 8. Cash Account and Certificates of Deposit. (1) An owner or operator shall satisfy the requirements of this administrative regulation by submitting to the cabinet a bond guaranteeing compliance with KRS Chapter 224 and administrative regulations promulgated pursuant thereto. The bond shall be supported by a cash account or certificate(s) of deposit. The cash account or the certificate(s) of deposit shall be held in escrow pursuant to an escrow agreement. The bank or other financial institution holding the cash account or certificate(s) of deposit in escrow shall be regulated and examined by a federal or state agency.

(2) The Hazardous Waste Site or Facility Bond to Demonstrate Closure and/or Postclosure Care ~~bond~~ shall be executed on DEP Form 6035I ~~(the form)~~ incorporated by reference in Section 4 ~~[44]~~ of 401 KAR 34:080. The Escrow Agreement to Demonstrate Closure and/or Postclosure Care for the cash account or certificate(s) of deposit shall be executed on DEP Form 6035J ~~(the form)~~ incorporated by reference in Section 4 ~~[44]~~ of 401 KAR 34:080.

(3) The cabinet shall be the beneficiary of the Escrow Agreement

to Demonstrate Closure and/or Postclosure Care for the cash account or certificate(s) of deposit. The cabinet shall be empowered to draw upon the funds if the owner or operator fails to perform postclosure care in accordance with the postclosure care plan and other permit requirements.

(4) The sum of the cash account or certificate(s) of deposit shall be in an amount at least equal to the amount of the current postclosure cost estimate, except as provided in Section 9 of this administrative regulation.

(5) After each interest period is completed, whenever the current closure cost estimate changes, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the cash accounts or the certificate(s) of deposit. If the value of the cash accounts or the certificate(s) of deposit is less than the amount of the new estimate, the owner or operator, within sixty (60) days of the change in the cost estimate, shall either deposit an amount into the cash account or the certificate(s) of deposit so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(6) If the value of the cash account or the certificate(s) of deposit is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the cabinet for release of the amount in excess of the current closure cost estimate.

(7) Under the terms of the cash account or certificate(s) of deposit, the bank or financial institution may cancel the cash account or certificate(s) of deposit by sending notice of cancellation by certified mail to the owner or operator and to the cabinet. Cancellation shall not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the cabinet, as evidenced by return receipt.

(8) The cabinet shall agree to termination of the cash account or certificate of deposit when:

(a) An owner or operator substitutes alternate financial assurance as specified in this administrative regulation; or

(b) The cabinet releases the owner or operator from the requirements of this administrative regulation in accordance with Section 11 of this administrative regulation. [The owner or operator may terminate the cash account or certificate(s) of deposit if the cabinet has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this administrative regulation.]

(9) An owner or operator or any other person authorized to conduct postclosure may request reimbursement for postclosure expenditures by submitting itemized bills to the cabinet. Within sixty (60) days after receiving bills for postclosure activities, the cabinet may instruct the bank or financial institution to make reimbursements in those amounts as the cabinet specifies in writing if the cabinet determines that the postclosure expenditures are in accordance with the postclosure plan or otherwise justified.

Section 9. Use of Multiple Financial Mechanisms. An owner or operator may satisfy the requirements of this administrative regulation by establishing more than one (1) financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, insurance, cash accounts and certificate(s) of deposit. The mechanisms shall be as specified in Sections 3, 4, 5, 6, and 8, respectively, of this administrative regulation except that it is the combination of mechanisms rather than the single mechanism which shall provide financial assurance for an amount at least equal to the current postclosure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two (2) or more mechanisms. The cabinet may use any or all of the mechanisms to provide for postclosure care of the facility.

Section 10. Use of a Financial Mechanism for Multiple Facilities.

An owner or operator may use a financial assurance mechanism specified in this administrative regulation to meet the requirements of this administrative regulation for more than one (1) facility of which he is the owner or operator provided the facilities are all within the Commonwealth. Evidence of financial assurance submitted to the cabinet shall include a list showing for each facility the EPA identification number, name, address, and the amount of funds for postclosure care assured by the mechanism. The amount of funds available through the mechanism shall be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for postclosure care of any of the facilities covered by the mechanism, the cabinet may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

Section 11. Release of the Owner or Operator from the Requirements of this Administrative Regulation. Within sixty (60) days after approving certifications from the owner or operator and an engineer that the postclosure care period has been completed in accordance with the approved postclosure plan, the cabinet shall notify the owner or operator in writing that he is no longer required by this administrative regulation to maintain financial assurance for postclosure care of that unit, unless the cabinet has reason to believe that postclosure care has not been in accordance with the approved postclosure plan. The cabinet shall provide the owner or operator a detailed written statement of any such reason to believe that postclosure care has not been in accordance with the approved postclosure plan.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of all hazardous waste sites or facilities who must submit postclosure financial assurance for interim status.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First year: There will be no indirect or direct costs or savings.

2. Continuing costs or savings: There will be no continuing costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments clarify the process for demonstrating postclosure financial assurance.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: Not applicable.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? (Explain why tiering was or was not used): Yes, tiering was used. This administrative regulation

## ADMINISTRATIVE REGISTER - 717

applies to owners and operators of hazardous waste interim status facilities required to demonstrate postclosure financial assurance, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes including financial requirements for hazardous waste interim status sites or facilities. These changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS Chapter 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste interim status facilities which must submit postclosure financial assurance for interim status.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

## NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

### 401 KAR 35:120. Liability requirements (IS).

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265.147

STATUTORY AUTHORITY: KRS 224.46-505, 224.46-520, 224.46-530

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-505, 224.46-520, and 224.46-530 relative to liability requirements for hazardous waste sites or facilities qualifying for interim status.

Section 1. Coverage for Sudden Accidental Occurrences. An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for sudden accidental occurrences in the amount of at least \$1,000,000 per occurrence with an annual aggregate of at least \$2,000,000, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in subsections (1) to (6) of this section.

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this section.

(a) Each insurance policy shall be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The Hazardous Waste Facility Liability Endorsement shall be executed on DEP Form 6035K ~~(the form)~~ incorporated by reference in Section 4 of 401 KAR 34:080. The Certificate of Liability Insurance shall be on DEP Form 6035L ~~(the form)~~ incorporated by reference in Section 4 of 401 KAR 34:080. The owner or operator shall submit an originally signed duplicate of the endorsement or the certificate of insurance to the cabinet. If requested by the cabinet, the owner or operator shall provide an originally signed duplicate of the insurance policy.

(b) Each primary insurance policy shall be issued by an insurer which, at a minimum, is authorized to transact primary insurance in Kentucky except as KRS 304.11-030 provides otherwise. Each excess insurance policy shall be issued by an insurer which, at a minimum, is licensed to provide insurance as an excess or surplus lines insurer in one (1) state.

(2) An owner or operator may meet the requirements of this administrative regulation by passing a financial test or using the corporate guarantee for liability coverage as specified in Sections 6 and 7 of this administrative regulation.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in Section 8 of this administrative regulation.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in Section 9 of this administrative regulation.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in Section 10 of this administrative regulation.

(6) An owner or operator may demonstrate the required liability coverage through use of combinations of the financial test, insurance, the corporate guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The

amounts of coverage demonstrated shall total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this subsection, the owner or operator shall specify at least one (1) such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(7) An owner or operator shall notify the cabinet in writing within thirty (30) days whenever:

(a) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized by subsections (1) to (6) of this section; ~~[for bodily injury or property damages caused by the operation of a hazardous waste treatment, storage, or disposal facility is made against the owner or operator or an instrument providing financial assurance for liability coverage under this section;]~~

(b) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or nonsudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under subsections (1) through (6) of this section; or ~~[The amount of financial assurance for liability coverage under this section provided by a financial instrument authorized by subsections (1) to (6) of this section is reduced; or]~~

(c) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or nonsudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under subsections (1) to (6) of this section.

Section 2. Coverage for Nonsudden Accidental Occurrences. An owner or operator of a surface impoundment, landfill, facility for land disposal as specified in KRS 224.01-010, or land treatment facility which is used to manage hazardous waste, or a group of such facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain additional liability coverage for nonsudden accidental occurrences in the amount of at least \$3,000,000 per occurrence with an annual aggregate of at least \$6,000,000, exclusive of legal defense costs. An owner or operator who is required to meet the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences shall maintain liability coverage in the amount of at least \$4 million per occurrence and \$8 million annual aggregate. This liability coverage may be demonstrated as specified in subsections (1) to (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this section.

(a) Each insurance policy shall be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The Hazardous Waste Facility Liability Endorsement shall be executed on DEP Form 6035K ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080. The Certificate of Liability Insurance shall be executed ~~[in accordance with 401 KAR 34:176]~~ on DEP 6035L ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080. The owner or operator shall submit an originally signed duplicate of the endorsement or the certificate of insurance to the cabinet. If requested by the cabinet, the owner or operator shall provide an originally signed duplicate of the insurance policy.

(b) Each primary insurance policy shall be issued by an insurer which, at a minimum is authorized to transact the business of primary

insurance in Kentucky except as KRS 304.11-030 provides otherwise. Each excess insurance policy shall be issued by an insurer which, at a minimum is authorized to provide insurance as an excess or surplus lines insurer in one (1) state.

(2) An owner or operator shall notify the cabinet in writing within thirty (30) days whenever:

(a) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized by subsections (1) to (6) of this section; ~~[A claim for bodily injury or property damages caused by the operation of a hazardous waste treatment, storage, or disposal facility is made against the owner or operator or against an instrument providing financial assurance for liability coverage under this section;]~~

(b) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or nonsudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under subsections (1) through (6) of this section; or ~~[The amount of financial assurance for liability coverage under this section, provided by a financial instrument authorized by this subsection, is reduced; or]~~

(c) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or nonsudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or ~~[against]~~ an instrument that is providing financial assurance for liability coverage under subsections (1) to (6) of this section.

(3) An owner or operator may meet the requirements of this administrative regulation by passing a financial test, or using the corporate guarantee for liability coverage as specified in Sections 6 and 7 of this administrative regulation.

(4) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in Section 8 of this administrative regulation.

(5) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in Section 9 of this administrative regulation.

(6) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in Section 10 of this administrative regulation.

(7) An owner or operator may demonstrate the required liability coverage through use of combinations of the financial test, insurance, the corporate guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated shall total at least the minimum amounts required by this section.

(8) The required liability coverage for nonsudden accidental occurrences shall be demonstrated by the dates listed below. The total sales or revenues of the owner or operator in all lines of business, in the fiscal year preceding October 8, 1982, shall determine which of the dates apply. If the owner and operator of a facility are two (2) different parties, or if there is more than one (1) owner or operator, the sales or revenues of the owner or operator with the largest sales or revenues shall determine the date by which the coverage shall be demonstrated. The dates are as follows:

(a) For an owner or operator with sales or revenues totaling \$10,000,000 or more, February 24, 1983.

(b) For an owner or operator with sales or revenues greater than \$5,000,000 but less than \$10,000,000, February 24, 1984.

(c) For all other owners or operators, February 24, 1985.

Section 3. Adjustments by the Cabinet. If the cabinet determines that the levels of financial responsibility required by Sections 1 and 2 of this administrative regulation are not consistent with the degree

and duration of risks associated with treatment, storage, or disposal at any facility or group of facilities, the cabinet may increase the level of financial responsibility required under Sections 1 and 2 of this administrative regulation as may be necessary to protect human health and the environment. This adjusted level shall be based on the cabinet's assessment of the degree and duration of risks associated with the ownership or operation of each facility or group of facilities. In addition, if the cabinet determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, the cabinet may require that the owner or operator of the facility comply with Section 2 of this administrative regulation. An owner or operator shall furnish to the cabinet, within a reasonable time, any information which the cabinet requests to determine whether cause exists for such adjustments of the level or type of coverage. Any adjustment of the level of required coverage for a facility that has a permit shall be treated as a permit modification under Section 2(1)(e) of 401 KAR 38:040 and subject to the procedures of Section 2 of 401 KAR 38:050. Notwithstanding any other provision, the cabinet may hold a public hearing at its discretion or whenever the cabinet finds, on the basis of requests for a public hearing, a significant degree of public interest in a tentative decision to adjust the level or type of required coverage.

Section 4. Request for a Variance. If an owner or operator can demonstrate to the satisfaction of the cabinet that the increased level of financial responsibility required by Section 1 or 2 of this administrative regulation is not consistent with the degree and duration of risks associated with the treatment, storage, or disposal at each facility or group of facilities, the owner or operator may obtain a variance from the cabinet. The request for a variance shall be submitted to the cabinet in writing. The cabinet shall not grant any requests for a variance which seek to decrease the level of financial responsibility below the minimums required by KRS 224.46-520(3)(c). If granted, the variance shall take the form of an adjusted level of required liability coverage, such level to be based on the cabinet's assessment of the degree and duration of risks associated with the ownership or operation of each facility or group of facilities. The cabinet may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the cabinet to determine a level of financial responsibility other than that required by Sections 1 and 2 of this administrative regulation. Any request for a variance for a permitted facility shall be treated as a request for a permit modification under Section 2 of 401 KAR 38:040 and subject to the procedures of Section 2 of 401 KAR 38:050. Notwithstanding any other provision, the cabinet may hold a public hearing at its discretion or whenever the cabinet finds, on the basis of requests for a public hearing, a significant degree of public interest in a tentative decision to grant a variance.

Section 5. Period of Coverage. An owner or operator shall continuously provide liability coverage for a facility as required by this administrative regulation until certification of termination pursuant to the requirements of KRS 224.46-520.

Section 6. Liability Self-insurance. (1) An owner or operator may satisfy the requirements of this administrative regulation by demonstrating that he passes a financial test as specified in this section. To pass this test the owner or operator shall demonstrate that the level of self-insurance does not exceed ten (10) percent of equity and shall meet the criteria of either paragraph (a) or (b) of this subsection:

(a) The owner or operator shall have:

1. Net working capital and tangible net worth each at least six (6) times the amount of liability coverage to be demonstrated by this test; and
2. Tangible net worth of at least \$10 million; and

3. Assets in the United States amounting to either, at least, ninety (90) percent of his total assets or, at least six (6) times the amount of liability coverage to be demonstrated by this test.

(b) The owner or operator shall have:

1. A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

2. Tangible net worth of at least \$10 million; and

3. Tangible net worth at least six (6) times the amount of the liability coverage to be demonstrated by this test; and

4. Assets located in the United States amounting to either, at least, ninety (90) percent of his total assets or, at least, six (6) times the amount of the liability coverage to be demonstrated by this test.

(2) The phrase "amount of liability coverage" as used in subsection (1) of this section refers to the annual aggregate amounts for which coverage is required under Sections 1 and 2 of this administrative regulation.

(3) To demonstrate that he meets this test, the owner or operator shall submit the following three (3) items to the cabinet:

(a) A letter signed by the owner's or operator's chief financial officer and executed on the form entitled Letter from Chief Financial Officer to Demonstrate Liability Coverage or to Demonstrate Liability Coverage and Assurance of Closure or Postclosure Care, DEP Form 6035G, incorporated by reference in Section 4 of 401 KAR 34:080. If an owner or operator is using the financial test to demonstrate both liability coverage and assurance for closure or postclosure care (as specified by Section 8 of 401 KAR 34:090, Section 8 of 401 KAR 34:100, Section 7 of 401 KAR 35:090, and Section 7 of 401 KAR 35:100), he shall submit the letter on the form entitled Letter from Chief Financial Officer to Demonstrate Liability Coverage or to Demonstrate Liability Coverage and Assurance of Closure or Postclosure Care, DEP Form 6035G, incorporated by reference in Section 4 of 401 KAR 34:080, to cover both forms for financial responsibility a separate letter is not required;

(b) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(c) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

1. He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

2. In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(d) The owner or operator may obtain a one (1) time extension of the time allowed for submission of the documents specified in subsection (3) of this section if the fiscal year of the owner or operator ends during the ninety (90) days prior to the effective date of this administrative regulation and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension shall end no later than ninety (90) days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer is required to send a letter to the cabinet. This letter from the chief financial officer shall:

1. Request the extension;

2. Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

3. Specify for each facility to be covered by the test the EPA identification number, name, address, the amount of liability coverage and, when applicable, current closure and postclosure cost estimates to be covered by the test;

4. Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these administrative regulations;

5. Specify the date, no later than ninety (90) days after the end of such fiscal year, when he will submit the documents specified in subsection (3) of this section; and

6. Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(4) An owner or operator of a new facility shall submit the items specified in subsection (3) of this section to the cabinet at least sixty (60) days before the date on which hazardous waste is first received for treatment, storage or disposal.

(5) After the initial submission of items specified in subsection (3) of this section, the owner or operator shall send updated information to the cabinet within ninety (90) days after the close of each succeeding fiscal year. This information shall consist of all three (3) items specified in subsection (3) of this section.

(6) If the owner or operator no longer meets the requirements of subsection (1) of this section, he shall obtain insurance, a letter of credit, a surety bond, a trust fund, or a corporate guarantee for the entire amount of required liability coverage as specified in this administrative regulation. Evidence of liability coverage ~~[insurance]~~ shall be submitted to the cabinet within ninety (90) days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(7) The cabinet may, based on a reasonable belief that the owner or operator may no longer meet the requirements of subsection (1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in subsection (3) of this section. If the cabinet finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of subsection (1) of this section, the owner or operator shall provide liability insurance as specified in this administrative regulation within thirty (30) days after notification of such a finding.

(8) The cabinet may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see subsection (3)(c) of this section). An adverse opinion or a disclaimer of opinion shall be cause for disallowance. The cabinet shall evaluate other qualifications on an individual basis. The owner or operator shall provide liability insurance for the entire amount of liability coverage as specified in this administrative regulation within thirty (30) days after notification of the disallowance.

Section 7. Corporate Guarantee for Liability Coverage. (1) Subject to subsection (2) of this section, an owner or operator may meet the requirements of this administrative regulation by obtaining a written guarantee, referred to as Corporate Guarantee for Liability Coverage. ~~[hereinafter referred to as "corporate guarantee."]~~ The guarantor shall be the direct or higher-tier parent corporation of the owner or operator a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a substantial business relationship with the owner or operator. The guarantee shall meet the requirements for owners or operators in Section 6(1) to (7) of this administrative regulation. The Corporate Guarantee for Liability Coverage shall be executed on DEP Form 6035H2 ~~[the form]~~ incorporated by reference in Section 4 of 401 KAR 34:080. A certified copy of the Corporate Guarantee for Liability Coverage shall accompany the items sent to the cabinet as specified in Section 6(3) of this administrative regulation. One (1) of these items shall be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter shall describe the value received in consideration of the guarantee. If the guarantor is a firm with a substantial business relationship with the owner or operator, this letter shall describe the substantial business relationship and the value received in consideration of the guarantee. The terms of the Corporate Guarantee for Liability Coverage shall provide that:

(a) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this Corporate Guarantee for Liability Coverage, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor shall do so up to the limits of coverage.

(b) The Corporate Guarantee for Liability Coverage shall remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the cabinet. This guarantee may not be terminated unless and until the cabinet approves alternate liability coverage complying with 401 KAR 35:120 or this administrative regulation.

(2)(a) In the case of corporations incorporated in the United States, a Corporate Guarantee for Liability Coverage may be used to satisfy the requirements of this administrative regulation only if the Attorney General or insurance commissioner of the state in which the guarantor is incorporated, each state in which a facility covered by the guarantee is located and in the state in which it has its principle place of business, have submitted a written statement to the director that a Corporate Guarantee for Liability Coverage executed as described in this administrative regulation and is a legally valid and enforceable obligation in that state and in Kentucky.

(b) In the case of corporations incorporated outside of the United States, a Corporate Guarantee for Liability Coverage may be used to satisfy the requirements of this section only if the non-U.S. corporation has identified a registered agent for service of process in each state in which a facility covered by the guarantee is located, and in the state in which it has its principle place of business, and the Attorney General or insurance commissioner of each state in which a facility covered by the guarantee is located, and the state in which the guarantor corporation has its principle place of business, and the cabinet's Department of Law or the insurance commissioner of Kentucky has submitted a written statement to the cabinet that a Corporate Guarantee for Liability Coverage executed as described in this section and is a legally valid and enforceable obligation in that state and in Kentucky.

(c) A corporate guarantee may be used to satisfy the requirements of this administrative regulation only if the assets to be collected are located in the United States. Failure to provide the written statement referenced in paragraphs (a) and (b) of this subsection shall be grounds for denial of the instrument.

Section 8. Letter of Credit for Liability Coverage. (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable stand-by letter of credit that conforms to the requirements of this administrative regulation and submitting a copy of the letter of credit to the cabinet. The irrevocable standby letter of credit may be submitted on either DEP Form 6035Q or DEP 6035N. The Irrevocable Standby Letter of Credit to Demonstrate Liability Coverage, DEP Form 6035Q and the Irrevocable Standby Letter of Credit to Demonstrate Liability Coverage with Standby Trust Agreement, DEP Form 6035N are incorporated by reference in Section 4 of 401 KAR 34:080. The owner or operator may use his own document, provided the language is identical to that specified in either DEP Form 6035Q or 6035N. If the owner or operator chooses to establish a trust fund as described in subsection (4) of this section, DEP Form 6035N shall be submitted along with the standby trust agreement as specified in subsection (5) of this section.

(2) The financial institution issuing the letter of credit shall be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by the federal or state agency.

(3) The letter of credit shall be submitted on the form incorporated by reference in Section 4 of 401 KAR 34:080.

(4) An owner or operator who uses a letter of credit to satisfy the



## ADMINISTRATIVE REGISTER - 721

requirements of this section may also establish a standby trust fund. Under the terms of such a letter of credit, all amounts paid pursuant to a draft by the trustee of the standby trust will be deposited by the issuing institution into the standby trust in accordance with instructions from the trustee. The trustee of the standby trust fund shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(5) The standby trust shall be submitted on DEP Form 6036R entitled "Standby Trust Agreement for Letter of Credit Demonstrating Liability Coverage", [the form] incorporated by reference in Section 4 of 401 KAR 34:080.

Section 9. Surety Bond for Liability Coverage. (1) An owner or operator may satisfy the requirements of this section by obtaining a Payment Bond to Demonstrate Liability Coverage [surety bond] that conforms to the requirements of this administrative regulation and submitting a copy of the bond to the cabinet.

(2) The surety company issuing the bond shall be among those listed as acceptable sureties on Federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.

(3) The Payment Bond to Demonstrate Liability Coverage [letter of credit] shall be submitted on the form incorporated by reference in Section 4 of 401 KAR 34:080.

(4) A Payment Bond to Demonstrate Liability Coverage [surety bond] may be used to satisfy the requirements of this section only if the attorney general or insurance commissioners of the state in which the surety is incorporated, and each state in which a facility covered by the Payment Bond to Demonstrate Liability Coverage [surety bond] is located have submitted a written statement to the cabinet that a Payment Bond to Demonstrate Liability Coverage [surety bond] executed on DEP Form 6035Q [the form] incorporated by reference in Section 4 of 401 KAR 34:080 is a legally valid and enforceable obligation in that state.

Section 10. Trust Fund for Liability Coverage. (1) An owner or operator may satisfy the requirements of this section by establishing a trust fund that conforms to the requirements of this administrative regulation and submitting to the cabinet an originally signed duplicate of the Trust Agreement to Demonstrate Liability Coverage, executed on DEP Form 6035P, incorporated by reference in Section 4 of 401 KAR 34:080. [to the cabinet.]

(2) The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(3) The trust fund or liability coverage shall be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the trust fund, shall either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this administrative regulation to cover the difference. ~~[For purposes of this administrative regulation, "the full amount of the liability coverage to be provided" means the amount of coverage for sudden and nonsudden occurrences required to be provided by the owner or operator by this administrative regulation, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.]~~

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday,

August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of all hazardous waste sites or facilities that qualify for interim status.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments.

2. Second and subsequent years: No public comments.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There will be no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no extra paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

## ADMINISTRATIVE REGISTER - 722

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments are consistent with federal standards and clarify the procedure for demonstrating liability coverage.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: There are no effects on public health or the environment.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste facilities that qualify for interim status, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes including liability requirements for hazardous waste facilities who have interim status. These changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of the standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste sites or facilities that qualify for interim status.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 35:180. Use and management of containers (IS).

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: KRS 224.46-520 requires that persons engaging in the storage, treatment, and disposal of hazardous waste obtain a permit. KRS 224.46-520 requires the cabinet to establish standards for these permits, to require adequate financial responsibility, and to establish minimum standards for closure for all facilities and the postclosure monitoring and maintenance of hazardous waste disposal facilities. This chapter establishes minimum standards for hazardous waste sites or facilities qualifying for interim status. This administrative regulation establishes minimum standards for the use and management of containers.

Section 1. Applicability. The requirements in this administrative regulation apply to owners and operators of all hazardous waste sites or facilities that store containers of hazardous waste, except as Section 1 of 401 KAR 35:010 provides otherwise.

Section 2. Condition of Containers. If a container holding hazardous waste is not in good condition or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of this chapter.

Section 3. Compatibility of Waste with Containers. The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored so that the ability of the container to contain the waste is not impaired.

Section 4. Management of Containers. (1) A container holding

## ADMINISTRATIVE REGISTER - 723

hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(2) A container holding hazardous waste must not be opened, handled or stored in a manner which may rupture the container or cause it to leak.

(3) A container holding hazardous waste shall be labeled "Hazardous Waste" upon the date that hazardous waste is first added to the container.

Section 5. Inspections. The owner or operator must inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration of containers and the containment system caused by corrosion or other factors.

Section 6. Special Requirements for Ignitable or Reactive Waste. Containers holding ignitable or reactive waste must be located at least fifteen (15) meters (approximately fifty (50) feet) from the facility's property line.

Section 7. Special Requirements for Incompatible Wastes. (1) Incompatible wastes, or incompatible wastes and materials (see 401 KAR 35:330 for examples), must not be placed in the same container unless Section 8(2) of 401 KAR 35:020 is complied with.

(2) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see 401 KAR 35:330 for examples), unless Section 8(2) of 401 KAR 35:020 is complied with.

(3) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall or other device.

Section 8. Air Emission Standards. The owner or operator shall manage all hazardous waste placed in a container in accordance with the requirements of 401 KAR 35:281.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal

opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste interim status facilities that store hazardous waste in containers.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There will be no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and the environment will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, detrimental effects could occur without the implementation of this regulation.

c. If detrimental effect would result, explain detrimental effect: These amendments provide air emission standards for hazardous waste managed in containers. Hazardous waste emissions could cause detrimental effects on human health and the environment.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, regulations, or policies that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste interim status facilities who store hazardous waste in containers, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to changes in hazardous waste interim status facilities that store waste in containers. The changes are necessary to maintain consistency between state and federal programs. The addition has been made to clarify the applicability of the standards. In addition, the regulation has been modified to reflect the requirements for regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that owns or operates a hazardous waste interim status facility that stores hazardous waste in containers.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state,

county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 35:190. Tanks (IS).

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265 Subpart J

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46.520 and to establish minimum standards for tanks qualifying for interim status.

Section 1. Applicability. The administrative regulations of this chapter apply to owners or operators of sites or facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in subsections (1) (2), and (3) of this section or in Section 1 of 401 KAR 35:010.

(1) Tank systems that are used to store or treat hazardous waste which contain no free liquids and that are situated inside a building with an impermeable floor are exempted from the requirements of Section 4 of this administrative regulation. To demonstrate the absence or presence of free liquids in the stored or [A] treated waste, the following test shall be used: [EPA] Method 9095 (paint filter liquids test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" EPA Publication No. SW-846, incorporated in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010. ~~(by reference in subsection (4) of this section, shall be used.)~~

(2) Tank systems, including sumps, as defined in Section 1 of 401 KAR 35:005 ~~[30:010]~~, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in Section 4(1) of this administrative regulation.

(3) Tanks, sumps, and other collection devices used in conjunction with drip pads as defined in 401 KAR 35:005 ~~[30:010]~~ and regulated under 401 KAR 35:285, shall meet the requirements of this administrative regulation.

~~[(4) The paint filter liquids test, Method 9095 in the EPA publication SW-846, is being incorporated into this administrative regulation by reference. The test method became effective in April of 1984 and is available from the National Technical Information Section, 5285 Port Royal Road, Springfield, Virginia 22161, (703) 487-4600. This material is available for inspection and copying at the Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-6716 between 8 a.m. and 4:30 p.m., EST, Monday through Friday.]~~

Section 2. Assessment of Existing Tank System's Integrity. (1) For each existing tank system that does not have secondary containment meeting the requirements of Section 4 of this administrative regulation, the owner or operator shall determine that the tank system is not leaking or is unfit for use. Except as provided in subsection (3) of this section, the owner or operator shall obtain and keep on file at the facility a written assessment reviewed and certified by an engineer, in accordance with Section 7(4) of 401 KAR 38:070, that attests to the tank system's integrity no later than 180 days from

the date of promulgation of this administrative regulation.

(2) This assessment shall determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste to be stored or treated to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment shall consider the following:

- (a) Design standards, if available, according to which the tank and ancillary equipment were constructed;
- (b) Hazardous characteristics of the waste that have been or will be handled;
- (c) Existing corrosion protection measures;
- (d) Documented age of the tank system, if available (otherwise, an estimate of the age); and
- (e) Results of a leak test, internal inspection, or other tank integrity examination such that:

1. For nonenterable underground tanks, this assessment shall consist of a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects; and

2. For other than nonenterable underground tanks and for ancillary equipment, this assessment shall be either a leak test, or as described above, or an internal inspection and other tank integrity examination certified by an engineer in accordance with Section 7(4) of 401 KAR 38:070, that addresses cracks, leaks, corrosion, and erosion.

(3) Tank systems that store or treat materials that become hazardous wastes after the effective date of this administrative regulation shall conduct this assessment within twelve (12) months after the date that the waste becomes a hazardous waste.

(4) If, as a result of the assessment conducted in accordance with subsection (1) of this section, a tank system is found to be leaking or unfit for use, the owner or operator shall comply with the requirements of Section 7 of this administrative regulation.

Section 3. Design and Installation of New Tank Systems or Components. (1) Owners or operators of new tanks systems or components shall ensure that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste to be stored or treated, and corrosion protection so that it will not collapse, rupture, or fail. The owner or operator shall obtain a written assessment reviewed and certified by an engineer in accordance with Section 7(4) of 401 KAR 38:070, attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. This assessment shall include, at a minimum, the following information:

- (a) Design standards according to which the tank and the ancillary equipment is or will be constructed;
- (b) Hazardous characteristics of the waste to be handled;
- (c) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system is or will be in contact with the soil or with water, a determination by a corrosion expert of:

- 1. Factors affecting the potential for corrosion, including but not limited to:
  - a. Soil moisture content;
  - b. Soil pH;
  - c. Soil sulfides level;
  - d. Soil resistivity;
  - e. Structure to soil potential;
  - f. Influence of nearby underground metal structures (piping);
  - g. Stray electric current;
  - h. Existing corrosion-protection measures (coating, cathodic protection); and

2. The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one (1) or more of the

following:

- a. Corrosion-resistant materials of construction such as special alloys or fiberglass-reinforced plastic;
  - b. Corrosion-resistant coating (such as epoxy or fiberglass) with cathodic protection (such as impressed current or sacrificial anodes); and
  - c. Electrical isolation devices such as insulating joints and flanges, etc.
- (d) For underground tank system components that are likely to be affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

- (e) Design considerations to ensure that:
  - 1. Tank foundations will maintain the load of a full tank;
  - 2. Tank systems will be anchored to prevent flotation or dislodgment where the tank system is placed in a saturated zone, or is located within a seismic fault zone; and
  - 3. Tank systems will withstand the effects of frost heave.

(2) The owner or operator of a new tank system shall ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or an engineer, either of whom is trained and experienced in the proper installation of tank systems, shall inspect the system or component for the presence of any of the following items:

- (a) Weld breaks;
- (b) Punctures;
- (c) Scrapes of protective coatings;
- (d) Cracks;
- (e) Corrosion; or
- (f) Other structural damage or inadequate construction or installation. All discrepancies shall be remedied before the tank system is covered, enclosed, or placed in use.

(3) New tank systems or components and piping that are placed underground and that are backfilled shall be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is carefully installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(4) All new tanks and ancillary equipment shall be tested for tightness prior to being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak in the system shall be performed prior to the tank system being covered, enclosed, or placed in use.

(5) Ancillary equipment shall be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.

(6) The owner or operator shall provide the type and degree of corrosion protection necessary, based on the information provided under subsection (1)(c) of this section, to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated shall be supervised by an independent corrosion expert to ensure proper installation.

(7) The owner or operator shall obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of subsections (2) to (6) of this section to attest that the tank system was properly designed and installed and that repairs, pursuant to subsections (2) and (4) of this section were performed. These written statements shall also include the certification statement as required in Section 7(4) of 401 KAR 38:070.

Section 4. Containment and Detection of Releases. (1) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the require-

ments of this section shall be provided (except as provided in subsections (6) and (7) of this section):

(a) For all new tank systems or components, prior to their being put into service;

(b) For all existing tank systems used to store or treat EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027, by January 12, 1991;

(c) For those existing tank systems of known and documentable age, by January 12, 1991 or when the tank systems have reached fifteen (15) years of age, whichever comes later;

(d) For those existing tank systems for which the age cannot be documented within eight (8) years of January 12, 1987, but if the age of the facility is greater than seven (7) years, secondary containment shall be provided by the time the facility reaches fifteen (15) years of age, or within two (2) years of January 12, 1987, whichever comes later; and

(e) For tanks systems that store or treat materials that become hazardous wastes subsequent to the effective date of this administrative regulation within the time intervals required in subsections (1)(a) to (d) of this section, except that the date that a material becomes a hazardous waste shall be used in place of the effective date of this administrative regulation.

(2) Secondary containment systems shall be:

(a) Designed, installed, and operated, to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater, or surface water at any time during the use of the tank system; and

(b) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(3) To meet the requirements of subsection (2) of this section, secondary containment systems shall be at a minimum:

(a) Constructed of or lined with materials that are compatible with the waste to be placed in the tank system and shall have sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which they are exposed climatic conditions, the stress of installation, and the stress of daily operation (including stresses from nearby vehicular traffic);

(b) Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

(c) Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary and secondary containment structure or any release of hazardous waste or accumulated liquid in the secondary containment system within twenty-four (24) hours, or at the earliest practicable time if the existing detection technology or sites conditions will not allow detection of a release within twenty-four (24) hours; and

(d) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills; or precipitation. Spilled or leaked waste and accumulated precipitation shall be removed from the secondary containment system within twenty-four (24) hours, or in as timely a manner as is possible to prevent harm to human health or the environment, if removal of the released waste or accumulated precipitation cannot be accomplished within twenty-four (24) hours.

(4) Secondary containment for tanks shall include one (1) or more of the following devices:

(a) A liner (external to the tank);

(b) A vault;

(c) A double-walled tank; or

(d) An equivalent device as approved by the cabinet.

(5) In addition to the requirements of subsections (2), (3), and (4) of this section, secondary containment systems shall satisfy the following requirements:

(a) External liner systems shall be:

1. Designed or operated to contain 100 percent of the capacity of

the largest tank within its boundary;

2. Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity shall be sufficient to contain precipitation from a twenty-five (25) year, twenty-four (24) hour rainfall event;

3. Free of cracks or gaps; and

4. Designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank (that is capable of preventing lateral as well as vertical migration of the wastes).

(b) Vault systems shall be:

1. Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

2. Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity shall be sufficient to contain precipitation from a twenty-five (25) year, twenty-four (24) hour rainfall event;

3. Constructed with chemical-resistant water stops in place at all joints (if any);

4. Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

5. Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

a. Meets the definition of ignitable waste under Section 2 of 401 KAR 31:030; or

b. Meets the definition of reactive waste under Section 4 of 401 KAR 31:030 and which may form an ignitable or explosive vapor.

6. Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(c) Double-walled tanks shall be:

1. Designed as an integral structure (that is an inner tank within an outer shell) so that any release from the inner tank is contained by the outer shell;

2. Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell; and

3. Provided with a built-in continuous leak detection system capable of detecting a release within twenty-four (24) hours or at the earliest practicable time, if the owner or operator can demonstrate to the cabinet, and the cabinet concurs, that the existing leak detection technology or site conditions will not allow detection of a release within twenty-four (24) hours.

(6) Ancillary equipment shall be provided with full secondary containment (for example, trench, jacketing, double-walled piping) that meets the requirements of subsections (2) and (3) of this section except for:

(a) Aboveground piping (exclusive of flanges, joints, valves, and connections) that is visually inspected for leaks on a daily basis;

(b) Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;

(c) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and

(d) Pressurized aboveground piping systems with automatic shutoff devices (for example, excess flow check valves, flow metering shutdown devices, loss of pressure actuated shutoff devices) that are visually inspected for leaks on a daily basis.

(7) The owner or operator may obtain a variance from the requirements of this section if the cabinet finds, as a result of a demonstration by the owner or operator, either: that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous waste or hazardous constituents into the groundwater or surface water at least as effectively as



secondary containment during the active life of the tank system; or that in the event of a release that does migrate to groundwater or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with paragraph (b) of this subsection, be exempted from the secondary containment requirements of this section. Application for a variance as allowed in this subsection does not waive compliance with the requirements of this administrative regulation for new tank systems.

(a) In deciding whether to grant a variance based on a demonstration of equivalent protection of groundwater and surface water, the cabinet shall consider:

1. The nature and quantity of the waste;
2. The proposed alternate design and operation;
3. The hydrogeologic setting of the facility, including the thickness of soils between the tank system and groundwater; and
4. All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to groundwater or surface water.

(b) In deciding whether to grant a variance based on a demonstration of no substantial present or potential hazard, the cabinet shall consider:

1. The potential adverse effects on groundwater, surface water, and land quality taking into account:
  - a. The physical and chemical characteristics of the waste in the tank system, including its potential for migration;
  - b. The hydrogeological characteristics of the facility and surrounding land;
  - c. The potential for health risks caused by human exposure to waste constituents;
  - d. The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and
  - e. The persistence and permanence of the potential adverse effects;
2. The potential adverse effects of a release on groundwater quality, taking into account:
  - a. The quantity and quality of groundwater and the direction of groundwater flow;
  - b. The proximity and withdrawal rates of groundwater in the area;
  - c. The current and future uses of groundwater in the area; and
  - d. The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;
3. The potential adverse effects of a release on surface water quality taking into account:
  - a. The quantity and quality of groundwater and the direction of groundwater flow;
  - b. The patterns of rainfall in the region;
  - c. The proximity of the tank system to surface waters;
  - d. The current and future uses of surface waters in the area and any water quality standards established for those surface waters; and
  - e. The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality; and
4. The potential adverse effects of a release on the land surrounding the tank system, taking into account:
  - a. The patterns of rainfall in the region; and
  - b. The current and future uses of the surrounding land.

(c) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (a) of this subsection, at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), shall:

1. Comply with the requirements of Section 7 of this administrative regulation except subsection (4) of that section; and
2. Decontaminate or remove contaminated soil to the extent necessary to:

a. Enable the tank system for which the variance was granted to resume operation with the capability for the detection of and response to releases at least equivalent to the capability it had prior to the release; and

b. Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water; and

3. If contaminated soil cannot be removed or decontaminated in accordance with subparagraph 2 of this paragraph, comply with the requirements in Section 8(2) of this administrative regulation.

(d) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (a) of this subsection, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), shall:

1. Comply with the requirements of Sections 7(1), (2), (3), and (4) of this administrative regulation;

2. Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed, or if groundwater has been contaminated, the owner or operator shall comply with the requirements of Section 8(2) of this administrative regulation; and

3. If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of subsections (1) to (6) of this section or reapply for a variance from secondary containment and meet the requirements for new tank systems in Section 3 of this administrative regulation if the tank system is replaced. The owner or operator shall comply with these requirements even if contaminated soil can be decontaminated or removed and groundwater or surface water has not been contaminated.

(8) The following procedures shall be followed in order to request a variance from secondary containment:

(a) The cabinet shall be notified in writing by the owner or operator that he intends to conduct and submit a demonstration for a variance from a secondary containment as allowed in subsection (7) of this section according to the following schedule:

1. For existing tank systems, at least twenty-four (24) months prior to the date that secondary containment will be provided in accordance with subsection (1) of this section.

2. For new tank systems, at least thirty (30) days prior to entering into a contract for installation of the tank system.

(b) As part of the notification, the owner or operator shall also submit to the cabinet a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration shall address each of the factors listed in subsection (7)(a) or (b) of this section.

(c) The demonstration for a variance shall be completed and submitted to the cabinet within 180 days after notifying the cabinet of an intent to conduct the demonstration; and

(d) The cabinet shall inform the public, through a newspaper notice, of the availability of the demonstration for a variance. The notification shall be placed in a daily or weekly major local newspaper of general circulation, and shall provide at least thirty (30) days from the date of the notice for the public to review and comment on the demonstration for a variance. The cabinet also shall hold a public hearing, in response to a request or at his own discretion, whenever such a hearing might clarify one (1) or more issues concerning the demonstration for a variance. Public notice of the hearing shall be given at least thirty (30) days prior to the date of the hearing and may be given the same time as notice of the opportunity for the public to review and comment on the demonstration. These two (2) notices may be combined.

(e) The cabinet shall approve or disapprove the request for a variance within ninety (90) days of receipt of the demonstration from the owner or operator and shall notify in writing the owner or operator

and each person who submitted written comments or requested notice of the variance decision. If the demonstration for a variance is incomplete or does not include sufficient information, the ninety (90) day time period shall begin when the cabinet receives a complete demonstration, including all information necessary to make a final determination. If the public comment period in paragraph (d) of this subsection is extended, the ninety (90) day time period shall be similarly extended.

(9) All tank systems, until such time as secondary containment meeting the requirements of this section is provided, shall comply with the following:

(a) For nonenterable underground tanks, a leak test that meets the requirements of Section 2(2)(e) of this administrative regulation shall be conducted at least annually.

(b) For other than nonenterable underground tanks and for all ancillary equipment, an annual leak test, as described in subsection (9)(a) of this section or an internal inspection or other tank integrity examination by an engineer that addresses cracks, leaks, corrosion and erosion shall be conducted at least annually. The owner or operator shall remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed.

(c) The owner or operator shall maintain on file at the facility a record of the results of the assessments conducted in accordance with subsections (1)(a) to (c) of this section.

(d) If a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment in subsections (1)(a) to (c) of this section, the owner or operator shall comply with the requirements of Section 7 of this administrative regulation.

Section 5. General Operating Requirements. (1) Hazardous wastes or treatment reagents shall not be placed in a tank system if they could cause the tank, its ancillary equipment, or the secondary containment system to rupture, leak, corrode or otherwise fail.

(2) The owner or operator shall use appropriate controls and practices to prevent spills and overflows from tank or secondary containment systems. These include at a minimum:

(a) Spill prevention controls (for example, check valves or dry discount couplings);

(b) Overfill prevention controls (for example, level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

(c) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(3) The owner or operator shall comply with the requirements of Section 7 of this administrative regulation if a leak or spill occurs in the tank system.

(4) Tanks holding hazardous waste shall be labeled "hazardous waste" upon the date that hazardous waste is first added to the tank.

Section 6. Inspections. (1) The owner or operator shall inspect, where present, at least once each operating day:

(a) Overfilling and spill control equipment (for example, waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order;

(b) The aboveground portions of the tank system, if any, to detect corrosion or releases of waste;

(c) Data gathered from monitoring equipment and leak-detection equipment (for example, pressure and temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design; and

(d) The construction materials and the area immediately surrounding the externally accessible portion of the tank system including the secondary containment structures (such as dikes) to detect erosion or signs of releases of hazardous waste (such as wet spots or dead vegetation).

(2) The owner or operator shall inspect cathodic protection systems, if present, according to, at a minimum, the following

schedule to ensure that they are functioning properly:

(a) The proper operation of the cathodic protection system shall be confirmed within six (6) months after initial installation and annually thereafter; and

(b) All sources of impressed current shall be inspected and tested, as appropriate, at least bimonthly.

(3) The owner or operator shall document in the operating record of the facility an inspection of those items in subsections (1) and (2) of this section.

Section 7. Response to Leaks or Spills and Disposition of Leaking or Unfit-for-use Tank Systems. A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, shall be removed from service immediately, and the owner or operator shall satisfy the following requirements:

(1) Cessation of use: prevent flow or addition of wastes. The owner or operator shall immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(2) Removal of waste from tank system or secondary containment system.

(a) If the release was from the tank system, the owner/operator shall, within twenty-four (24) hours after detection of the leak or, if the owner/operator demonstrates that is not possible, at the earliest practicable time remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(b) If the material released was to a secondary containment system, all released materials shall be removed within twenty-four (24) hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(3) Containment of visible releases to the environment. The owner/operator shall immediately conduct a visual inspection of the release and based upon that inspection:

(a) Prevent further migration of the leak or spill to soils or surface water; and

(b) Remove and properly dispose of any visible contamination of the soil or surface water.

(4) Notifications and reports.

(a) Any release to the environment except as provided in paragraph (b) of this subsection, shall be reported to the cabinet within twenty-four (24) hours of detection. If the release has been reported pursuant to 40 CFR Part 302 that report shall satisfy this requirement.

(b) A leak or spill of hazardous waste is exempted from the requirements of this subsection if it is:

1. Less than or equal to a quantity of one (1) pound; and

2. Immediately contained and cleaned up.

(c) Within thirty (30) days of detection of a release to the environment, a report containing the following information shall be submitted to the cabinet:

1. Likely route of migration of the release;

2. Characteristics of the surrounding soil(soil composition, geology, hydrogeology, climate);

3. Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within thirty (30) days, these data shall be submitted to the cabinet as soon as they become available;

4. Proximity to downgradient drinking water, surface water, and population areas; and

5. Description of response actions taken or planned.

(5) Provision of secondary containment, repair or closure.

(a) Unless the owner/operator satisfied the requirements of paragraphs (b) to (d) of this subsection, the tank system shall be closed in accordance with Section 8 of this administrative regulation.

(b) If the cause of the release was a spill that has not damaged the integrity of the system, the owner/operator may return the system

to service as soon as the released waste is removed and repairs, if necessary, are made.

(c) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system shall be repaired prior to returning the tank system to service.

(d) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner/operator shall provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of Section 4 of this administrative regulation before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system. If the source is an aboveground component that can be inspected visually, the component shall be repaired and may be returned to service without secondary containment as long as the requirements of subsection (6) of this section are satisfied. If a component is replaced to comply with the requirements of this paragraph that component shall satisfy the requirements for new tank systems or components in Sections 3 and 4 of this administrative regulation. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (for example, the bottom of an in-ground or on-ground tank), the entire component shall be provided with secondary containment in accordance with Section 4 of this administrative regulation prior to being returned to use.

(6) Certification of major repairs. If the owner/operator has repaired a tank system in accordance with subsection (5) of this section, and the repair has been extensive (for example, installation of an internal liner, repair of a ruptured primary containment or secondary containment vessel), the tank system shall not be returned to service unless the owner/operator has obtained a certification by an engineer in accordance with Section 7(4) of 401 KAR 38:070 that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification shall be submitted to the cabinet within seven (7) days after returning the tank system to use.

Section 8. Closure and Postclosure Care. (1) At closure of a tank system, the owner/operator shall remove or decontaminate all waste residues, contaminated containment system components (liners, for example), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless Section 3(4) of 401 KAR 31:010 applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems shall meet all of the requirements specified in 401 KAR 35:070 to 35:130.

(2) If the owner or operator demonstrates that not all contaminated soil can be practicably removed or decontaminated as required in subsection (1) of this section, then the owner or operator shall close the tank system and perform postclosure care in accordance with the closure and postclosure care requirements that apply to landfills in Section 4 of 401 KAR 35:230. In addition, for the purposes of closure, postclosure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner/operator shall meet all of the requirements for landfills specified in 401 KAR 35:070 to 35:130.

(3) If an owner or operator has a tank system which does not have secondary containment that meets the requirements in Section 4(2) to (6) of this administrative regulation and which is not exempt from the secondary containment requirements in accordance with Section 4(7) of this administrative regulation then:

(a) The closure plan for the tank system shall include both a plan for complying with subsection (1) of this section and a contingent plan for complying with subsection (2) of this section.

(b) A contingent postclosure plan for complying with subsection (2) of this section shall be prepared and submitted as part of the permit application.

(c) The cost estimates calculated for closure and postclosure care shall reflect the costs of complying with the contingent closure plan

and the contingent postclosure plan, if these costs are greater than the costs of complying with the closure plan prepared for the expected closure under subsection (1) of this section.

(d) Financial assurance shall be based on the cost estimates in paragraph (c) of this subsection.

(e) For the purposes of the contingent closure and postclosure plans, such a tank system is considered to be a landfill, and the contingent plans shall meet all of the closure, postclosure and financial responsibility requirements for landfills under 401 KAR 35:070 to 35:130.

(f) For new tank systems that close in accordance with subsection (2) of this section, the owner or operator shall demonstrate compliance with 401 KAR 38:500.

#### Section 9. Special Requirements for Ignitable or Reactive Waste.

(1) Ignitable or reactive waste shall not be placed in a tank unless:

(a) The waste is treated, rendered or mixed before or immediately after placement in the tank system so that:

1. The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under Sections 2 or 4 of 401 KAR 31:030; and

2. Section 8(2) of 401 KAR 35:020 is complied with; or

(b) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(c) The tank system is used solely for emergencies.

(2) The owner or operator of a facility where ignitable or reactive waste is stored or treated in tanks shall comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 to 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1977 or 1981), incorporated in 40 CFR 260.11, which is adopted [by reference] in Section 3 of 401 KAR 30:010.

#### Section 10. Special Requirements for Incompatible Wastes. (1)

Incompatible wastes, or incompatible wastes and materials shall not be placed in the same tank system, unless Section 8(2) of 401 KAR 35:020 is complied with.

(2) Hazardous waste shall not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless Section 9(2) of 401 KAR 35:020 is complied with.

Section 11. Waste Analysis and Trial Tests. In addition to performing the waste analysis required by Section 4 of 401 KAR 35:020, the owner/operator shall whenever a tank system is to be used to chemically treat or to store a hazardous waste that is substantially different from waste previously treated or stored in that tank system; or chemically treat hazardous waste with a substantially different process than any previously used in that tank system:

(1) Conduct waste analyses and trial treatment or storage tests (for example, bench scale or pilot plant scale tests); or

(2) Obtain written, documented information on similar waste under similar operating conditions, to show that the proposed treatment or storage will meet the requirements of Section 5(1) of this administrative regulation.

Section 12. Air Emission Standards. The owner or operator shall manage all hazardous waste placed in a tank in accordance with the requirements of 401 KAR 35:275, 35:280, and 35:281.

Section 13. Special Requirements for Generators of Between 100 and 1,000 Kilograms per Month that Accumulate Hazardous Waste in Tanks. (1) The requirements of this section apply to small quantity generators of more than 100 kilograms but less than 1,000 kilograms

## ADMINISTRATIVE REGISTER - 730

of hazardous waste in a calendar month, that accumulate hazardous waste in tanks for less than 180 days (or 270 days if the generator ships the waste greater than 200 miles), and do not accumulate over 6,000 kilograms on-site at any time.

(2) Generators of between 100 and 1,000 kilograms per month hazardous waste shall comply with the following general operating requirements:

(a) Treatment or storage of hazardous waste in tanks shall comply with Section 8(2) of 401 KAR 35:020.

(b) Hazardous wastes or treatment reagents shall not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(c) Uncovered tanks shall be operated to ensure at least sixty (60) centimeters (two (2) feet) of freeboard, unless the tank is equipped with a containment structure (for example, dike or trench), a drainage control system, or a diversion structure (for example, standby tank) with a capacity that equals or exceeds the volume of the top sixty (60) centimeters (two (2) feet) of the tank.

(d) Where hazardous waste is continuously fed into a tank, the tank shall be equipped with a means to stop this inflow (for example, waste feed cutoff system or by-pass system to a stand-by tank).

(e) These systems are intended to be used in the event of a leak or overflow from the tank due to a system failure (for example, a malfunction in the treatment process or a crack in the tank).

(3) Generators of between 100 and 1,000 kilograms per month accumulating hazardous waste in tanks shall inspect, where present:

(a) Discharge control equipment (for example, waste feed cutoff systems, by-pass systems, and drainage systems) at least once each operating day, to ensure that it is in good working order;

(b) Data gathered from monitoring equipment (for example, pressure and temperature gauges) at least once each operating day to ensure that the tank is being operated according to its design;

(c) The level of waste in the tank at least once each operating day to ensure compliance with subsection (2)(c) of this section;

(d) The construction materials of the tank at least weekly to detect corrosion or leaking of fixtures or seams; and

(e) The construction materials of, and the area immediately surrounding, discharge confinement structures (for example, dikes) at least weekly to detect erosion or obvious signs of leakage (for example, wet spots or dead vegetation).

(f) As required by Section 6(3) of 401 KAR 35:020, the owner or operator shall remedy any deterioration or malfunction he finds.

(4) Generators of between 100 and 1,000 kilograms per month accumulating hazardous waste in tanks shall, upon closure of the facility, remove all hazardous waste from tanks, discharge control equipment, and discharge confinement structures. At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with Section 3(3) or (4) of 401 KAR 31:010, that any solid waste removed from his tank is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of 401 KAR Chapters 32, 33, and 35.

(5) Generators of between 100 and 1,000 kilograms per month shall comply with the following special requirements for ignitable or reactive waste:

(a) Ignitable or reactive waste shall not be placed in a tank, unless:

1. The waste is treated, rendered, or mixed before or immediately after placement in a tank so that:

a. The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under Sections 2 and 4 of 401 KAR 31:030; and

b. Section 8(2) of 401 KAR 35:020 is complied with; or

2. The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

3. The tank is used solely for emergencies.

(b) The owner or operator of a facility which treats or stores ignitable or reactive waste in covered tanks shall comply with the buffer zone requirements for tanks contained in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," (1977 or 1981), incorporated in 40 CFR 260.11 which is adopted in Section 3 of 401 KAR 30:010.

(6) Generators of between 100 and 1,000 kilograms per month shall comply with the following special requirements for incompatible wastes:

(a) Incompatible wastes, or incompatible wastes and materials, (see 401 KAR 35:330 for examples) shall not be placed in the same tank, unless Section 8(2) of 401 KAR 35:020 is complied with.

(b) Hazardous waste shall not be placed in an unwashed tank which previously held an incompatible waste or material, unless Section 8(2) of 401 KAR 35:020 is complied with.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste interim status facilities that use tank systems.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the

## ADMINISTRATIVE REGISTER - 731

extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There will be no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments are consistent with federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and the environment will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Detrimental effects could occur without the implementation of this regulation.

c. If detrimental effect would result, explain detrimental effect: The environment and public health could be harmed if hazardous waste stored in tanks is mismanaged.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, regulations, or policies, that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste interim status facilities that store or treat hazardous waste in tanks, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promul-

gate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to tank systems used to treat or store hazardous waste. These changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that owns or operates a hazardous waste interim status facility that uses waste tank systems.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 35:200. Surface impoundments (IS).

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265 Subpart K

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and 224.46-530 relative to surface impoundments

qualifying for interim status.

Section 1. Applicability. The requirements in this administrative regulation apply to owners and operators of sites or facilities that use surface impoundments to treat, store or dispose of hazardous waste, except as Section 1 of 401 KAR 35:010 provides otherwise.

Section 2. Action Leakage Rate. (1) The owner or operator of surface impoundment units subject to Section 10(1) of this administrative regulation shall submit a proposed action leakage rate to the cabinet when submitting the notice required under Section 10(2) of this administrative regulation. Within sixty (60) days of receipt of the notification, the cabinet shall:

(a) Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or

(b) Extend the review period for up to thirty (30) days. If no action is taken by the cabinet before the original sixty (60) or extended ninety (90) day review periods, the action leakage rate shall be approved as proposed by the owner or operator. However, upon written notice by the cabinet to the owner or operator, the action leakage rate may be modified by the cabinet.

(2) The cabinet shall approve an action leakage rate for surface impoundment units subject to Section 10(1) of this administrative regulation. The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding one (1) foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design (for example, slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (for example, the action leakage rate shall consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures).

(3) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly or monthly flow rate from the monitoring data obtained under Section 5(2) of this administrative regulation, to an average daily flow rate (gallons per acre per day) for each sump. Unless the cabinet approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period, and if the unit closes in accordance with Section 10(1)(b) of this administrative regulation monthly during the postclosure care period when monthly monitoring is required under Section 5(2) of this administrative regulation.

(4) A surface impoundment shall maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action, or a storm. There shall be at least sixty (60) centimeters (approximately two (2) feet) of freeboard.

Section 3. Response Actions. (1) The owner or operator of surface impoundment units subject to Section 10(1) of this administrative regulation shall submit a response action plan to the cabinet when submitting the proposed action leakage rate under Section 2 of this administrative regulation. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in subsection (2) of this section.

(2) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall:

(a) Notify the cabinet in writing of the exceedance within seven (7) days of the determination;

(b) Submit a preliminary written assessment to the cabinet within fourteen (14) days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(c) Determine to the extent practicable the location, size, and

cause of any leak;

(d) Determine whether waste receipt shall cease or be curtailed, whether any waste shall be removed from the unit for inspection, repairs, or controls, and whether or not the unit shall be closed;

(e) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(f) Within thirty (30) days after the notification that the action leakage rate has been exceeded, submit to the cabinet the results of the analyses specified in subsection (2)(c), (d), and (e) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the cabinet a report summarizing the results of any remedial actions taken and actions planned.

(3) To make the leak and remediation determinations in subsection (2)(c), (d), and (e) of this section, the owner or operator shall:

(a)1. Assess the source of liquids and amounts of liquids by source;

2. Conduct a fingerprint, hazardous constituent, or other analysis of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

3. Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(b) Document why such assessments are not needed.

Section 4. Waste Analysis and Trial Tests. In addition to the waste analyses required by Section 4 of 401 KAR 35:020, whenever a surface impoundment is to be used to:

(1) Chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment; or

(2) Chemically treat hazardous waste with a substantially different process than any previously used in that impoundment, the owner or operator shall, before treating the different waste or using the different process:

(a) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot scale tests); or

(b) Obtain written, documented information on similar treatment of similar waste under similar operating conditions, to show that this treatment will comply with Section 8(2) of 401 KAR 35:020.

Section 5. Monitoring and Inspections. (1) The owner or operator shall inspect:

(a) ~~(4)~~ The freeboard level at least once each operating day to ensure compliance with Section 2 of this administrative regulation; and

(b) The surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect any leaks, deterioration, or failures in the impoundment.

(2)(a) An owner or operator required to have a leak detection system under Section 10(1) of this administrative regulation shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(b) The amount of liquids removed from each leak detection system sump shall be recorded at least monthly throughout the postclosure period.

(3) The surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect any leaks, deterioration or failures in the impoundment.

Section 6. Closure and Postclosure Care. (1) At closure, the owner or operator shall:

(a) Remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless Section 3(4) of 401 KAR



31:010 applies; or

(b) Close the impoundment and provide postclosure care for a landfill under 401 KAR 35:070 and Section 4 of 401 KAR 35:230 including the following:

1. Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;
2. Stabilize remaining wastes to a bearing capacity sufficient to support the final cover; and
3. Cover the surface impoundment with a final cover designed and constructed to:
  - a. Provide long-term minimization of the migration of liquids through the closed impoundment;
  - b. Function with minimum maintenance;
  - c. Promote drainage and minimize erosion or abrasion of the cover;
  - d. Accommodate settling and subsidence so that the cover's integrity is maintained; and
  - e. Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(2) In addition to the requirements of 401 KAR 35:070 and Section 4 of 401 KAR 35:230 during the postclosure care period, the owner or operator of a surface impoundment in which wastes, waste residues, or contaminated materials remain after closure in accordance with the provisions of subsection (1)(b) of this section shall:

- (a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;
- (b) Maintain and monitor the leak detection system in accordance with Sections 5(2) and 10(3)(b)4 and (3)(c) of this administrative regulation and comply with all other applicable leak detection system requirements of this chapter.
- (c) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of 401 KAR 35:060; and
- (d) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

Section 7. Special Requirements for Ignitable or Reactive Waste. Ignitable or reactive waste shall not be placed in a surface impoundment unless the waste and impoundment satisfy all applicable requirements of 401 KAR Chapter 37; and

- (1) The waste is treated, rendered or mixed before placement in the impoundment so that: the resulting waste mixture no longer meets the definition of ignitable or reactive waste under Section 2 or 4 of 401 KAR 31:030; or
- (2) The surface impoundment is used solely for emergencies.

Section 8. Special Requirements for Incompatible Wastes. Incompatible wastes or incompatible wastes and materials (see 401 KAR 35:330 for examples) shall not be placed in the same surface impoundment.

Section 9. Recordkeeping. The owner or operator shall record the level of liquid in the surface impoundment every day with respect to a fixed reference elevation.

Section 10. Design and Operating Requirements. (1) The owner or operator of each new surface impoundment on which construction commences after January 29, 1992, each lateral expansion of a surface impoundment unit on which construction commences after July 29, 1992, and each replacement of an existing surface impoundment unit that is to commence reuse after July 29, 1992 shall install two (2) or more liners and a leachate collection and removal system above and between such liners, and operate the leachate collection and removal systems, in accordance with Section 10(3) of this administrative regulation (unless exempted under Section 10(4) or (6) of this administrative regulation). "Construction commences" is defined in Section 1(89) of 401 KAR 35:005 ~~[30:010 under "existing~~

facility"]

(2) The owner or operator of each unit referred to in subsection (1) of this section shall notify the cabinet at least sixty (60) days prior to receiving waste. The owner or operator of each facility submitting notice shall file a Part B application within six (6) months of the receipt of such notice by the cabinet.

(3) The owner or operator of any replacement surface impoundment unit is exempt from subsection (1) of this section if:

- (a) The existing unit was constructed in compliance with design standards of Section 3004(o)(1)(A)(i) and (o)(5) of RCRA; and
- (b) There is no reason to believe that the liner is not functioning as designed.

(4) The double liner requirement set forth in subsection (1) of this section may be waived by the cabinet for any monofill, if:

- (a) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes are considered hazardous only because they exhibit toxicity characteristics classifying them under EPA hazardous waste numbers D004 through D017 (see Section 5 of 401 KAR 31:030); and
- (b) The owner or operator demonstrates that:

1. The monofill:

a. Has at least one (1) liner, as defined in 401 KAR 35:005, for which there is no evidence that such liner is leaking. ~~[For the purposes of this administrative regulation the term "liner" means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility.]~~ In the case of any surface impoundment which has been exempted from the requirements of subsection (1) of this section on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment the owner or operator shall remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such impoundment shall comply with appropriate postclosure requirements, including but not limited to ground water monitoring and corrective action;

b. Is located more than one-fourth (1/4) mile from an underground source of drinking water (as that term is defined in 401 KAR 35:005 ~~[30:010]~~); and

c. Is in compliance with generally applicable ground water monitoring requirements for facilities with permits issued in accordance with 401 KAR Chapter 38; or

2. The monofill is located, designed and operated so as to assure that there shall be no migration of any hazardous constituent into ground water or surface water at any future time.

3. In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of subsection (1) of this section and in good faith for compliance with subsection (1) of this section and with guidance documents governing liners and leachate collection systems under subsection (1) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to subsection (1) of this section shall be required for such unit by the cabinet when issuing the first permit to such facility, except that the cabinet not be precluded from requiring installation of a new liner when the cabinet has reason to believe that any liner installed pursuant to the requirements of subsection (1) of this section is leaking.

(5) A surface impoundment shall maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action, or a storm. There shall be at least sixty (60) centimeters (approximately two (2) feet) of freeboard.

(6) All earthen dikes shall have a protective cover, such as grass, shale, or rock to minimize wind and water erosion and to preserve

their structural integrity.

(7) Surface impoundments that are newly subject to hazardous waste management requirements due to the promulgation of additional listings or characteristics for the identification of hazardous waste shall be in compliance with subsections (1), (3), and (4) of this section not later than 48 months after the promulgation of the additional listing or characteristic. This compliance period shall not be cut short as the result of the promulgation of land disposal prohibitions under 401 KAR Chapter 37 or the granting of an extension to the effective date of the prohibitions pursuant to Section 5 of 37:010, within the forty-eight (48) month period.

Section 11. Air Emission Standards. The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the requirements of 401 KAR 35:281.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste interim status facilities that use surface impoundments that store, dispose, or treat hazardous waste.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area

in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There are no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The environment and public health will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: The environment and public health could be harmed without the surface impoundment regulations.

c. If detrimental effect would result, explain detrimental effect: Hazardous waste mismanaged in a surface impoundment could affect human health and the environment.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste interim status facilities that use surface impoundments, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

## ADMINISTRATIVE REGISTER - 735

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to surface impoundments that treat, store, or dispose of hazardous waste. These changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that uses surface impoundments which store, treat, or dispose of hazardous waste.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 35:210. Waste piles (IS).

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265 Subpart L

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520  
NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 relative to waste piles qualifying for interim status.

Section 1. Applicability. The requirements in this administrative regulation apply to owners and operators of sites or facilities that treat or store hazardous waste in piles, except as Section 1 of 401 KAR 35:010 provides otherwise. Alternatively, a pile of hazardous waste may be managed as a landfill under 401 KAR 35:230.

Section 2. Protection from Wind. The owner or operator of a pile containing hazardous waste which could be subject to dispersal of wind shall cover or otherwise manage the pile so that wind dispersal is controlled.

Section 3. Waste Analysis. (1) In addition to the waste analysis required by Section 4 of 401 KAR 35:020, the owner or operator shall analyze a representative sample of waste from each incoming movement before adding the waste to any existing pile, unless:

(a) The only wastes the facility receives which are amenable to piling are compatible with each other, or

(b) The waste received is compatible with the waste in the pile to which it is to be added.

(2) The analysis conducted shall be capable of differentiating between the types of hazardous waste the owner or operator place in piles, so that mixing of incompatible waste does not inadvertently occur. The analysis shall include a visual comparison of color and texture.

Section 4. Containment. If leachate or run-off from a pile is a hazardous waste then either subsection (1) or (2) of this section shall be complied with:

(1)(a) The pile shall be placed on an impermeable base that is compatible with the waste under the conditions of treatment or storage;

(b) The owner or operator shall design, construct, operate and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a twenty-five (25) year storm;

(c) The owner or operator shall design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a twenty-four (24) hour, twenty-five (25) year storm; and

(d) Collection and holding facilities (tanks or basins) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously to maintain design capacity of the system; or

(2)(a) The pile shall be protected from precipitation and run-on by some other means; and

(b) No liquids or wastes containing free liquids may be placed in the pile.

Section 5. Special Requirements for Ignitable or Reactive Waste. Ignitable or reactive wastes shall not be placed in a pile unless the waste and pile satisfy all applicable requirements of 401 KAR Chapter 37; and

(1) The waste or mixture no longer meets the definition of ignitable or reactive waste under Section 2 or 4 of 401 KAR 31:030; and

(2) The waste is managed in accordance with Section 8(2) of 401 KAR 35:020 so that it is protected from any material or conditions that may cause it to ignite or react.

Section 6. Special Requirements for Incompatible Wastes. (1) Incompatible wastes or incompatible wastes and materials (see 401 KAR 35:330 for examples), shall not be placed in the same pile.

(2) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks

or surface impoundments shall be separated from the other materials or protected from them by means of a dike, berm, wall or other device.

(3) Hazardous waste shall not be piled on the same area where incompatible wastes or materials were previously piled, unless that area has been decontaminated sufficiently to ensure compliance with Section 8(2) of 401 KAR 35:020.

Section 7. Closure and Postclosure Care. (1) At closure the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless Section 3(4) of 401 KAR 31:010 applies; or

(2) If, after removing or decontaminating all residue and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures and equipment as required in subsection (1) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he shall close the facility and perform postclosure care in accordance with the closure and postclosure requirements that apply to landfills (see Section 4 of 401 KAR 35:230). If the owner or operator did not list the waste pile as a disposal facility in the original Part A application, the requirements of 401 KAR 38:500 shall be satisfied in order to become a disposal facility.

Section 8. Design and Operating Requirements. The owner or operator of each waste pile on which construction commenced after January 29, 1992, each lateral expansion of a waste pile unit on which construction commenced after July 29, 1992, and each replacement of an existing waste pile unit that commenced reuse after July 29, 1992 shall install two (2) or more liners and a leachate collection and removal system above and between the liners, and operate the leachate collection and removal systems, in accordance with Section 2(3) of 401 KAR 34:210, unless exempted under Section 2(4), (5), or (6) of 401 KAR 34:210; and shall comply with the procedures of Section 2(2) of 401 KAR 34:200. "Construction commences" is as defined in Section 1(89) of 401 KAR 35:005 [~~30:040 under "existing facility"~~].

Section 9. Action Leakage Rates. (1) The owner or operator of waste pile units subject to Section 5 of this administrative regulation shall submit a proposed action leakage rate to the cabinet when submitting the notice required under Section 5 of this administrative regulation. Within sixty (60) days of receipt of the notification, the cabinet shall:

(a) Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or

(b) Extend the review period for up to thirty (30) days. If no action is taken by the cabinet before the original sixty (60) or extended ninety (90) day review periods, the action leakage rate shall be approved as proposed by the owner or operator. However, upon written notice by the cabinet to the owner or operator, the action leakage rate may be modified by the cabinet.

(2) The cabinet shall approve an action leakage rate for surface impoundment units subject to Section 5 of this administrative regulation. The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding one (1) foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design (for example, slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (for example, the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system,

overburden pressures).

(3) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly flow rate from the monitoring data obtained under Section 11 of this administrative regulation, to an average daily flow rate (gallons per acre per day for example) for each sump. Unless the cabinet approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period.

Section 10. Response Actions. (1) The owner or operator of waste pile units subject to Section 8 of this administrative regulation shall submit a response action plan to the cabinet when submitting the proposed action leakage rate under Section 9 of this administrative regulation. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in subsection (2) of this section.

(2) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall:

(a) Notify the cabinet in writing of the exceedance within seven (7) days of the determination;

(b) Submit a preliminary written assessment to the cabinet within fourteen (14) days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(c) Determine to the extent practicable the location, size, and cause of any leak;

(d) Determine whether waste receipts shall cease or be curtailed, whether any waste shall be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(e) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(f) Within thirty (30) days after the notification that the action leakage rate has been exceeded, submit to the cabinet the results of the analyses specified in subsections (2)(c), (d), and (e) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the cabinet a report summarizing the results of any remedial actions taken and actions planned.

(3) To make the leak and remediation determinations in subsections (2)(c), (d), and (e) of this section, the owner or operator shall:

(a) 1. Assess the source of liquids and amounts of liquids by source,

2. Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

3. Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(b) Document why such assessments are not needed.

Section 11. Monitoring and Inspection. An owner or operator required to have a leak detection system under Section 8 of this administrative regulation shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale

has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators who treat or store hazardous waste in piles.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There are no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from

the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with KRS 13A.222 requirements.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: There will no effect on the environment or public health.

b. State whether a detrimental effect on the environment and public health would result if not implemented: There will no detrimental effect on the environment or public health.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste interim status facilities that use surface impoundments, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that uses surface impoundments which store, treat, or dispose of hazardous waste.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

**NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)**

**401 KAR 35:230. Landfill (IS).**

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265 Subpart N

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish minimum standards for hazardous waste landfills qualifying for interim status.

Section 1. Applicability. The requirements in this administrative regulation apply to owners and operators of sites or facilities that dispose of hazardous waste in landfills, except as Section 1 of 401 KAR 35:010 provides otherwise. A waste pile used as a disposal facility is a landfill and is governed by this administrative regulation.

Section 2. Action Leakage Rate. (1) The owner or operator of landfill units subject to Section 10(1) of this administrative regulation shall submit a proposed action leakage rate to the cabinet when submitting the notice required under Section 10(2) of this administrative regulation. Within sixty (60) days of receipt of the notification, the cabinet shall:

(a) Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or

(b) Extend the review period for up to thirty (30) days. If no action is taken by the cabinet before the original sixty (60) or extended ninety (90) day review periods, the action leakage rate shall be approved as proposed by the owner or operator.

(2) The cabinet shall approve an action leakage rate for landfills subject to Section 10(1) of this administrative regulation. The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding one (1) foot. The action leakage rate shall include an adequate safety margin to allow for uncertainties in the design (such as slope, hydraulic conductivity, or thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions. (The action leakage rate must consider decreases in the flow capacity of the system over time

resulting from such factors as siltation and clogging, rib layover and creep of synthetic components of the system, or overburden pressures).

(3) To determine if the action leakage rate has been exceeded, the owner or operator shall convert the weekly or monthly flow rate from the monitoring data obtained under Section 12 of this administrative regulation to an average daily flow rate (gallons per acre per day) for each sump. Unless the cabinet approves a different calculation, the average daily flow rate for each sump shall be calculated weekly during the active life and closure period, and monthly during the postclosure care period when monthly monitoring is required under Section 12(2) of this administrative regulation.

(4) As required by Section 4 of 401 KAR 35:020, the waste analysis plan shall include the analyses needed to comply with Sections 5, 6, and 7 of this administrative regulation. As required by Section 4 of 401 KAR 35:050, the owner or operator shall place the results of these analyses in the operating record of the facility.

Section 3. Surveying and Recordkeeping. The owner or operator of a landfill shall maintain the following items in the operating record required in Section 4 of 401 KAR 35:050:

(1) On a map, the exact location and dimensions, including depth of each cell with respect to permanently surveyed benchmarks; and

(2) The contents of each cell and the approximate location of each hazardous waste type within each cell.

Section 4. Closure and Postclosure Care. (1) At final closure of the landfill or upon closure of any cell, the owner or operator shall cover the landfill or cell with a final cover designed and constructed to:

(a) Provide long-term minimization of migration of liquids through the closed landfill;

(b) Function with minimum maintenance;

(c) Promote drainage and minimize erosion or abrasion of the cover;

(d) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(e) Have a permeability less than or equal to  $1 \times 10^{-7}$  cm/sec.

(2) After final closure, the owner or operator shall comply with all postclosure requirements contained in Sections 8 to 11 of 401 KAR 35:070 including maintenance and monitoring throughout the postclosure care period. The owner or operator shall:

(a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;

(b) Maintain and monitor the leak detection system in accordance with Sections 2(3)(c)4 and (2)(d) and 13 of 401 KAR 34:230, and comply with all other applicable leak detection system requirements of this chapter.

(c) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of 401 KAR 34:060;

(d) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(e) Protect and maintain surveyed benchmarks used in complying with Section 3 of this administrative regulation.

(3) The owner or operator shall consider at least the following factors in addressing the closure and postclosure care objectives of subsection (2) of this section:

(a) Type and amount of hazardous waste and hazardous waste constituents in the landfill;

(b) The mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;

(c) Site location, topography and surrounding land use, with respect to the potential effects of pollutant migration (for example, proximity to groundwater, surface water, and drinking water sources);

(d) Climate, including amount, frequency and pH of precipitation;

(e) Characteristics of the cover including material, final surface



contours, thickness, porosity and permeability, slope, length of run of slope and type of vegetation on the cover; and

(f) Geological and soil profiles, and surface and subsurface hydrology of the site.

(4) After final closure, the owner or operator shall comply with all postclosure requirements contained in Sections 8 to 11 of 401 KAR 35:070 including maintenance and monitoring throughout the postclosure care period. The owner or operator shall:

(a) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;

(b) Maintain and monitor the ground water monitoring system and comply with all other applicable requirements of 401 KAR 35:060;

(c) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(d) Protect and maintain surveyed benchmarks used in complying with this section.

(5) In addition to the requirements of Section 8 of 401 KAR 35:070, during the postclosure care period, the owner or operator of a hazardous waste landfill shall:

(a) Maintain and monitor the gas collection and control system (if there is one present in the landfill) to control the vertical and horizontal escape of gases; and

(b) Restrict access to the landfill as appropriate for its postclosure use.

Section 5. Special Requirements for Ignitable or Reactive Waste. Ignitable or reactive waste shall not be placed in a landfill unless the waste and landfill meet all applicable requirements of 401 KAR Chapter 37 and:

(1) The resulting waste or mixture no longer meets the definition of ignitable or reactive waste under Section 2 or 3 of 401 KAR 31:030; and

(2) Section 8(2) of 401 KAR 35:020 is complied with.

Section 6. Special Requirements for Incompatible Wastes. Incompatible wastes or incompatible wastes and materials (see 401 KAR 35:330 for examples) shall not be placed in the same landfill cell.

Section 7. Special Requirements for Liquid, Bulk and Containerized Waste. (1) The placement of bulk or noncontainerized liquid hazardous waste or hazardous waste containing free liquids (whether or not absorbents have been added) in any landfill is prohibited.

(2) Containers holding free liquids shall not be placed in a landfill unless:

(a) All freestanding liquid:

1. Has been removed by decanting, or other methods; or

2. Has been mixed with sorbent or solidified so that free-standing liquid is no longer observed; or

3. Has been otherwise eliminated; or

(b) The container is very small, such as an ampule; or

(c) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(d) The container is a lab pack as identified in Section 9 of this administrative regulation and is disposed in accordance with Section 9 of this administrative regulation.

(3) To demonstrate the absence or presence of free liquids in either a containerized or bulk waste, the following test shall be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," (EPA Publication [No.] SW-846 which is incorporated [by reference] in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010).

(4) ~~(3)~~ The date for compliance with subsection (1) of this section is November 19, 1981. The date for compliance with subsection (2) of this section is March 22, 1982.

(5) Sorbents used to treat free liquids to be disposed in landfills

must be nonbiodegradable. Nonbiodegradable sorbents are: materials listed or described in paragraph (a) of this subsection; materials that pass one of the tests in paragraph (b) of this subsection; or materials that are determined by the cabinet to be nonbiodegradable through the petition process of Section 6 in 401 KAR 31:060.

(a) Nonbiodegradable sorbents.

1. Inorganic minerals, other inorganic materials, and elemental carbon (for example, aluminosilicates, clays, smectites, Fuller's earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites; calcium carbonate (organic free limestone); oxides or hydroxides, alumina, lime, silica (sand), diatomaceous earth; perlite (volcanic glass); expanded volcanic rock; volcanic ash; cement kiln dust; fly ash; rice hull ash; activated charcoal or activated carbon); or

2. High molecular weight synthetic polymers (for example, polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polyisobutylene, ground synthetic rubber, cross-linked allylstylene and tertiary butyl copolymers). This does not include polymers derived from biological material or polymers specifically designed to be degradable; or

3. Mixtures of these nonbiodegradable materials.

(b) Tests for nonbiodegradable sorbents.

1. The sorbent material is determined to be nonbiodegradable under ASTM Method G21-70 Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi; or

2. The sorbent material is determined to be nonbiodegradable under ASTM Method G22-76 Standard Practice for Determining Resistance of Plastics to Bacteria; or

3. The sorbent material is determined to be nonbiodegradable under OECD test 301B: CO<sub>2</sub> Evolution (modified Sturm Test).

(6) ~~(4)~~ Effective November 8, 1985, the placement of any liquid, that ~~which~~ is not a hazardous waste, in a hazardous waste landfill is prohibited unless the owner or operator of such landfill demonstrates to the cabinet or the cabinet determines that:

(a) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste;

(b) Placement in such owner's or operator's landfill ~~or surface impoundment~~ will not present a risk of contamination of any underground source of drinking water ~~(as that term is defined in Section 1 of 401 KAR 30:010)~~; and

(c) Placement in such owner's or operator's landfill ~~or unlined surface impoundment~~ is in compliance with the applicable provisions of KRS Chapter 224.

Section 8. Special Requirements for Containers. Unless they are very small, such as an ampule, containers shall be either:

(1) At least ninety (90) percent full when placed in the landfill; or

(2) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

Section 9. Disposal of Small Containers of Hazardous Waste in Overpacked Drums (Lab Packs). Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

(1) Hazardous waste shall be packaged in nonleaking inside containers. The inside containers shall be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the waste held therein. Inside containers shall be tightly and securely sealed. The inside containers shall be of the size and type specified in the DOT hazardous materials regulations, 49 CFR Subpart C ~~[Parts 173, 178 and 179]~~, if those regulations specify a particular inside container for the waste.

(2) The inside containers shall be overpacked in an open head

DOT-specification metal shipping container, 49 CFR Subpart C ~~[Parts 178 and 179]~~ of no more than 416-liter (approximately 110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of ~~[ab]~~sorbent material, determined to be nonbiodegradable in accordance with Section 7(4) of this administrative regulation, to completely ~~[ab]~~sorb all of the liquid contents of the inside containers. The metal outer container shall be full after packing with inside containers and ~~[ab]~~sorbent material.

(3) The ~~[ab]~~sorbent material used shall not be capable of reacting dangerously with, being decomposed by or being ignited by the contents of the inside containers, in accordance with Section 8(2) of 401 KAR 35:020.

(4) Incompatible wastes, as defined in Section 1 of 401 KAR 35:005 ~~[30:040]~~, shall not be placed in the same outside container.

(5) Reactive waste shall be treated or rendered nonreactive prior to packaging in accordance with subsections (1) to (4) of this section.

(6) Such disposal shall comply with the requirements of 401 KAR Chapter 37. Persons who incinerate lab packs according to the requirements in Section 4 of 401 KAR 37:040 may use fiber drums in place of metal outer containers. The fiber drums shall meet the DOT specifications in 49 CFR Subpart C ~~[473-42]~~ and be overpacked according to the requirements in subsection (2) of this section.

Section 10. Design and Operating Requirements. (1) The owner or operator of each new landfill unit on which construction commences after January 29, 1992, each lateral expansion of a landfill unit on which construction commences after July 29, 1992, and each replacement of an existing landfill unit that is to commence reuse after July 29, 1992 shall install two (2) or more liners and a leachate collection and removal system above and between such liners, and operate the leachate collection and removal systems, in accordance with Section 2(4), (5), or (f) of 401 KAR 34:230. "Construction commences" is as defined in Section 1(89) of 401 KAR 35:005. ~~[30:040 of this chapter under "existing facility".]~~

(2) The owner or operator of a landfill shall install two (2) or more liners and leachate collection systems above and between such liners in accordance with Section 2(3) of 401 KAR 34:230 with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area identified in the Part A permit application, and with respect to waste received beginning May 8, 1985.

(3) The owner or operator of each unit referred to in subsection (1) of this section must notify the cabinet at least sixty (60) days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six (6) months of the receipt of such notice by the cabinet.

(4) The owner or operator of any replacement landfill unit is exempt from paragraph (a) of this section if:

(a) The existing unit was constructed in compliance with the design standards of 401 KAR Chapter 34 ~~[Section 3004(e)(1)(A)(i) and (e)(5) of RCRA]~~; and

(b) There is no reason to believe that the liner is not functioning as designed.

(5) Subsection (1) of this section shall not apply if the owner or operator demonstrates to the cabinet, and the cabinet finds for such landfill, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

(6) The double liner requirement set forth in subsection (1) of this section may be waived by the cabinet for any monofill, if:

(a) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristics in Section 5 of 401 KAR 31:030, with EPA Hazardous Waste Numbers D004 through D017 and the owner or operator demonstrates that:

1. The monofill:

a. Has at least one (1) liner for which there is no evidence that such liner is leaking;

b. Is located more than one-fourth (1/4) mile from an underground source of drinking water (as that term is defined in 401 KAR 35:005 ~~[30:040]~~); and

c. Is in compliance with generally applicable ground water monitoring requirements for facilities with permits under 401 KAR Chapter 38; or

2. The owner or operator demonstrates that the monofill is located, designed, and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(7) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of subsection (1) of this section and in good faith compliance with subsection (1) of this section and with guidance documents governing liners and leachate collection systems under subsection (1) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to subsection (1) of this section shall be required for such unit by the cabinet when issuing the first permit to such facility, except that the cabinet shall not be precluded from requiring installation of a new liner if the cabinet has reason to believe that any liner installed pursuant to the requirements of subsection (1) of this section is leaking.

(8) The owner or operator shall design, construct, operate and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a twenty-five (25) year storm.

(9) The owner or operator shall design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a twenty-four (24) hour, twenty-five (25) year storm.

(10) Collection and holding facilities (such as tanks or basins) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(11) The owner or operator of a landfill containing hazardous waste which is subject to dispersal by wind shall cover or otherwise manage the landfill so that wind dispersal of the hazardous waste is controlled.

Section 11. Response Actions. (1) The owner or operator of landfill units subject to Section 10(1) of this administrative regulation shall submit a response action plan to the cabinet when submitting the proposed action leakage rate under Section 2 of this administrative regulation. The response action plan shall set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in subsection (2) of this section.

(2) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall:

(a) Notify the cabinet in writing of the exceedance within seven (7) days of the determination or immediately if required by KRS 224.01-400;

(b) Submit a preliminary written assessment to the cabinet within fourteen (14) days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(c) Determine to the extent practicable the location, size, and cause of any leak;

(d) Determine whether waste receipt shall cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit shall be closed;

(e) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(f) Within thirty (30) days after the notification that the action

leakage rate has been exceeded, submit to the cabinet the results of the analyses specified in paragraphs (c) and (e) of this subsection, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the cabinet a report summarizing the results of any remedial actions taken and actions planned.

(3) To make the leak and remediation determinations in subsections (2)(c), (d), and (e) of this section, the owner or operator shall:

(a)1. Assess the source of liquids and amounts of liquids by source;

2. Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

3. Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(b) Document why such assessments are not needed.

Section 12. Monitoring and Inspection. (1) An owner or operator required to have a leak detection system under Section 10(1) of this administrative regulation shall record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump shall be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two (2) consecutive months, the amount of liquids in the sumps shall be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps shall be recorded at least semiannually. If at any time during the postclosure care period the pump operating level is exceeded at units on quarterly or semiannual recording schedules, the owner or operator shall return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(3) [~~"Pump operating level" is a liquid level proposed by the owner or operator and approved by the cabinet based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.~~] The timing for submission and approval of the proposed "pump operating level" shall be in accordance with Section 2(1) of this administrative regulation.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch

diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

## REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of interim status facilities that dispose of hazardous waste in landfills.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There are no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The implementation of this regulation will improve public health and the environment across the commonwealth.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Detrimental affects could occur without the implementation of this regulation.

c. If detrimental effect would result, explain detrimental effect: These amendments clarify which types of waste may be properly disposed of in a landfill. Wastes that are mismanaged in landfills could pose detrimental effects to human health and the environment.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations, that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste interim status facilities that dispose of hazardous waste in landfills, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to liquid hazardous waste and the storage containers to be used. These changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements for regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that disposes of hazardous waste in interim status landfills.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 35:250. Thermal treatment (IS).

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265 Subpart P

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish minimum standards for thermal treatment facilities qualifying for interim status.

Section 1. Applicability. The requirements in this administrative regulation apply to owners or operators of sites or facilities that thermally treat hazardous waste in devices other than enclosed devices using controlled flame combustion except as Section 1 of 401 KAR 35:010 provides otherwise. Thermal treatment in enclosed devices using controlled flame combustion is subject to the requirements of 401 KAR 35:240 if the unit is an incinerator, and 401 KAR 36:020 if the unit is a boiler (as defined in 401 KAR 35:005 [30:040]) or an industrial furnace (as defined in 401 KAR 35:005 [30:040]).

Section 2. General Operating Requirements. Before adding hazardous waste, the owner or operator shall bring his thermal treatment process to steady state (normal) conditions of operation (including steady state operating temperature) using auxiliary fuel or other means unless the process is a noncontinuous (batch) thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste.

Section 3. Waste Analysis. In addition to the waste analyses required by Section 4 of 401 KAR 35:020, the owner or operator shall sufficiently analyze any waste which he has not previously treated in his thermal process to enable him to establish steady state (normal) or other appropriate (for a noncontinuous process) operating conditions (including waste and auxiliary fuel feed) and to determine the type of pollutants which might be emitted. At a minimum, the analysis shall determine:

(1) Heating value of the waste;

(2) Halogen content and sulfur content in the waste; and

(3) Concentrations in the waste of lead and mercury unless the owner or operator has written, documented data that show that the element is not present.

Section 4. Monitoring and Inspections. The owner or operator shall conduct, at a minimum, the following monitoring and inspections when thermally treating hazardous waste:

(1) Existing instruments which relate to temperature and emission control (if an emission control device is present) shall be monitored

at least every fifteen (15) minutes. Appropriate corrections to maintain steady state or other appropriate thermal treatment conditions shall be made immediately either automatically or by the operator. Instruments which relate to temperature and emission control would normally include those measuring waste feed, auxiliary fuel feed, treatment process temperature, and relevant process flow and level controls.

(2) The stack plume (emissions), where present, shall be observed visually at least hourly for normal appearance (color and opacity). The operator shall immediately make any indicated operating corrections necessary to return any visible emissions to their normal appearance.

(3) The complete thermal treatment process and associated equipment (such as pumps, valves, conveyors, and pipes) shall be inspected at least daily for leaks, spills and fugitive emissions, and all emergency shutdown controls and system alarms shall [be checked to assure proper operation.

Section 5. Closure. At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including but not limited to ash) from the thermal treatment process or equipment.

Section 6. Open Burning; Waste Explosives. Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment. Detonation is an explosion in which chemical transformation passes through the material faster than the speed of sound (0.33 kilometers/second at sea level). Owners or operators choosing to open burn or detonate waste explosives shall do so in accordance with Table 1 of this section and in a manner that does not threaten human health or the environment.

Table 1

| Pounds of Waste<br>Explosives or<br>Propellants | Minimum Distance from<br>Open Burning or Detonation<br>to the Property of Others |
|---|--|
| 0 to 100  | 204 meters (approx. 670 feet)  |
| 101 to 1,000                                    | 380 meters (approx. 1,250 feet)  |
| 1,001 to 10,000                                 | 530 meters (approx. 1,730 feet)  |
| 10,001 to 30,000                                | 690 meters (approx. 2,260 feet)  |

Section 7. Interim Status Thermal Treatment Devices Burning Particular Hazardous Wastes. (1) Owners or operators of thermal treatment devices subject to the requirements of this administrative regulation may burn EPA Hazardous Wastes Numbers F020, F021, F022, F023, F026, or F027 (chlorinated dioxins, dibenzofurans, and phenols) if they receive a certification from the cabinet that they can meet the performance standards of 401 KAR 34:240 when they burn these wastes.

(2) The following standards and procedures shall be used in determining whether to certify a thermal treatment unit:

(a) The owner or operator shall submit an application to the cabinet containing the applicable information in 401 KAR 38:190 and Section 3 of 401 KAR 38:060 demonstrating that the thermal treatment unit can meet the standards of 401 KAR 34:240 when they burn these wastes.

(b) The cabinet shall issue a tentative decision as to whether the thermal treatment unit can meet the performance standards in 401 KAR 34:240. Notification of this tentative decision shall be provided by newspaper advertisement and radio broadcast in the jurisdiction where the thermal treatment device is located. The cabinet shall accept comment on the tentative decision for sixty (60) days. The

cabinet may also hold a public hearing upon request or at his discretion.

(c) After the close of the public comment period, the cabinet shall issue a decision whether or not to certify the thermal treatment unit.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

## REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities that thermally treat hazardous waste in devices other than enclosed devices using controlled flame combustion.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:
  - a. Direct and indirect costs or savings:
    1. First Year: There are no costs or savings.
    2. Continuing costs or savings: Not applicable.
    3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.
  - b. Reporting and paperwork requirements: There are no additional paperwork requirements.
4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.
5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.
6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:
  - a. Geographical area in which administrative regulation will be implemented: No public comments were received.
  - b. Kentucky: No public comments were received.
7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with KRS 13A.222 requirements.
8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with KRS 13A.222 requirements.
  - 9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: There will be no effect on the environment or public health due to the implementation of these amendments.
  - b. State whether a detrimental effect on the environment and public health would result if not implemented: There will be no detrimental effect on the environment and public health due to implementation of these amendments.
  - c. If detrimental effect would result, explain detrimental effect: Not applicable.
10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.
  - a. Necessity of proposed regulation if in conflict: Not applicable.
  - b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.
11. Any additional information or comments: No additional comments.
12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste interim status facilities that use surface impoundments, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.
2. State compliance standards: The regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.
3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.
4. Will this administrative regulation impose stricter requirements,

or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that thermally treat hazardous waste in devices other than enclosed devices using controlled flame combustion.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

**401 KAR 35:275. Air emission standards for process vents (IS).**

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265 Subpart AA

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish standards for air emissions for process vents.

Section 1. Definitions. As used in this administrative regulation, all terms have the meaning given them in 401 KAR 35:005. [~~KRS Chapter 224 and 401 KAR Chapters 30 to 36.~~]

Section 2. Applicability. (1) This administrative regulation applies to owners and operators of facilities that treat, store, or dispose of hazardous wastes, except as provided in Section 1 of 401 KAR 35:010.

(2) Except for Section 5(4) and (5) of this administrative regulation, this administrative regulation applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes



with organic concentrations of at least ten (10) ppmw, if these operations are conducted in:

- (a) Units that are subject to the permitting requirements of part 270; or
- (b) Hazardous waste recycling units that are located on hazardous waste management facilities otherwise subject to the permitting requirements of 401 KAR Chapter 38.

Section 3. Standards: Process Vents. (1) The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations managing hazardous wastes with organic concentrations at least ten (10) ppmw shall either:

- (a) Reduce total organic emissions from all affected process vents at the facility below one and four-tenths (1.4) kg/h (three (3) lb/h) and two and eight-tenths (2.8) Mg/yr (three and one-tenth (3.1) tons/yr); or
- (b) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by ninety-five (95) weight percent.

(2) If the owner or operator installs a closed-vent system and control device to comply with the provisions of subsection (1) of this section, the closed-vent system and control device shall meet the requirements of Section 4 of this administrative regulation.

(3) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests shall conform with the requirements of Section 5(3) of this administrative regulation.

(4) When an owner or operator and the cabinet do not agree on determinations of vent emissions or emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the test methods in Section 5(3) of this administrative regulation shall be used to resolve the disagreement.

#### Section 4. Standards: Closed-vent Systems and Control Devices.

(1)(a) Owners or operators of closed-vent systems and control devices used to comply with provisions of this part shall comply with this section.

(b) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with this administrative regulation on December 21, 1990 shall prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls shall be installed as soon as possible, but the implementation schedule may allow up to eighteen (18) months after December 21, 1990 for installation and start-up. All units that begin operation after December 21, 1990 shall comply with this administrative regulation immediately (that is, shall have control devices installed and operating on start-up of the affected unit); the two (2) year implementation schedule does not apply to these units.

(2) A control device involving vapor recovery (for example, a condenser or absorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of ninety-five (95) weight percent or greater unless the total organic emission limits of Section 3(1)(a) of this administrative regulation for all affected process vents can be attained at an efficiency less than ninety-five (95) weight percent.

(3) An enclosed combustion device (for example, a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by ninety-five (95) weight percent or greater; to achieve a total organic compound concentration of twenty (20) ppmv, expressed as the sum of the actual compounds,

not carbon equivalents, on a dry basis corrected to three (3) percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame combustion zone of the boiler or process heater.

(4)(a) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in subsection (5)(a) of this section, except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours.

(b) A flare shall be operated with a flame present at all times, as determined by the methods specified in subsection (6)(b)3 of this section.

(c) A flare shall be used only if the net heating value of the gas being combusted is eleven and two-tenths (11.2) MJ/scm (300 Btu/scf) or greater, if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in subsection (5)(b) of this section.

(d)1. A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in subsection (5)(c) of this section, of less than eighteen and three-tenths (18.3) m/s (sixty (60) ft/s), except as provided in subparagraphs 2 and 3 of this paragraph.

2. A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in subsection (5)(c) of this section, equal to or greater than eighteen and three-tenths (18.3) m/s (sixty (60) ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than thirty-seven and three-tenths (37.3) MJ/scm (1,000 Btu/scf).

3. A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in subsection (5)(c) of this section, less than the velocity,  $V_{max}$ , as determined by the method specified in subsection (5)(d) of this section, and less than 122 m/s (400 ft/s) is allowed.

(e) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity,  $V_{max}$ , as determined by the method specified in subsection (5)(e) of this section.

(f) A flare used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(5)(a) Reference Method 22 in 40 CFR Part 60 (~~July 1, 1992~~) shall be used to determine the compliance of a flare with the visible emission provisions of this administrative regulation. The observation period is two (2) hours and shall be used according to Method 22.

(b) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

where:

1.  $H_T$  = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at twenty-five (25) degrees Centigrade and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is twenty (20) degrees Centigrade;

2.  $K$  = Constant,  $1.74 \times 10^{-7}$  (one (1)/ppm) (g mol/scm) (MJ/kcal); where standard temperature for (g mol/scm) is twenty (20) degrees Centigrade;

3.  $C_i$  = Concentration of sample component  $i$  in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR Part 60 (~~July 1, 1992~~) and measured for hydrogen and carbon monoxide by ASTM D 1946-82 (incorporated in 40 CFR 260.11, which is adopted ~~by reference as specified~~ in Section 3 of 401 KAR 30:010); and

4.  $H_i$  = Net heat of combustion of sample component  $i$ , kcal/g mol at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382-83 (incorporated in 40 CFR 260.11, which is adopted ~~by reference as specified~~ in Section 3 of 401 KAR 30:010) if published values are not available or cannot be calculated.

(c) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR Part 60 (~~July 1, 1992~~) as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(d) The maximum allowed velocity in m/s,  $V_{max}$ , for a flare complying with subsection (4)(d)3. of this section shall be determined by the following equation:

$$\text{Log}_{10}(V_{max}) = (H_i + 28.8) / 31.7$$

where:

1.  $H_i$  = The net heating value as determined in paragraph (e)(2) of this section.

2. 28.8 = Constant,

3. 31.7 = Constant.

(e) The maximum allowed velocity in m/s,  $V_{max}$ , for an air-assisted flare shall be determined by the following equation:

$$V_{max} = 8.706 + 0.7084 (H_i)$$

where:

1. 8.706 = Constant.

2. 0.7084 = Constant.

3.  $H_i$  = The net heating value as determined in paragraph (b) of this subsection.

(6) The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing the following requirements:

(a) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet, but before being combined with other vent streams;

(b) Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

1. For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of plus or minus one (1) percent of the temperature being monitored in degrees Centigrade or plus or minus five-tenths (0.5) degrees Centigrade, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone;

2. For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two (2) locations and have an accuracy of plus or minus one (1) percent of the temperature being monitored in degrees Centigrade or plus or minus five-tenths (0.5) degrees Centigrade, whichever is greater. One (1) temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet;

3. For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame;

4. For a boiler or process heater having a design heat input capacity less than forty-four (44) MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of plus or minus one (1) percent of the temperature being monitored in degrees Centigrade or plus or minus five-tenths (0.5) degrees Centigrade, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone;

5. For a boiler or process heater having a design heat input capacity greater than or equal to forty-four (44) MW, a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used;

6. For a condenser, either:

a. A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser; or

b. A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two (2) locations and have an accuracy of plus or minus one (1) percent of the temperature being monitored in degrees Centigrade or plus or minus five-tenths (0.5) degrees Centigrade, whichever is greater. One (1) temperature sensor shall be installed at a location in the exhaust vent stream from the condenser, and a second temperature sensor shall be installed at a location in the coolant fluid exiting the condenser;

7. For a carbon adsorption system such as a fixed-bed carbon absorber that regenerates the carbon bed directly in the control device, either:

a. A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed; or

b. A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle; and

(c) Inspect the readings from each monitoring device required by paragraphs (a) and (b) of this subsection at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of this administrative regulation.

(7) An owner or operator using a carbon adsorption system, such as a fixed-bed carbon absorber that regenerates the carbon bed directly on site in the control device, shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life required by Section 6(2)(d)3f of this administrative regulation.

(8) An owner or operator using a carbon adsorption system, such as a carbon canister that does not regenerate the carbon bed directly on site in the control device, shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one (1) of the following procedures:

(a) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than twenty (20) percent of the time required to consume the total carbon working capacity established as a requirement of Section 6(2)(d)3g of this administrative regulation, whichever is longer; or

(b) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval required by Section 6(2)(d)3g of this administrative regulation.

(9) An owner or operator of an affected facility seeking to comply with the provisions of this administrative regulation by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system shall develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(10)(a) Closed-vent systems shall be designed for and operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background and by visual inspections, as determined by the methods specified as Section 5(2) of this administrative regulation.

(b) Closed-vent systems shall be monitored to determine compliance with this section during the initial leak detection monitoring, which shall be conducted by the date that the facility becomes subject to the provisions of this section, annually, and at other times as requested by the cabinet. For the annual leak detection monitoring after the initial leak detection monitoring, the owner or operator is not required to monitor those closed-vent system components which continuously operate in vacuum service or those closed-vent systems joints, seams or other connections that are permanently or semipermanently sealed (for example, a welded joint between two (2) sections of metal pipe or a bolted and gasketed pipe flange).

(c) Detectable emissions, as indicated by an instrument reading greater than 500 ppm and visual inspections, shall be controlled as soon as practicable, but not later than fifteen (15) calendar days after the emission is detected.

(d) A first attempt at repair shall be made no later than five (5) calendar days after the emission is detected.

(11) Closed-vent systems and control devices used to comply with provisions of this administrative regulation shall be operated at all times when emissions may be vented to them.

(12) The owner or operator using a carbon adsorption system shall document that all carbon removed from the control device is managed in one (1) of the following manners:

(a) Regenerated or reactivated in a thermal treatment unit that is permitted under 401 KAR 34:250 or 35:250;

(b) Incinerated by a process that is permitted under 401 KAR 34:240 or 35:240; or

(c) Burned in a boiler or industrial furnace that is permitted under 401 KAR 36:020.

Section 5. Test Methods and Procedures. (1) Each owner or operator subject to this administrative regulation shall comply with the test methods and procedures requirements provided in this section.

(2) When a closed-vent system is tested for compliance with no detectable emissions, as required in Section 4(10) of this administrative regulation, the test shall comply with the following requirements:

(a) Monitoring shall comply with Reference Method 21 in 40 CFR Part 60 (~~July 1, 1992~~).

(b) The detection instrument shall meet the performance criteria of Reference Method 21.

(c) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(d) Calibration gases shall be:

1. Zero air (less than ten (10) ppm of hydrocarbon in air); and
2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(e) The background level shall be determined as set forth in Reference Method 21.

(f) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(g) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(3) Performance tests to determine compliance with Section 3(1) of this administrative regulation and with the total organic compound concentration limit of Section 4(3) shall comply with the following:

(a) Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance with the following reference methods and calculation procedures:

1. Method 2 in 40 CFR Part 60 (~~July 1, 1992~~) for velocity and volumetric flow rate.

2. Method 18 in 40 CFR Part 60 (~~July 1, 1992~~) for organic content.

3. Each performance test shall consist of three (3) separate runs; each run conducted for at least one (1) hour under the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, the average of results of all runs shall apply. The average shall be computed on a time-weighted basis.

4. Total organic mass flow rates shall be determined by the following equation:

$$E_h = \sum_{i=1}^n Q_{sd} [\sum C_i MW_i] [0.0416] [10^{-6}]$$

where:

- a.  $E_h$  = Total organic mass flow rate, kg/h;
- b.  $Q_{sd}$  = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;
- c.  $n$  = Number of organic compounds in the vent gas;
- d.  $C_i$  = Organic concentration in ppm, dry basis, of compound  $i$  in the vent gas, as determined by Method 18;
- e.  $MW_i$  = Molecular weight of organic compound  $i$  in the vent gas, kg/kg-mol;
- f. 0.0416 = Conversion factor for molar volume, kg-mol/m<sup>3</sup> (@ 293 K and 760 mm Hg); and
- g.  $10^{-6}$  = Conversion from ppm, ppm<sup>-1</sup>.

5. The annual total organic emission rate shall be determined by the following equation:

$$E_A = (E_h) (H)$$

where:

- a.  $E_A$  = Total organic mass emission rate, kg/y; and
- b.  $E_h$  = Total organic mass flow rate for the process vent, kg/h; and
- c.  $H$  = Total annual hours of operations for the affected unit, h.

6. Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates ( $E_h$ , as determined in paragraph (a)4 of this subsection) and by summing the annual total organic mass emission rates ( $E_A$ , as determined in paragraph (a)5 of this subsection) for all affected process vents at the facility.

(b) The owner or operator shall record such process information as may be necessary to determine the conditions of the performance tests. Operations during periods of start-up, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(c) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for the test methods specified in of this section; and
2. Safe sampling platform(s); and
3. Safe access to sampling platform(s); and
4. Utilities for sampling and testing equipment.

(d) For the purpose of making compliance determinations, the time-weighted average of the results of the three (3) runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one (1) of the three (3) runs will be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample

train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the cabinet's approval, be determined using the average of the results of the two (2) other runs.

(4) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of this administrative regulation, the owner or operator shall make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the hazardous waste management unit is less than ten (10) ppmw using one (1) of the following two (2) methods:

(a) Direct measurement of the organic concentration of the waste using the following procedures:

1. The owner or operator shall take a minimum of four (4) grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

2. For waste generated on site, the grab samples shall be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated off-site, the grab samples shall be collected at the inlet to the first hazardous waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

3. Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060 or 8240 of SW-846 (incorporated ~~by reference under~~ in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010).

4. The arithmetic mean of the results of the analyses of the four (4) samples shall apply for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit; or

(b) Using knowledge of the waste to determine that its total organic concentration is less than ten (10) ppmw. Documentation of the waste determination shall be required. Examples of documentation that may be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than ten (10) ppmw, or prior specification analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(5) The determination that distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with time-weighted annual average total organic concentrations less than ten (10) ppmw shall be made as follows:

(a) By December 21, 1990 or by the date when the waste is first managed in a hazardous waste management unit, whichever is later; and

(b) For continuously generated waste, annually; and

(c) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(6) When an owner or operator and the cabinet do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least ten (10) ppmw based on

knowledge of the waste, the procedures in Method 8240 may be used to resolve the dispute.

Section 6. Recordkeeping Requirements. (1)(a) Each owner or operator subject to this administrative regulation shall comply with the recordkeeping requirements of this section.

(b) An owner or operator of more than one (1) hazardous waste management unit subject to the provisions of this administrative regulation may comply with the recordkeeping requirements for these hazardous waste management units in one (1) recordkeeping system if the system identifies each record by each hazardous waste management unit.

(2) Owners and operators shall record the following information in the facility operating record:

(a) For facilities that comply with the provisions of Section 4(1)(b) of this administrative regulation, an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule shall also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule shall be in the facility operating record by December 21, 1990; and

(b) Up-to-date documentation of compliance with the process vent standards in Section 3 of this administrative regulation, including:

1. Information and data identifying all affected process vents, annual throughput, and operating hours of each affected unit; estimated emission rates for each affected vent and for the overall facility (that is, the total emissions for all affected vents at the facility); and the approximate location within the facility of each affected unit (for example, by identifying the hazardous waste management units on a facility plot plan); and

2. Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions shall be made using operating parameter values (for example, temperatures, flow rates or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (for example, managing a waste of different composition or increasing operating hours of affected hazardous waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination shall be required; and

(c) Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan shall include:

1. A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

2. A detailed engineering description of the closed-vent system and control device including:

a. Manufacturer's name and model number of control device; b. Type of control device  
c. Dimensions of the control device;  
d. Capacity; and  
e. Construction materials.

3. A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(d) Documentation of compliance with Section 4 of this administrative regulation shall include the following information:

1. A list of all information references and sources used in preparing the documentation.

2. Records, including the dates, of each compliance test required by Section 4(10) of this administrative regulation.

3. If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 415: Control of Gaseous Emissions" (incorporated in 40 CFR 260.11 which is adopted [by reference] in Section 3 of 401 KAR 30:010) or other engineering texts acceptable to the cabinet that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with clauses a to g of this subparagraph may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.

a. For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

b. For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

c. For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.

d. For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in Section 4(4) of this administrative regulation.

e. For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

f. For a carbon adsorption system such as a fixed-bed absorber that regenerates the carbon bed directly on site in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling and drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

g. For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly on site in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

4. A statement signed and dated by the owner or operator

certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

5. A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of ninety-five (95) percent or greater unless the total organic concentration limit of Section 3(1) of this administrative regulation is achieved at an efficiency less than ninety-five (95) weight percent or the total organic emission limits of Section 3(1) of this administrative regulation for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than ninety-five (95) weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

6. If performance tests are used to demonstrate compliance, all test results.

(3) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of this administrative regulation shall be recorded and kept up-to-date in the facility operating record. The information shall include:

(a) Description and date of each modification that is made to the closed-vent system or control device design.

(b) Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with Section 4(6)(a) and (b) of this administrative regulation.

(c) Monitoring, operating, and inspection information required by Section 4(6) to (10) of this administrative regulation.

(d) Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

1. For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 seconds at a minimum temperature of 760 degrees Centigrade, period when the combustion temperature is below 760 degrees Centigrade;

2. For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of ninety-five (95) percent or greater, period when the combustion zone temperature is more than twenty-eight (28) degrees Centigrade below the design average combustion zone temperature established as a requirement of subsection (2)(d)3a of this section;

3. For a catalytic vapor incinerator, period when:

a. Temperature of the vent stream at the catalyst bed inlet is more than twenty-eight (28) degrees Centigrade below the average temperature of the inlet vent stream established as a requirement of subsection (2)(d)3b of this section; or

b. Temperature difference across the catalyst bed is less than eighty (80) percent of the design average temperature difference established as a requirement of subsection (2)(d)3b of this section;

4. For a boiler or process heater, period when:

a. Flame zone temperature is more than twenty-eight (28) degrees Centigrade below the design average flame zone temperature established as a requirement of subsection (2)(d)3c of this section; or

b. Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of subsection (2)(d)3c of this section;

5. For a flare, period when the pilot flame is not ignited;

6. For a condenser that complies with Section 4(6)(b)6a of this administrative regulation, period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than twenty (20) percent greater than the design outlet organic compound concentration level

established as a requirement of subsection (2)(d)3e of this section;  
7. For a condenser that complies with Section 4(6)(b)6b of this administrative regulation, period when:

a. Temperature of the exhaust vent stream from the condenser is more than six (6) degrees Centigrade above the design average exhaust vent stream temperature established as a requirement of subsection (2)(d)3e of this section; or

b. Temperature of the coolant fluid exiting the condenser is more than six (6) degrees Centigrade above the design average coolant fluid temperature at the condenser outlet established as a requirement of subsection (2)(d)3e of this section;

8. For a carbon adsorption system such as a fixed-bed carbon absorber that regenerates the carbon bed directly on site in the control device and complies with Section 4(6)(b)7a of this administrative regulation, period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than twenty (20) percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of subsection (2)(d)3f of this section;

9. For a carbon adsorption system such as a fixed-bed carbon absorber that regenerates the carbon bed directly on site in the control device and complies with Section 4(6)(b)7b period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of subsection (2)(d)3f of this section.

(e) Explanation for each period recorded under paragraph (d) of this subsection of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(f) For carbon adsorption systems operated subject to Section 4(7) or (8)(b) of this administrative regulation, date when existing carbon in the control device is replaced with fresh carbon.

(g) For carbon adsorption systems operated subject to Section 4(8)(a) of this administrative regulation, a log that records:

1. Date and time when control device is monitored for carbon breakthrough and the monitoring device reading; and

2. Date when existing carbon in the control device is replaced with fresh carbon.

(h) Date of each control device start-up and shutdown.

(4) Records of the monitoring, operating, and inspection information required by subsections (3)(c) to (h) of this section need be kept only three (3) years.

(5) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device shall be recorded in the facility operating record.

(6) Up-to-date information and data used to determine whether or not a process vent is subject to Section 3 of this administrative regulation including supporting documentation as required by Section 5(4)(b) of this administrative regulation when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be recorded in a log that is kept in the facility operating record.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation

will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste interim status facilities with units that contain process vents.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff of the agency will have an increased workload in order to process the newly regulated entities.

2. Continuing costs or savings: Once the new entities are processed, there will be no extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:



## ADMINISTRATIVE REGISTER - 751

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: Public health and the environment would improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, detrimental effects could occur.

c. If detrimental effect would result, explain detrimental effect: Hazardous waste air emissions resulting from process vents could put the environment and human health at risk.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste interim status facilities that treat, store or dispose of hazardous waste, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to hazardous waste interim status facilities with process vents. These changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: There is no federal mandate for this administrative regulation.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local

government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste interim status facilities with units that have process vents.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 35:280. Air emission standards for equipment leaks (IS).

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 265 Subpart BB

STATUTORY AUTHORITY: KRS 224.46-505, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-505 and 224.46-520 and to establish standards for air emission and equipment leaks.

Section 1. Definitions. As used in this administrative regulation, all terms shall have the meaning given them in 401 KAR 35:005. [~~KRS Chapter 224 and 401 KAR Chapters 30 to 36.~~]

Section 2. Applicability. (1) This administrative regulation applies to owners and operators of facilities that treat, store, or dispose of hazardous wastes, except as provided in Section 1 of 401 KAR 35:010.

(2) Except as provided in Section 10(10) of this administrative regulation, this administrative regulation applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least ten (10) percent by weight that are managed in:

(a) Units that are subject to the permitting requirements of 401 KAR Chapter 38; or

(b) Hazardous waste recycling units that are located on hazardous waste management facilities otherwise subject to the permitting requirements of 401 KAR Chapter 38.

(3) Each piece of equipment to which this administrative regulation applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(4) Equipment that is in vacuum service is excluded from the requirements of this section and Sections 3 to 11 of this administrative

tive regulation if it is identified as required in Section 15(7)(e) of this administrative regulation.

Section 3. Standards: Pumps in Light Liquid Service. (1)(a) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in Section 14(2) of this administrative regulation, except as provided in subsections (4) to (6) of this section.

(b) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(2)(a) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(b) If there are indications of liquids dripping from the pump seal, a leak is detected.

(3)(a) When a leak is detected, it shall be repaired as soon as practicable, but not later than fifteen (15) calendar days after it is detected, except as provided in Section 10 of this administrative regulation.

(b) A first attempt at repair (for example, tightening the packing gland) shall be made no later than five (5) calendar days after each leak is detected.

(4) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of subsection (1) of this section, provided the following requirements are met:

(a) Each dual mechanical seal system shall be:

1. Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

2. Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of Section 11 of this administrative regulation; or

3. Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.

(b) The barrier fluid system shall not be a hazardous waste with organic concentrations ten (10) percent or greater by weight.

(c) Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(d) Each pump shall be checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(e) 1. Each sensor, as described in paragraph (c) of this subsection, shall be checked daily or be equipped with an audible alarm that shall be checked monthly to ensure that it is functioning properly.

2. The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) 1. If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (e)2 of this subsection, a leak is detected.

2. When a leak is detected, it shall be repaired as soon as practicable, but not later than fifteen (15) calendar days after it is detected, except as provided in Section 10 of this administrative regulation.

3. A first attempt at repair (for example, relapping the seal) shall be made no later than five (5) calendar days after each leak is detected.

(5) Any pump that is designated, as described in Section 15(7)(b) of this administrative regulation, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of subsections (1), (3), and (4) of this section if the pump meets the following requirements:

(a) It shall have no externally actuated shaft penetrating the pump housing;

(b) It shall operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as

measured by the methods specified in Section 14(3) of this administrative regulation; and

(c) It shall be tested for compliance with paragraph (c) of this subsection initially upon designation, annually, and at other times as requested by the cabinet.

(6) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of Section 11 of this administrative regulation, it is exempt from the requirements of subsections (1) to (5) of this section.

Section 4. Standards: Compressors. (1) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in subsections (8) and (9) of this section.

(2) Each compressor seal system, as required in subsection (1) of this section, shall be:

(a) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure; or

(b) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of Section 11 of this administrative regulation; or

(c) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

(3) The barrier fluid shall not be a hazardous waste with organic concentrations ten (10) percent or greater by weight.

(4) Each barrier fluid system as described in subsections (1) to (3) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(5)(a) Each sensor as required in subsection (4) of this section shall be checked daily or shall be equipped with an audible alarm that shall be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor shall be checked daily.

(b) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under subsection (5)(b) of this section, a leak is detected.

(7)(a) When a leak is detected, it shall be repaired as soon as practicable, but not later than fifteen (15) calendar days after it is detected, except as provided in Section 10 of this administrative regulation.

(b) A first attempt at repair (for example, tightening the packing gland) shall be made no later than five (5) calendar days after each leak is detected.

(8) A compressor is exempt from the requirements of subsections (1) and (2) of this section if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of Section 11 of this administrative regulation, except as provided in subsection (9) of this section.

(9) Any compressor that is designated, as described in Section 15(8)(b), for no detectable emission as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of subsections (1) to (8) of this section if the compressor:

(a) Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in Section 14(3) of this administrative regulation; and

(b) Is tested for compliance with paragraph (a) of this subsection initially upon designation, annually, and at other times as requested by the cabinet.

Section 5. Standards: Pressure Relief Devices in Gas and Vapor

Service. (1) Except during pressure releases, each pressure relief device in gas and vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in Section 14(3) of this administrative regulation.

(2)(a) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than five (5) calendar days after each pressure release, except as provided in Section 10 of this administrative regulation.

(b) No later than five (5) calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in Section 14(3) of this administrative regulation.

(3) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in Section 11 of this administrative regulation is exempt from the requirements of subsections (1) and (2) of this section.

Section 6. Standards: Sampling Connecting Systems. (1) Each sampling connection system shall be equipped with a closed-purge system or closed-vent system.

(2) Each closed-purge system or closed-vent system as required in subsection (1) of this section shall:

(a) Return the purged hazardous waste stream directly to the hazardous waste management process line with no detectable emissions to atmosphere; or

(b) Collect and recycle the purged hazardous waste stream with no detectable emissions to atmosphere; or

(c) Be designed and operated to capture and transport all the purged hazardous waste stream to a control device that complies with the requirements of Section 11 of this administrative regulation.

(3) In situ sampling systems are exempt from the requirements of subsections (1) and (2) of this section.

Section 7. Standards: Open-ended Valves or Lines. (1)(a) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

(b) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

(2) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves, but shall comply with subsection (1) of this section at all other times.

Section 8. Standards: Valves in Gas and Vapor Service or in Light Liquid Service. (1) Each valve in gas and vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in Section 14(2) of this administrative regulation and shall comply with subsections (2) to (5) of this section, except as provided in subsections (6), (7), and (8) of this section and Sections 12 and 13 of this administrative regulation.

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3)(a) Any valve for which a leak is not detected for two (2) successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

(b) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two (2) successive months.

(4)(a) When a leak is detected, it shall be repaired as soon as practicable, but no later than fifteen (15) calendar days after the leak is detected, except as provided in Section 10 of this administrative regulation.

(b) A first attempt at repair shall be made no later than five (5) calendar days after each leak is detected.

(5) First attempts at repair include, but are not limited to, the following best practices where practicable:

(a) Tightening of bonnet bolts;

(b) Replacement of bonnet bolts;

(c) Tightening of packing gland nuts;

(d) Injection of lubricant into lubricated packing.

(6) Any valve that is designated, as described in Section 15(7)(b) of this administrative regulation, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of subsection (1) of this section if the valve:

(a) Has no external actuating mechanism in contact with the hazardous waste stream;

(b) Is operated with emissions less than 500 ppm above background as determined by the method specified in Section 14(3) of this administrative regulation; and

(c) Is tested for compliance with paragraph (b) of this subsection initially upon designation, annually, and at other times as requested by the cabinet.

(7) Any valve that is designated, as described in Section 15(8)(a) of this administrative regulation, as an unsafe-to-monitor valve is exempt from the requirements of subsection (1) of this section if:

(a) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with subsection (1) of this section; and

(b) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(8) Any valve that is designated, as described in Section 15(8)(b) of this administrative regulation, as a difficult-to-monitor valve is exempt from the requirements of subsection (1) of this section if:

(a) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than two (2) meters above a support surface; and

(b) The hazardous waste management unit within which the valve is located was in operation before June 21, 1990;

(c) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

Section 9. Standards: Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Flanges and Other Connectors. (1) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within five (5) days by the method specified in Section 14(2) of this administrative regulation if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3)(a) When a leak is detected, it shall be repaired as soon as practicable, but not later than fifteen (15) calendar days after it is detected, except as provided in Section 10 of this administrative regulation.

(b) The first attempt at repair shall be made no later than five (5) calendar days after each leak is detected.

(4) First attempts at repair include, but are not limited to, the best practices described under Section 8(5) of this administrative regulation.

Section 10. Standards: Delay of Repair. (1) Delay of repair of

equipment for which leaks have been detected may be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In this case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown.

(2) Delay of repair of equipment for which leaks have been detected may be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least ten (10) percent by weight.

(3) Delay of repair for valves may be allowed if:

(a) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair; and

(b) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with Section 11 of this administrative regulation.

(4) Delay of repair for pumps may be allowed if:

(a) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system; and

(b) Repair is completed as soon as practicable, but not later than six (6) months after the leak was detected.

(5) Delay of repair beyond a hazardous waste management unit shutdown may be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown shall not be allowed unless the next hazardous waste management unit shutdown occurs sooner than six (6) months after the first hazardous waste management unit shutdown.

Section 11. Standards: Closed-vent Systems and Control Devices. Owners or operators of closed-vent systems and control devices shall comply with the provisions of Section 4 of 401 KAR 35:275.

Section 12. Alternative Standards for Valves in Gas and Vapor Service or in Light Liquid Service: Percentage of Valves Allowed to Leak. (1) An owner or operator subject to the requirements of Section 8 of this administrative regulation may elect to have all valves within a hazardous waste management unit comply with an alternative standard that allows no greater than two (2) percent of the valves to leak.

(2) The following requirements shall be met if an owner or operator decides to comply with the alternative standard of allowing two (2) percent of valves to leak:

(a) The owner or operator shall notify the cabinet that the owner or operator has elected to comply with the requirements of this section;

(b) A performance test as specified in subsection (3) of this section shall be conducted initially upon designation, annually, and at other times requested by the cabinet; and

(c) If a valve leak is detected, it shall be repaired in accordance with Section 8(4) and (5) of this administrative regulation.

(3) Performance tests shall be conducted in the following manner:

(a) All valves subject to the requirements in Section 8 of this administrative regulation within the hazardous waste management unit shall be monitored within one (1) week by the methods specified in Section 14(2) of this administrative regulation;

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected; and

(c) The leak percentage shall be determined by dividing the number of valves subject to the requirements in Section 8 of this administrative regulation for which leaks are detected by the total number of valves subject to the requirements in Section 8 of this administrative regulation within the hazardous waste management

unit.

(4) If an owner or operator decides no longer to comply with this section, the owner or operator shall notify the cabinet in writing that the work practice standard described in Section 8(1) to (5) of this administrative regulation will be followed.

Section 13. Alternative Standards for Valves in Gas and Vapor Service or in Light Liquid Service: Skip Period Leak Detection and Repair. (1)(a) An owner or operator subject to the requirements of Section 8 of this administrative regulation may elect for all valves within a hazardous waste management unit to comply with one (1) of the alternative work practices specified in subsections (2)(b) and (c) of this section.

(b) An owner or operator shall notify the cabinet before implementing one (1) of the alternative work practices.

(2)(a) An owner or operator shall comply with the requirements for valves, as described in Section 8 of this administrative regulation, except as described in paragraphs (b) and (c) of this subsection.

(b) After two (2) consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than two (2) percent, an owner or operator may begin to skip one (1) of the quarterly leak detection periods for the valves subject to the requirements in Section 8 of this administrative regulation.

(c) After five (5) consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than two (2) percent, an owner or operator may begin to skip three (3) of the quarterly leak detection periods for the valves subject to the requirements in Section 8 of this administrative regulation.

(d) If the percentage of valves leaking is greater than two (2) percent, the owner or operators shall monitor monthly in compliance with the requirements in Section 8 of this administrative regulation, but may again elect to use this section after meeting the requirements of Section 8(3)(a) of this administrative regulation.

Section 14. Test Methods and Procedures. (1) Each owner or operator subject to the provisions of this administrative regulation shall comply with the test methods and procedures requirements provided in this section.

(2) Leak detection monitoring, as required in Sections 3 to 13 of this administrative regulation, shall comply with the following requirements:

(a) Monitoring shall comply with Reference Method 21 in 40 CFR Part 60 (July 1, 1992).

(b) The detection instrument shall meet the performance criteria of Reference Method 21.

(c) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(d) Calibration gases shall be:

1. Zero air (less than ten (10) ppm of hydrocarbon in air); and  
2. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(e) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(3) When equipment is tested for compliance with no detectable emissions, as required in Sections 3(5), 4(9), 5, and 8(6) of this administrative regulation, the test shall comply with the following requirements:

(a) The requirements of subsections (2)(a) to (d) of this section shall apply;

(b) The background level shall be determined, as set forth in Reference Method 21;

(c) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21; and

(d) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared

## ADMINISTRATIVE REGISTER - 755

with 500 ppm for determining compliance.

(4) In accordance with the waste analysis plan required by Section 4(2) of 401 KAR 35:020, an owner or operator of a facility shall determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds ten (10) percent by weight using the following:

(a) Methods described in ASTM Methods D 2267-88, E 169-87, E 168-88, E 260-85 (incorporated in 40 CFR 260.11 which is adopted ~~in [by reference under]~~ Section 3 of 401 KAR 30:010); or

(b) Method 9060 or 8240 of SW-846 (incorporated in 40 CFR 260.11 which is adopted ~~in [by reference]~~ in Section 3 of 401 KAR 30:010); or

(c) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than ten (10) percent, or prior specification analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(5) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least ten (10) percent by weight, the determination can be revised only after following the procedures in subsection (4)(a) or (b) of this section.

(6) When an owner or operator and the cabinet do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least ten (10) percent by weight, the procedures in subsection (4)(a) or (b) of this section may be used to resolve the dispute.

(7) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

(8) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D-2879-86 (incorporated in 40 CFR 260.11 which is adopted in ~~[by reference under]~~ Section 3 of 401 KAR 30:010).

(9) Performance tests to determine if a control device achieves ninety-five (95) weight percent organic emission reduction shall comply with the procedures of Section 5(3)(a) to (d) of 401 KAR 35:275.

Section 15. Recordkeeping Requirements. (1)(a) Each owner or operator subject to this administrative regulation shall comply with the recordkeeping requirements of this section.

(b) An owner or operator of more than one (1) hazardous waste management unit subject to this administrative regulation may comply with the recordkeeping requirements for these hazardous waste management units in one (1) recordkeeping system if the system identifies each record by each hazardous waste management unit.

(2) Owners and operators shall record the following information in the facility operating record:

(a) For each piece of equipment to which this administrative regulation applies:

1. Equipment identification number and hazardous waste management unit identification;

2. Approximate locations within the facility (for example, identify the hazardous waste management unit on a facility plot plan);

3. Type of equipment (for example, a pump or pipeline valve);

4. Percent-by-weight total organics in the hazardous waste stream at the equipment;

5. Hazardous waste state at the equipment (for example, gas and vapor or liquid); and

6. Method of compliance with the standard (for example, "monthly leak detection and repair" or "equipped with dual mechanical seals").

(b) For facilities that comply with the provisions of Section 4(1)(b) of 401 KAR 35:275, an implementation schedule as specified in Section 4(1)(b) of 401 KAR 35:275; and

(c) Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in Section 6(2)(c) of 401 KAR 35:275.

(d) Documentation of compliance with Section 11 of this administrative regulation, including the detailed design documentation or performance test results specified in Section 6(2)(d) of 401 KAR 35:275.

(3) When each leak is detected as specified in Sections 3, 4, 8, and 9 of this administrative regulation the following requirements apply:

(a) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with Section 9(1) of this administrative regulation and the date the leak was detected, shall be attached to the leaking equipment.

(b) The identification on equipment, except on a valve, may be removed after it has been repaired.

(c) The identification on a valve may be removed after it has been monitored for two (2) successive months as specified in Section 8(3) of this administrative regulation and no leak has been detected during those two (2) months.

(4) When each leak is detected as specified in Sections 3, 4, 8, and 9 of this administrative regulation, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

(a) The instrument and operator identification numbers and the equipment identification number;

(b) The date evidence of a potential leak was found in accordance with Section 9(1) of this administrative regulation;

(c) The date the leak was detected and the dates of each attempt to repair the leak;

(d) Repair methods applied in each attempt to repair the leak;

(e) "Above 10,000" if the maximum instrument reading measured by the methods specified in Section 14(2) of this administrative regulation after each repair attempt is equal to or greater than 10,000 ppm;

(f) "Repair delayed" and the reason for the delay if a leak is not repaired within fifteen (15) calendar days after discovery of the leak;

(g) Documentation supporting the delay of repair of a valve in compliance with Section 10(3) of this administrative regulation;

(h) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown;

(i) The expected date of successful repair of the leak if a leak is not repaired within fifteen (15) calendar days; and

(j) The date of successful repair of the leak.

(5) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of Section 11 of this administrative regulation shall be recorded and kept up-to-date in the facility operating record as specified in Section 6(3) of 401 KAR 35:275. Design documentation is specified in Section 6(3)(a) and (b) of 401 KAR 35:275 and monitoring, operating, and inspection information in Section 6(3)(c) to (h) of 401 KAR 35:275.

(6) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device shall be recorded in the facility operating record.

## ADMINISTRATIVE REGISTER - 756

(7) The following information pertaining to all equipment subject to the requirements in Sections 3 to 11 of this administrative regulation shall be recorded in a log that is kept in the facility operating record:

(a) A list of identification numbers for equipment (except welded fittings) subject to this administrative regulation;

(b) 1. A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of Sections 3(5), 4(9), and 8(6) of this administrative regulation;

2. The designation of this equipment as subject to the requirements of Sections 3(5), 4(9), or 8(6) of this administrative regulation shall be signed by the owner or operator;

(c) A list of equipment identification numbers for pressure relief devices required to comply with Section 5(1) of this administrative regulation;

(d) 1. The dates of each compliance test required in Sections 3(5), 4(9), 5, and 8(6) of this administrative regulation;

2. The background level measured during each compliance test;

3. The maximum instrument reading measured at the equipment during each compliance test; and

(e) A list of identification numbers for equipment in vacuum service.

(8) The following information pertaining to all valves subject to the requirements of Section 8(7) and (8) of this administrative regulation shall be recorded in a log that is kept in the facility operating record:

(a) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve; and

(b) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(9) The following information shall be recorded in the facility operating record for valves complying with Section 13 of this administrative regulation:

(a) A schedule of monitoring; and

(b) The percent of valves found leaking during each monitoring period.

(10) The following information shall be recorded in a log that is kept in the facility operating record:

(a) Criteria required in Sections 3(4)(e)2 and 4(5)(b) of this administrative regulation and an explanation of the criteria; and

(b) Any changes to these criteria and the reasons for the changes.

(11) The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in the Section 2 of this administrative regulation and other specific administrative regulations:

(a) An analysis determining the design capacity of the hazardous waste management unit.

(b) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in Sections 3 to 11 of this administrative regulation and an analysis determining whether these hazardous wastes are heavy liquids.

(c) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in Sections 3 to 11 of this administrative regulation. The record shall include supporting documentation as required by Section 14(4)(c) of this administrative regulation when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (for example, changing the process that produced the waste) that could result in an increase in the total organic content

of the waste contained in or contacted by equipment determined not to be subject to the requirements in Sections 3 to 11 of this administrative regulation, then a new determination shall be required.

(12) Records of the equipment leak information required by subsection (4) of this section and the operating information required by subsection (5) of this section shall only be required to be kept for three (3) years.

(13) The owner or operator of any facility that is subject to this administrative regulation and to regulations at 40 CFR Part 60 subpart VV or 40 CFR Part 61 subpart V [~~July 1, 1992~~] may elect to determine compliance with this subpart by documentation either pursuant to this section or pursuant to those provisions of 40 CFR Part 60 or 61 to the extent that the documentation under the regulation at 40 CFR Part 60 or 61 duplicates the documentation required under this administrative regulation. The documentation under the regulation at 40 CFR Part 60 or 61 shall be kept with or made readily available with the facility operating record.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste interim status facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented; to the extent available from the public comments received: No public comments were received.



## ADMINISTRATIVE REGISTER - 757

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There are no direct or indirect costs or savings.

2. Continuing costs or savings: There will be no continuing costs or savings.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide clarity to existing requirements and are consistent with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The environment and public health will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste interim status facilities, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS

Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to all hazardous waste interim status facilities. These changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste interim status facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

401 KAR 35:290. Appendix on recordkeeping instructions (IS).

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99

STATUTORY AUTHORITY: 224.10-100, 224.46-520

NECESSITY AND FUNCTION: KRS 224.46-520 requires that persons engaging in the storage, treatment, and disposal of hazardous waste obtain a permit. KRS 224.46-520 requires the cabinet to

# ADMINISTRATIVE REGISTER - 758

establish standards for these permits, to require adequate financial responsibility, and to establish minimum standards for closure for all facilities and the postclosure monitoring and maintenance of hazardous waste disposal facilities. This chapter establishes minimum standards for hazardous waste sites or facilities qualifying for interim status. This administrative regulation establishes minimum standards for recordkeeping.

Section 1. Recordkeeping Instructions. The recordkeeping provisions of Section 4 of 401 KAR 35:050 specify that an owner or operator must keep a written operating record at his site or facility. This appendix provides additional instructions for keeping portions of the operating record. See Section 4(2) of 401 KAR 35:050 for additional recordkeeping requirements. The following information must be recorded as it becomes available and maintained in the operating record until closure of the facility in the following manner. Records of each hazardous waste received, treated, stored or disposed of at the facility which include the following:

(1) A description by its common name and the EPA hazardous waste number(s) from 401 KAR Chapter 31 which apply to the waste. The waste description also must include the waste's physical form (i.e., liquid, sludge, solid or contained gas). If the waste is not listed in 401 KAR 31:040, the description also must include the process that produced it (for example, solid filter cake from production of \_\_\_\_\_, EPA hazardous waste number W051). Each hazardous waste listed in 401 KAR 31:040 and each hazardous waste characteristic defined in 401 KAR 31:030 has a four (4) digit EPA hazardous waste number assigned to it. This number must be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one (1) listed hazardous waste, or where more than one (1) hazardous waste characteristic applies to the waste, the waste description must include all applicable EPA hazardous waste numbers.

(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one (1) of the units of measure specified in Table 1; and

Table 1

| Unit of Measure      | Code <sup>1</sup> |
|----------------------|-------------------|
| Gallons              | G                 |
| Gallons per Hour     | E                 |
| Gallons per Day      | U                 |
| Liters               | L                 |
| Liters per Hour      | H                 |
| Liters per Day       | V                 |
| Short Tons per Hour  | D                 |
| Metric Tons per Hour | W                 |
| Short Tons per Day   | N                 |
| Metric Tons per Day  | S                 |
| Pounds per Hour      | J                 |
| Kilograms per Hour   | R                 |
| Cubic Yards          | Y                 |
| Cubic Meters         | C                 |
| Acres                | B                 |
| Acre-feet            | A                 |
| Hectares             | Q                 |
| Hectare-meter        | F                 |
| BTU's per Hour       | I                 |

<sup>1</sup> Single digit symbols are used here for data processing purposes

(3) The method(s) (by handling code(s) as specified in Table 2) and date(s) of treatment, storage or disposal.

Table 1

Unit of Measure \_\_\_\_\_ Symbol\* \_\_\_\_\_ Density \_\_\_\_\_

|                        |   |     |
|------------------------|---|-----|
| Pounds                 | P |     |
| Short tons (2000 lbs.) | T |     |
| Gallons (U.S.)         | G | P/G |
| Cubic yards            | Y | T/Y |
| Kilograms              | K |     |
| Tonnes (1000 kg)       | M |     |
| Liters                 | L | K/L |
| Cubic meters           | C | M/C |

\*Single digit symbols are used here for data processing purposes.

Table 2 - Handling Codes for Treatment, Storage, and Disposal Methods.

(Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store, or dispose of each quantity of hazardous waste received.)

|                                    |   |
|------------------------------------|---|
| 1. Storage                         |   |
| S01 Container (barrel, drum, etc.) | S04 Surface impoundment                   |
| S02 Tank                           | S05 <u>Drip pad</u>                       |
| S03 Waste pile                     | S06 <u>Containment building (storage)</u> |
|                                    | S99 <u>Other storage (specify)</u>        |
| 2. Treatment                       |   |
| (a)                                |   |
| T06 Liquid injection incineration  | Thermal Treatment                         |
| T07 Rotary kiln incinerator        | T13 Wet air oxidation                     |
| T08 Fluidized bed incinerator      | T14 Calcination                           |
| T09 Multiple hearth incinerator    | T15 Microwave discharge                   |
| T10 Infrared furnace incinerator   | [T16-Cement kiln]                         |
| T11 Molten salt destructor         | [T17-Lime kiln]                           |
| T12 Pyrolysis                      | T18 Other (specify)                       |
| (b) Chemical Treatment             |   |
| T19 Absorption mound               | T27 Cyanide destruction                   |
| T20 Absorption field               | T28 Degradation                           |
| T21 Chemical fixation              | T29 Detoxification                        |
| T22 Chemical oxidation             | T30 Ion exchange                          |
| T23 Chemical precipitation         | T31 Neutralization                        |
| T24 Chemical reduction             | T32 Ozonation                             |
| T25 Chlorination                   | T33 Photolysis                            |
| T26 Chlorinolysis                  | T34 Other (specify)                       |
| (c) Physical Treatment             |   |
| (1) Separation of components       |   |
| T35 Centrifugation                 | T42 Flotation                             |
| T36 Clarification                  | T43 Foaming                               |
| T37 Coagulation                    | T44 Sedimentation                         |
| T38 Decanting                      | T45 Thickening                            |
| T39 Encapsulation                  | T46 Ultrafiltration                       |
| T40 Filtration                     | T47 Other (specify)                       |
| T41 Flocculation                   |   |
| (2) Removal of Specific Components |   |
| T48 Absorption-molecular sieve     | T58 High gradient magnetic separation     |
| T49 Activated carbon               |   |
| T50 Blending                       | T59 Leaching                              |
| T51 Catalysis                      | T60 Liquid ion exchange                   |
| T52 Crystallization                | T61 Liquid-liquid extraction              |
| T53 Dialysis                       |   |
| T54 Distillation                   | T62 Reverse osmosis                       |
| T55 Electrodialysis                | T63 Solvent recovery                      |
| T56 Electrolysis                   | T64 Stripping                             |
| T57 Evaporation                    | T65 Sand filter                           |
|                                    | T66 Other (specify)                       |

## ADMINISTRATIVE REGISTER - 759

### (d) Biological treatment

|                             |                              |
|-----------------------------|------------------------------|
| T67 Activated sludge        | T73 Spray irrigation         |
| T68 Aerobic lagoon          | T74 Thickening filter        |
| T69 Aerobic tank            | T75 Trickling filter         |
| T70 Anaerobic tank [lagoon] | T76 Waste stabilization pond |
| T71 Composting              | T77 Other (specify)          |
| T72 Septic tank             |                              |

### (e) Boilers and Industrial Furnaces

|  |
|--|
| T80 Boiler   |
| T81 Cement kiln  |
| T82 Lime kiln  |
| T83 Aggregate kiln   |
| T84 Phosphate kiln   |
| T85 Coke oven  |
| T86 Blast furnace  |
| T87 Smelting, melting, or refining furnace   |
| T88 Titanium dioxide chloride process oxidation reactor                              |
| T89 Methane reforming furnace  |
| T90 Pulping liquor recovery furnace  |
| T91 Combustion device used in the recovery of sulfur values from spent sulfuric acid |
| T92 Halogen acid furnaces  |
| T93 Other industrial furnaces (specify)  |

### (f) Other Treatment

|                                      |
|--------------------------------------|
| T94 Containment building (treatment) |
|--------------------------------------|

### 3. Disposal

|   |
|---|
| D79 [80] Underground injection                            |
| D80 [84] Landfill   |
| D81 [82] Land treatment                                   |
| D82 [83] Ocean disposal                                   |
| D83 [84] Surface impoundment (to be closed as a landfill) |
| D99 [86] Other (specify)                                  |

### 4. Miscellaneous

|                                     |
|-------------------------------------|
| X01 Open burning or open detonation |
| X02 Mechanical processing           |
| X03 Thermal unit                    |
| X04 Geologic repository             |
| X99 Other (specify)                 |

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated,

should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

## REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste interim status facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff of the agency will have an increased workload in order to process all of the new regulated entities.

2. Continuing costs or savings: Once the new entities are processed, there will be no additional costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state or local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The

## ADMINISTRATIVE REGISTER - 760

public health and the environment would improve across the commonwealth.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that overlap, duplicate, or conflict with this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste interim status facilities that must maintain records, consistent with federal standards, to protect human life and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to recordkeeping and the permitting process. These changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste interim status facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the

expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 36:020. Hazardous waste burned in boilers and industrial furnaces.

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 266 Subpart H

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish standards for persons who burn hazardous waste in boilers and industrial furnaces. This administrative regulation supersedes and replaces 401 KAR 36:040, Hazardous waste burned for energy recovery.

Section 1. Applicability. (1) This administrative regulation applies to hazardous waste burned or processed in a boiler or industrial furnace ~~[(as defined in 401 KAR 30:010)]~~ irrespective of the purpose of burning or processing, except as provided by subsections (2), (3), ~~[and] (4), and (6) of this section. [In this administrative regulation, the term "burn" means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient.]~~ The emissions standards of Sections 5 to 8 of this administrative regulation apply to hazardous waste sites or facilities operating under interim status or under a RCRA operating permit as specified in Sections 3 and 4 of this administrative regulation.

(2) The following hazardous wastes and facilities are not subject to this administrative regulation:

(a) Used oil burned for energy recovery that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in 401 KAR 31:030. Such used oil is subject to 401 KAR Chapter 44 ~~[36:050]~~ rather than this administrative regulation;

(b) Gas recovered from hazardous or solid waste landfills when such gas is burned for energy recovery;

(c) Hazardous wastes that are exempt from administrative regulation under Section 4 and 6(1)(c) of 401 KAR 31:010, and hazardous wastes that are subject to the special requirements for conditionally exempt small ~~[limited]~~ quantity generators under Section 5 of 401 KAR 31:010; and

(d) Coke ovens, if the only hazardous waste burned is EPA Hazardous Waste No. K087, decanter tank tar sludge from coking operations.

(3) Owners and operators of smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, sintering machines, roasters, and foundry furnaces, but not including cement kilns, aggregate kilns, or halogen acid furnaces burning hazardous waste) that process hazardous waste solely for metal recovery are conditionally exempt from regulation under this administrative regulation, except for Sections 2 and 13 of this administrative regulation.

(a) To be exempt from Sections 3 to 12 of this administrative regulation, an owner or operator of a metal recovery furnace or mercury recovery furnace, shall comply with the following requirements, except that an owner or operator of a lead ~~leak~~ or a nickel-chromium recovery furnace, or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing, shall comply with the requirements of paragraph (c) of this subsection:

1. Provide a one (1) time written notice to the cabinet indicating the following:

- a. The owner or operator claims exemption under this subsection;
- b. The hazardous waste is burned solely for metal recovery consistent with the provisions of paragraph (b) of this subsection;
- c. The hazardous waste contains recoverable levels of metals; and

d. The owner or operator shall comply with the sampling and analysis and recordkeeping requirements of this administrative regulation;

2. Sample and analyze the hazardous waste and other feedstocks as necessary to comply with the requirements of this paragraph under procedures specified by test methods for evaluating solid waste, physical/chemical methods, SW-846 (incorporated in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010), or alternative methods that meet or exceed the SW-846 method performance capabilities. If SW-846 does not prescribe a method for a particular determination, the owner or operator shall use the best available method; and

3. Maintain at the facility for at least three (3) years records to document compliance with the provisions of this subsection including limits on levels of toxic organic constituents and Btu value of the waste, and levels of recoverable metals in the hazardous waste compared to normal nonhazardous waste feedstocks.

(b) A hazardous waste meeting either of the following criteria is not processed solely for metal recovery:

1. The hazardous waste has a total concentration of organic compounds listed in 401 KAR 31:170 exceeding 500 ppm by weight, as fired, and so is considered to be burned for destruction. The concentration of organic compounds in a waste as-generated may be reduced to the 500 ppm limit by authentic treatment that removes or destroys organic constituents. Blending for dilution to meet the 500 ppm limit is prohibited, and documentation that the waste has not been impermissibly diluted shall be retained in the records required by paragraph (a)2 of this subsection; or

2. The hazardous waste has a heating value of 5,000 Btu/lb or more, as fired, and so is considered to be burned as fuel. The heating value of a waste as generated may be reduced to below the 5,000 Btu/lb limit by authentic treatment that removes or destroys organic constituents. Blending for dilution to meet the 5,000 Btu/lb limit is prohibited, and documentation that the waste has not been impermissibly diluted shall be retained in the records required by paragraph (a)3 of this subsection.

(c) To be exempt from Sections 3 through 12 of this administrative regulation, an owner or operator of a lead or nickel-chromium or mercury recovery furnace, or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing, shall ~~must~~ provide a one (1) time written notice to the cabinet identifying each hazardous waste burned and specifying whether the owner or operator claims an exemption for each waste under this paragraph or paragraph (a) of this subsection. The owner or operator shall comply with the requirements of paragraph (a) of this subsection for those wastes claimed to be exempt under that paragraph and shall comply with the requirements of this paragraph for those wastes claimed to be exempt under this paragraph.

1. The hazardous wastes listed in Sections 9, 10, and 12 ~~(+)(e)~~ ~~and (d)~~ of 401 KAR 36:025, and baghouse bags used to capture metallic dusts emitted by steel manufacturing are exempt from the requirements of paragraph (a) of this subsection provided that:

a. A waste listed in Section 9~~(+)(e)~~ of 401 KAR 36:025 ~~shall~~ ~~must~~ contain recoverable levels of lead, a waste listed in Section 10 of 401 KAR 36:025 shall contain recoverable levels of ~~a waste listed in Section 9(1)(d) of 401 KAR 36:025 must contain recoverable levels of~~ nickel or chromium, a waste listed in Section 12 of 401 KAR 36:025 and shall contain recoverable levels of mercury and contain less than 500 ppm of organic constituents identified in 401 KAR 31:170, and baghouse bags used to capture metallic dusts emitted by steel manufacturing shall ~~must~~ contain recoverable levels of metal; and

b. The waste does not exhibit the toxicity characteristic of Section 5 of 401 KAR 31:030 for an organic constituent; and

c. The waste is not a hazardous waste listed in 401 KAR 31:040 because it is listed for an organic constituent as identified in 401 KAR 31:160; and

d. The owner or operator certifies in the one (1) time notice that hazardous waste is burned under the provisions of this paragraph and that sampling and analysis will be conducted or other information will be obtained as necessary to ensure continued compliance with these requirements. Sampling and analysis shall be conducted according to paragraph (a)2 of this subsection and records to document compliance with this paragraph shall be kept for at least three (3) years.

2. The cabinet may decide on a case-by-case basis that the toxic organic constituents in a material listed in Sections 9, 10, or 12 ~~(+)(e)~~ ~~or (d)~~ of 401 KAR 36:025 that contains a total concentration of more than 500 ppm toxic organic compounds listed in 401 KAR 31:170, may pose a hazard to human health and the environment when burned in a metal recovery furnace exempt from the requirements of this administrative regulation. In that situation, after adequate notice and opportunity for comment, the metal recovery furnace shall become subject to the requirements of this administrative regulation when burning that material. In making the hazard determination, the cabinet shall consider the following factors:

a. The concentration and toxicity of organic constituents in the material; and

b. The level of destruction of toxic organic constituents provided by the furnace; and

c. Whether the acceptable ambient levels established in Section 4 or 5 of 401 KAR 36:025 may be exceeded for any toxic organic compound that may be emitted based on dispersion modeling to predict the maximum annual average off-site ground level concentration.

(4) The standards for direct transfer operations under Section 12 of this administrative regulation apply only to facilities subject to the permit standards of Section 3 of this administrative regulation or the interim status standards of Section 4 of this administrative regulation.

(5) The management standards for residues under Section 13 of this administrative regulation apply to any boiler or industrial furnace burning hazardous waste.

(6) Owners and operators of smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, sintering machines, roasters, and foundry furnaces) that process hazardous waste for recovery of economically significant amounts of the precious metals gold, silver, platinum, palladium, iridium, osmium, rhodium, or ruthenium, or any combination of these are conditionally exempt from regulation under this administrative regulation, except for Section 13 of this administrative regulation. To be exempt from Sections 2 through 12 of this administrative regulation, an owner or operator shall:

(a) Provide a one (1) time written notice to the cabinet indicating the following:

1. The owner or operator claims exemption under this paragraph; and

2. The hazardous waste is burned for legitimate recovery of precious metal; and

3. The owner or operator will comply with the sampling and analysis and recordkeeping requirements of this subsection; and

(b) Sample and analyze the hazardous waste as necessary to document that the waste is burned for recovery of economically significant amounts of precious metal using procedures specified by test methods for evaluating solid waste, physical/chemical methods, SW-846, or alternative methods that meet or exceed the SW-846 method performance capabilities. If SW-846 does not prescribe a method for a particular determination, the owner or operator shall use the best available method; and

(c) Maintain at the facility for at least three (3) years records to document that all hazardous wastes burned are burned for recovery of economically significant amounts of precious metal.

Section 2. Management Prior to Burning. (1) Generators. Generators of hazardous waste that is burned in a boiler or industrial furnace are subject to 401 KAR Chapter 32.

(2) Transporters. Transporters of hazardous waste that is burned in a boiler or industrial furnace are subject to 401 KAR Chapter 33.

(3) Storage facilities.

(a) Owners and operators of facilities that store hazardous waste that is burned in a boiler or industrial furnace are subject to the applicable provisions of 401 KAR Chapters 34, 35, and 38, except as provided by paragraph (b) of this subsection. These standards apply to storage by the burner as well as to storage facilities operated by intermediaries (for example, processors, blenders, and distributors) between the generator and the burner.

(b) Owners and operators of facilities that burn, in an on-site boiler or industrial furnace exempt from regulation under the small quantity burner provisions of Section 9 of this administrative regulation, hazardous waste that they generate are exempt from regulation under 401 KAR Chapters 34, 35 and 38 applicable to storage units for those storage units that store ~~(with respect to the storage of)~~ mixtures of hazardous waste and the primary fuel to the boiler or industrial furnace in tanks that feed the fuel mixture directly to the burner. Storage of hazardous waste prior to mixing with the primary fuel is subject to regulation as prescribed in paragraph (a) of this subsection.

Section 3. Permit Standards for Burners. (1) Applicability.

(a) General. Owners and operators of boilers and industrial furnaces burning hazardous waste and not operating under interim status shall comply with the requirements of this section, Section 7 of 401 KAR 38:060, and 401 KAR 38:270, unless exempt under the small quantity burner exemption of Section 9 of this administrative regulation.

(b) Applicability of 401 KAR Chapter 34 standards. Owners and operators of boilers and industrial furnaces that burn hazardous waste are subject to the following provisions of 401 KAR Chapter 34, except as provided otherwise by this paragraph:

1. Section 3 of 401 KAR 34:010; and
2. Sections 2 to 9 of 401 KAR 34:020; and
3. Sections 2 to 7 of 401 KAR 34:030; and
4. Sections 2 to 7 of 401 KAR 34:040; and
5. Sections 2 to 8 of 401 KAR 34:050; and
6. 401 KAR 34:060; and
7. Sections 2 to 6 of 401 KAR 34:070; and
8. 401 KAR 34:080, 401 KAR 34:090, and 401 KAR 34:110 to 401 KAR 34:130 ~~[34:176]~~, except that states and the federal government are exempt from the requirements of 401 KAR 34:080; and
9. 401 KAR 34:280, except for Section 2(1).

(2) Hazardous waste analysis.

(a) The owner or operator shall provide an analysis of the hazardous waste that quantifies the concentration of any constituent identified in 401 KAR 31:170 that may reasonably be expected to be in the waste. These constituents shall be identified and quantified if present, at levels detectable by analytical procedures prescribed by test methods for evaluating solid waste, physical/chemical methods. Alternative methods that meet or exceed the method performance

capabilities of SW-846 methods may be used. If SW-846 does not prescribe a method for a particular determination, the owner or operator shall use the best available method. The 401 KAR 31:170 constituents excluded from this analysis shall be identified and the basis for their exclusion explained. This analysis shall be used to provide all information required by this administrative regulation, and Section 7 of 401 KAR 38:060, and 401 KAR 38:270 and to enable the permit writer to prescribe such permit conditions as necessary to protect human health and the environment. This analysis shall be included as a portion of the Part B permit application, or, for facilities operating under the interim status standards of this administrative regulation, as a portion of the trial burn plan that may be submitted before the Part B application under provisions of Section 7(7) of 401 KAR 38:060 as well as any other analysis required by the permit authority in preparing the permit. Owners and operators of boilers and industrial furnaces not operating under the interim status standards shall provide the information required by Section 7(3) of 401 KAR 38:060 or 401 KAR 38:270 in the Part B application to the greatest extent possible.

(b) Throughout normal operation, the owner or operator shall conduct sampling and analysis as necessary to ensure that the hazardous waste, other fuels, and industrial furnace feedstocks fired into the boiler or industrial furnace are within the physical and chemical composition limits specified in the permit.

(3) Emissions standards. Owners and operators shall comply with emissions standards provided by Sections 5 to 8 of this administrative regulation.

(4) Permits.

(a) The owner or operator may burn only hazardous wastes specified in the facility permit and only under the operating conditions specified under subsection (5)(e) of this section, except in approved trial burns under the conditions specified in Section 7 of 401 KAR 38:060.

(b) Hazardous wastes not specified in the permit may not be burned until operating conditions have been specified under a new permit or permit modification, as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with Part B of a permit application under 401 KAR 38:270.

(c) Boilers and industrial furnaces operating under the interim status standards of Section 4 of this administrative regulation are permitted under procedures provided by Section 7(7) of 401 KAR 38:060.

(d) A permit for a new boiler or industrial furnace (those boilers and industrial furnaces not operating under the interim status standards) shall establish appropriate conditions for each of the applicable requirements of this section, including but not limited to, allowable hazardous waste firing rates and operating conditions necessary to meet the requirements of subsection (5) of this section, in order to comply with the following standards:

1. For the period beginning with initial introduction of hazardous waste and ending with initiation of the trial burn, and only for the minimum time required to bring the device to a point of operational readiness to conduct a trial burn, not to exceed a duration of 720 hours operating time when burning hazardous waste, the operating requirements shall be those most likely to ensure compliance with the emission standards of Sections 5 to 8 of this administrative regulation, based on the cabinet's engineering judgment. If the applicant is seeking a waiver from a trial burn to demonstrate conformance with a particular emission standard, the operating requirements during this initial period of operation shall include those specified by the applicable provisions of Sections 5, 6, 7, or 8 of this administrative regulation. The cabinet may extend the duration of this period for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

2. For the duration of the trial burn, the operating requirements shall be sufficient to demonstrate compliance with the emissions



standards of Sections 5 to 8 of this administrative regulation and shall be in accordance with the approved trial burn plan;

3. For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, submission of the trial burn results by the applicant, review of the trial burn results and modification of the facility permit by the cabinet to reflect the trial burn results, the operating requirements shall be those most likely to ensure compliance with the emission standards Sections 5 to 8 of this administrative regulation based on the cabinet's engineering judgment.

4. For the remaining duration of the permit, the operating requirements shall be those demonstrated in a trial burn or by alternative data specified in 401 KAR 38:270, as sufficient to ensure compliance with the emissions standards of Sections 5 to 8 of this administrative regulation.

(5) Operating requirements.

(a) General. A boiler or industrial furnace burning hazardous waste shall be operated in accordance with the operating requirements specified in the permit at all times where there is hazardous waste in the unit.

(b) Requirements to ensure compliance with the organic emissions standards.

1. DRE standards. Operating conditions shall be specified either on a case-by-case basis for each hazardous waste burned as those demonstrated (in a trial burn or by alternative data as specified in 401 KAR 38:270) to be sufficient to comply with the destruction and removal efficiency (DRE) performance standard of Section 5(1) of this administrative regulation or as those special operating requirements provided by Section 5(1)(d) of this administrative regulation for the waiver of the DRE trial burn. When the DRE trial burn is not waived under Section 5(1)(d) of this administrative regulation, each set of operating requirements shall specify the composition of the hazardous waste (including acceptable variations in the physical and chemical properties of the hazardous waste which shall not affect compliance with the DRE performance standard) to which the operating requirements apply. For each such hazardous waste, the permit shall specify acceptable operating limits including, but not limited to, the following conditions as appropriate:

- a. Feed rate of hazardous waste and other fuels measured and specified as prescribed in paragraph (f) of this subsection;
- b. Minimum and maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in paragraph (f) of this subsection;
- c. Appropriate controls of the hazardous waste firing system;
- d. Allowable variation in boiler and industrial furnace system design or operating procedures;
- e. Minimum combustion gas temperature measured at a location indicative of combustion chamber temperature, measured and specified as prescribed in paragraph (f) of this subsection;
- f. An appropriate indicator of combustion gas velocity, measured and specified as prescribed in paragraph (f) of this subsection, unless documentation is provided under Section 7 of 401 KAR 38:060 demonstrating adequate combustion gas residence time; and
- g. Such other operating requirements as are necessary to ensure that the DRE performance standard of Section 5(1) of this administrative regulation is met.

2. Carbon monoxide and hydrocarbon standard. The permit shall incorporate a carbon monoxide (CO) limit and, as appropriate, a hydrocarbon (HC) limit as provided by Section 5(2), (3), (4), (5), and (16) of this administrative regulation. The permit limits shall be specified as follows:

- a. When complying with the CO standard of Section 5(2)(a) of this administrative regulation, the permit limit is 100 ppmv;
- b. When complying with the alternative CO standard under Section 5(3) of this administrative regulation, the permit limit for CO is based on the trial burn and is established as the average over all valid runs of the highest hourly rolling average CO level of each run,

and the permit limit for HC is twenty (20) ppmv (as defined in Section 5(3)(a) of this administrative regulation), except as provided in Section 5(6) of this administrative regulation.

c. When complying with the alternative HC limit for industrial furnaces under Section 5(6) of this administrative regulation, the permit limit for HC and CO is the baseline level when hazardous waste is not burned as specified by that Section 5(6) of this administrative regulation.

3. Start-up and shut-down. During start-up and shut-down of the boiler or industrial furnace, hazardous waste (except waste fed solely as an ingredient under the Tier I (or adjusted Tier I) feed rate screening limits for metals and chloride/chlorine, and except low risk waste exempt from the trial burn requirements under Sections 5(1)(e), 6, 7, and 8 of this administrative regulation) shall not be fed into the device unless the device is operating within the conditions of operation specified in the permit.

(c) Requirements to ensure conformance with the particulate standard.

1. Except as provided in subparagraphs 2 and 3 of this paragraph, the permit shall specify the following operating requirements to ensure conformance with the particulate standard specified in Section 6 of this administrative regulation:

- a. Total ash feed rate to the device from hazardous waste, other fuels, and industrial furnace feedstocks, measured and specified as prescribed in paragraph (f) of this subsection;
- b. Maximum device production rate when producing normal product expressed in appropriate units, and measured and specified as prescribed in paragraph (f) of this subsection;
- c. Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;
- d. Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and
- e. Any other operating requirements that are necessary to ensure that the particulate standard in Section 6(1) of this administrative regulation is met.

2. Permit conditions to ensure conformance with the particulate matter standard shall not be provided for facilities exempt from the particulate matter standard under Section 6(2) of this administrative regulation;

3. For cement kilns and light-weight aggregate kilns, permit conditions to ensure compliance with the particulate standard shall not limit the ash content of hazardous waste or other feed materials.

(d) Requirements to ensure conformance with the metals emissions standard.

1. For conformance with the Tier I (or adjusted Tier I) metals feed rate screening limits of Section 7(2) or (5) of this administrative regulation, the permit shall specify the following operating requirements:

- a. Total feed rate of each metal in hazardous waste, other fuels, and industrial furnace feedstocks measured and specified under provisions of paragraph (f) of this subsection;
- b. Total feed rate of hazardous waste measured and specified as prescribed in paragraph (f) of this subsection; and
- c. A sampling and metals analysis program for the hazardous waste, other fuels, and industrial furnace feedstocks.

2. For conformance with the Tier II metals emission rate screening limits under Section 7(3) of this administrative regulation and the Tier III metals controls under Section 7(4) of this administrative regulation, the permit shall specify the following operating requirements:

- a. Maximum emission rate for each metal specified as the average emission rate during the trial burn;
- b. Feed rate of total hazardous waste and pumpable hazardous waste, each measured and specified as prescribed in paragraph (f)1 of this subsection; and
- c. Feed rate of each metal in the following feedstreams, mea-

sured and specified as prescribed in paragraph (f) of this subsection:

- (i) Total feed streams;
- (ii) Total hazardous waste feed; and
- (iii) Total pumpable hazardous waste feed;

d. Total feed rate of chlorine and chloride in total feed streams measured and specified as prescribed in paragraph (f) of this subsection;

e. Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in paragraph (f) of this subsection;

f. Maximum flue gas temperature at the inlet to the particulate matter air pollution control system measured and specified as prescribed in paragraph (f) of this subsection;

g. Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in paragraph (f) of this subsection;

h. Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;

i. Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and

j. Such other operating requirements as are necessary to ensure that the metals standards under Section 7(3) or (4) of this administrative regulation are met.

3. For conformance with an alternative implementation approach approved by the cabinet under Section 7(6) of this administrative regulation, the permit shall specify the following operating requirements:

a. Maximum emission rate for each metal specified as the average emission rate during the trial burn;

b. Feed rate of total hazardous waste and pumpable hazardous waste, each measured and specified as prescribed in paragraph (f) of this subsection;

c. Feed rate of each metal in the following feedstreams, measured and specified as prescribed in paragraph (f) of this subsection:

- (i) Total hazardous waste feed; and
- (ii) Total pumpable hazardous waste feed;

d. Total feed rate of chlorine and chloride in total feed streams measured and specified as prescribed in paragraph (f) of this subsection;

e. Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in paragraph (f) of this subsection;

f. Maximum flue gas temperature at the inlet to the particulate matter air pollution control system measured and specified as prescribed in paragraph (f) of this subsection;

g. Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in paragraph (f) of this subsection;

h. Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;

i. Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and

j. Such other operating requirements as are necessary to ensure that the metals standards under Section 7(3) or (4) of this administrative regulation are met.

(e) Requirements to ensure conformance with the hydrogen chloride and chlorine gas standards.

1. For conformance with the Tier I total chloride and chlorine feed rate screening limits of Section 8(2)(a) of this administrative regulation, the permit shall specify the following operating requirements:

a. Feed rate of total chloride and chlorine in hazardous waste, other fuels, and industrial furnace feedstocks measured and specified as prescribed in paragraph (f) of this subsection;

b. Feed rate of total hazardous waste measured and specified as prescribed in paragraph (f) of this subsection; and

c. A sampling and analysis program for total chloride and chlorine

for the hazardous waste, other fuels, and industrial furnace feedstocks;

2. For conformance with the Tier II HCl and Cl<sub>2</sub> emission rate screening limits under Section 8(2)(b) of this administrative regulation and the Tier III HCl and Cl<sub>2</sub> controls under Section 8(3) of this administrative regulation, the permit shall specify the following operating requirements:

a. Maximum emission rate for HCl and for Cl<sub>2</sub> specified as the average emission rate during the trial burn;

b. Feed rate of total hazardous waste measured and specified as prescribed in paragraph (f) of this subsection;

c. Total feed rate of chlorine and chloride in total feed streams, measured and specified as prescribed in paragraph (f) of this subsection;

d. Maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in paragraph (f) of this subsection;

e. Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;

f. Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and

g. Any other operating requirements that are necessary to ensure that the HCl and Cl<sub>2</sub> standards under Section 8(2)(b) or (3) of this administrative regulation are met.

(f) Measuring parameters and establishing limits based on trial burn data.

1. General requirements. As specified in paragraphs (b) to (e) of this subsection, each operating parameter shall be measured, and permit limits on the parameter shall be established, according to either of the following procedures:

a. Instantaneous limits. A parameter may be measured and recorded on an instantaneous basis (that is, the value that occurs at any time) and the permit limit specified as the time-weighted average during all valid runs of the trial burn; or

b. Hourly rolling average.

(i) The limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:

i. A continuous monitor is one (1) which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each fifteen (15) seconds, and computes and records the average value at least every sixty (60) seconds.

ii. An hourly rolling average is the arithmetic mean of the sixty (60) most recent one (1) minute average values recorded by the continuous monitoring system.

(ii) The permit limit for the parameter shall be established based on trial burn data as the average over all valid test runs of the highest hourly rolling average value for each run.

2. Rolling average limits for carcinogenic metals and lead. Feed rate limits for the carcinogenic metals (that is, arsenic, beryllium, cadmium and chromium) and lead may be established either on an hourly rolling average basis as prescribed by subparagraph 1 of this paragraph or on up to a twenty-four (24) hour rolling average basis. If the owner or operator elects to use an average period from two (2) to twenty-four (24) hours:

a. The feed rate of each metal shall be limited at any time to ten (10) times the feed rate that would be allowed on an hourly rolling average basis; and

b. The continuous monitor shall meet the following specifications:

(i) A continuous monitor is one (1) which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each fifteen (15) seconds, and computes and records the average value at least every sixty (60) seconds.

(ii) The rolling average for the selected averaging period is defined as the arithmetic mean of one (1) hour block averages for the averaging period. A one (1) hour block average is the arithmetic mean

of the one (1) minute averages recorded during the sixty (60) minute period beginning at one (1) minute after the beginning of preceding clock hour; and

c. The permit limit for the feed rate of each metal shall be established based on trial burn data as the average over all valid test runs of the highest hourly rolling average feed rate for each run.

3. Feed rate limits for metals, total chloride and chlorine, and ash. Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (that is, metals, chloride, chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream shall be monitored under the continuous monitoring requirements of subparagraphs 1 and 2 of this paragraph.

4. Conduct of a trial burn testing.

a. If compliance with all applicable emissions standards of Sections 5 to 8 of this administrative regulation is not demonstrated simultaneously during a set of test runs, the operating conditions of additional test runs required to demonstrate compliance with remaining emissions standards shall be as close as possible to the original operating conditions.

b. Prior to obtaining test data for purposes of demonstrating compliance with the emissions standards of Sections 5 to 8 of this administrative regulation or establishing limits on operating parameters under this section, the site or facility shall operate under trial burn conditions for a sufficient period to reach steady-state operations. The cabinet may determine, however, that industrial furnaces that recycle collected particulate matter back into the furnace and that comply with an alternative implementation approach for metals under Section 7(6) of this administrative regulation need not reach steady state conditions with respect to the flow of metals in the system prior to beginning compliance testing for metals emissions.

c. Trial burn data on the level of an operating parameter for which a limit shall be established in the permit shall be obtained during emissions sampling for the pollutant (that is, metals, PM, HCl/Cl<sub>2</sub>, organic compounds) for which the parameter shall be established as specified by paragraph (e) of this subsection.

(g) General requirements.

1. Fugitive emissions. Fugitive emissions shall be controlled by:

a. Keeping the combustion zone totally sealed against fugitive emissions; or

b. Maintaining the combustion zone pressure lower than atmospheric pressure; or

c. An alternate means of control demonstrated (with Part B of the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

2. Automatic waste feed cutoff. A boiler or industrial furnace shall be operated with a functioning system that automatically cuts off the hazardous waste feed when operating conditions deviate from those established under this section. The cabinet may limit the number of cutoffs per an operating period on a case-by-case basis. In addition:

a. The permit limit for (the indicator of) minimum combustion chamber temperature shall be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber;

b. Exhaust gases shall be ducted to the air pollution control system operated in accordance with the permit requirements while hazardous waste or hazardous waste residues remain in the combustion chamber; and

c. Operating parameters for which permit limits are established shall continue to be monitored during the cutoff, and the hazardous waste feed shall not be restarted until the levels of those parameters comply with the permit limits. For parameters that may be monitored on an instantaneous basis, the cabinet shall establish a minimum period of time after a waste feed cutoff during which the parameter shall not exceed the permit limit before the hazardous waste feed may be restarted.

3. Changes. A boiler or industrial furnace shall cease burning hazardous waste when changes in combustion properties, or feed rates of the hazardous waste, other fuels, or industrial furnace feedstocks, or changes in the boiler or industrial furnace design or operating conditions deviate from the limits as specified in the permit.

(h) Monitoring and inspections.

1. The owner or operator shall monitor and record the following, at a minimum, while burning hazardous waste:

a. If specified by the permit, feed rates and composition of hazardous waste, other fuels, and industrial furnace feedstocks, and feed rates of ash, metals, and total chloride and chlorine;

b. If specified by the permit, carbon monoxide (CO), hydrocarbons (HC), and oxygen on a continuous basis at a common point in the boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere in accordance with operating requirements specified in paragraph (b)2 of this subsection. CO, HC, and oxygen monitors shall be installed, operated, and maintained in accordance with methods specified in Appendix IX of 40 CFR Part 266, adopted in Section 11 of 401 KAR 36:025. [Section 9(1)(a) of 401 KAR 36:025.]

c. Upon the request of the cabinet, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feedstocks as appropriate), residues, and exhaust emissions shall be conducted to verify that the operating requirements established in the permit achieve the applicable standards of Sections 5, 6, 7, and 8 of this administrative regulation.

2. All monitors shall record data in units corresponding to the permit limit unless otherwise specified in the permit.

3. The boiler or industrial furnace and associated equipment (for example, pumps, valves, pipes, and fuel storage tanks) shall be subjected to thorough visual inspection when it contains hazardous waste, at least daily for leaks, spills, fugitive emissions, and signs of tampering.

4. The automatic hazardous waste feed cutoff system and associated alarms shall be tested at least once every seven (7) days when hazardous waste is burned to verify operability, unless the applicant demonstrates to the cabinet weekly inspections shall unduly restrict or upset operations and that less frequent inspections shall be adequate. At a minimum, operational testing shall be conducted at least once every thirty (30) days.

5. These monitoring and inspection data shall be recorded and the records shall be placed in the operating record required by Section 4 of 401 KAR 34:050.

(i) Direct transfer to the burner. If hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit, the owner and operator shall comply with Section 12 of this administrative regulation.

(j) Recordkeeping. The owner or operator shall keep in the operating record of the facility all information and data required by this section until closure of the facility.

(k) Closure. At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the boiler or industrial furnace.

Section 4. Interim Status Standards for Burners. (1) Purpose, scope, applicability.

(a) General.

1. The purpose of this section is to establish minimum national standards for owners and operators of "existing" boilers and industrial furnaces that burn hazardous waste where such standards define the acceptable management of hazardous waste during the period of interim status. The standards of this section apply to owners and operators of existing facilities until either a permit is issued under Section 3(4) of this administrative regulation or until closure responsibilities identified in this section are fulfilled.

2. ~~["Existing" or "in existence" indicates a boiler or industrial~~

~~furnace that on or before August 21, 1991 is either in operation burning, or processing hazardous waste or for which construction (including the ancillary facilities to burn or to process the hazardous waste) has commenced.~~ A facility has commenced construction if the owner or operator has obtained the federal, state, and local approvals or permits necessary to begin physical construction; and either:

a. A continuous on-site, physical construction program has begun; or

b. The owner or operator has entered into contractual obligations - which cannot be canceled or modified without substantial loss - for physical construction of the facility to be completed within a reasonable time.

3. If a boiler or industrial furnace is located at a facility that already has a permit or interim status, then the facility shall comply with the applicable administrative regulations dealing with permit modifications at the request of the permittee under 401 KAR 38:040 or changes in interim status in Section 3 of 401 KAR 38:020.

(b) Exemptions. The requirements of this section do not apply to hazardous waste and facilities exempt under Section 1(2) or Section 9 of this administrative regulation.

(c) Prohibition on burning dioxin-listed wastes. The following hazardous waste listed for dioxin and hazardous waste derived from any of these wastes shall not be burned in a boiler or industrial furnace operating under interim status: EPA Hazardous Waste Numbers F020, F021, F022, F023, F026, and F027.

(d) Applicability of 401 KAR Chapter 35 standards. Owners and operators of boilers and industrial furnaces that burn hazardous waste and are operating under interim status are subject to the following provisions of 401 KAR Chapter 35, except as provided otherwise by this section:

1. Section 2 of 35:010; and
2. Sections 2 to 8 of 401 KAR 35:020; and
3. Sections 2 to 7 of 401 KAR 35:030; and
4. Sections 2 to 7 of 401 KAR 35:040; and
5. Sections 2 to 8 of 401 KAR 35:050, except that Sections 2, 3, and 7 shall not apply to owners or operators of on-site facilities that do not receive any hazardous waste from off-site sources; and
6. Sections 2 to 6 of 401 KAR 35:070; and
7. 401 KAR 35:080, 401 KAR 35:090, 401 KAR 35:110, 401 KAR 35:120, and 401 KAR 35:130, except that states and the federal government are exempt from the requirements of 401 KAR 35:080; and
8. 401 KAR 35:280, except Section 2(1).

(e) Special requirements for furnaces. The following controls apply during interim status to industrial furnaces (for example, kilns, cupolas) that feed hazardous waste for a purpose other than solely as an ingredient (see subparagraph 2 of this paragraph) at any location other than the hot end where products are normally discharged and where fuels are normally fired:

1. Controls.
  - a. The hazardous waste shall be fed at a location where combustion gas temperatures are at least 1800 degrees Fahrenheit;
  - b. The owner or operator shall determine that adequate oxygen is present in combustion gases to combust organic constituents in the waste and retain documentation of such determination in the facility record;
  - c. For cement kiln systems, the hazardous waste shall be fed into the kiln; and
  - d. The hydrocarbon controls of Section 5(3) of this administrative regulation or subsection (3)(g)2 of this section apply upon certification of compliance under subsection (3) of this section irrespective of the CO level achieved during the compliance test.
2. Burning hazardous waste solely as an ingredient. A hazardous waste is burned for a purpose other than solely as an ingredient if it meets either of these criteria:
  - a. The hazardous waste has a total concentration of nonmetal compounds listed in 401 KAR 31:170 exceeding 500 ppm by weight,

as-fired, and so is considered to be burned for destruction. The concentration of nonmetal compounds in a waste as-generated may be reduced to the 500 ppm limit by authentic treatment that removes or destroys nonmetal constituents. Blending for dilution to meet the 500 ppm limit is prohibited, and documentation that the waste has not been impermissibly diluted shall be retained in the facility record; or

b. The hazardous waste has a heating value of 5,000 Btu/lb or more, as-fired, and so is considered to be burned as fuel. The heating value of a waste as-generated may be reduced to below the 5,000 Btu/lb limit by authentic treatment that removes or destroys organic constituents. Blending to augment the heating value to meet the 5,000 Btu/lb limit is prohibited, and documentation that the waste has not been impermissibly blended shall be retained in the facility record.

(f) Restrictions on burning hazardous waste that is not a fuel. Prior to certification of compliance under subsection (3) of this section, owners and operators shall not feed hazardous waste that has a heating value less than 5,000 Btu/lb, as-generated, (except that the heating value of a waste as-generated may be increased to above the 5,000 Btu/lb limit by authentic treatment; however, blending to augment the heating value to meet the 5,000 Btu/lb limit is prohibited and records shall be kept to document that impermissible blending has not occurred) in a boiler or industrial furnace, except that:

1. Hazardous waste may be burned solely as an ingredient; or
2. Hazardous waste may be burned for purposes of compliance testing (or testing prior to compliance testing) for a total period of time not to exceed 720 hours; or
3. This waste may be burned if the cabinet has documentation to show that, prior to August 21, 1991:

a. The boiler or industrial furnace is operating under the interim status standards for incinerators provided by 401 KAR 35:240, or the interim status standards for thermal treatment units provided by 401 KAR 35:250; and

b. Hazardous waste with a heating value less than 5,000 Btu/lb was burned prior to that date; or

4. This waste may be burned in a halogen acid furnace if the waste was burned as an excluded ingredient under Section 2(5) of 401 KAR 31:010 prior to February 21, 1991 and documentation is kept on file supporting this claim.

(g) Direct transfer to the burner. If hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit, the owner and operator shall comply with Section 12 of this administrative regulation.

(2) Certification of precompliance.

(a) General. The owner or operator shall provide complete and accurate information specified in paragraph (b) of this subsection to the cabinet on or before August 21, 1991, and shall establish limits for the operating parameters specified in paragraph (c) of this subsection. This information is termed a "certification of precompliance" and constitutes a certification that the owner or operator has determined that, when the facility is operated within the limits specified in paragraph (c) of this subsection, the owner or operator believes that, using best engineering judgment, emissions of particulate matter, metals, and HCl and Cl<sub>2</sub> are not likely to exceed the limits provided by Sections 6, 7, and 8 of this administrative regulation. The facility may burn hazardous waste only under the operating conditions that the owner or operator establishes under paragraph (c) of this subsection until the owner or operator submits a revised certification of precompliance under paragraph (h) of this subsection or a certification of compliance under subsection (3) of this section, or until a permit is issued.

(b) Information required. The following information shall be submitted with the certification of precompliance to support the determination that the limits established for the operating parameters identified in paragraph (c) of this subsection are not likely to result in an exceedance of the allowable emission rates for particulate matter, metals, and HCl and Cl<sub>2</sub>:

1. General facility information:

- a. EPA facility ID number;
- b. Facility name, contact person, telephone number, and address;
- c. Description of boilers and industrial furnaces burning hazardous waste, including type and capacity of device;
- d. A scaled plot plan showing the entire facility and location of the boilers and industrial furnaces burning hazardous waste; and
- e. A description of the air pollution control system on each device burning hazardous waste, including the temperature of the flue gas at the inlet to the particulate matter control system.

2. Except for facilities complying with the Tier I or adjusted Tier I feed rate screening limits for metals or total chlorine and chloride provided by Sections 7(2) or (5) and 8(2)(a) or (5) of this administrative regulation respectively, the estimated uncontrolled (at the inlet to the air pollution control system) emissions of particulate matter, each metal controlled by Section 7 of this administrative regulation, and hydrogen chloride and chlorine, and the following information to support such determinations:

- a. The feed rate (lb/hr) of ash, chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium in each feedstream (hazardous waste, other fuels, industrial furnace feedstocks);

- b. The estimated partitioning factor to the combustion gas for the materials identified in clause a of this subparagraph and the basis for the estimate and an estimate of the partitioning to HCl and Cl<sub>2</sub> of total chloride and chlorine in feed materials. To estimate the partitioning factor, the owner or operator shall use either best engineering judgment or the procedures specified in Appendix IX of 40 CFR Part 266, adopted in Section 11 [Section 9(1)(a)] of 401 KAR 36:025;

- c. For industrial furnaces that recycle collected particulate matter (PM) back into the furnace and that shall certify compliance with the metals emissions standards under subsection (3)(c)2a of this section, the estimated enrichment factor for each metal. To estimate the enrichment factor, the owner or operator shall use either best engineering judgment or the procedures specified in "Alternative Methodology for Implementing Metals Controls" incorporated in Appendix IX of 40 CFR Part 266, adopted in Section 11(1) [9(1)(a)] of 401 KAR 36:025;

- d. If best engineering judgment is used to estimate partitioning factors or enrichment factors under clause b or c of this subparagraph respectively, the basis for the judgment. When best engineering judgment is used to develop or evaluate data or information and make determinations under this section, the determinations shall be made by an engineer and a certification of his determinations in accordance with Section 7(4) of 401 KAR 38:070 shall be provided in the certification of precompliance;

3. For facilities complying with the Tier I or adjusted Tier I feed rate screening limits for metals or total chlorine and chloride provided by Sections 7(2) or (5) and 8(2)(a) or (5) of this administrative regulation, the feed rate (lb/hr) of total chlorine and chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium in each feedstream (hazardous waste, other fuels, industrial furnace feedstocks);

4. For facilities complying with the Tier II or Tier III emission limits for metals or HCl and Cl<sub>2</sub> (under Sections 7(3) or (4) and 8(2)(b) or (3) of this administrative regulation), the estimated controlled (outlet of the air pollution control system) emissions rates of particulate matter, each metal controlled by Section 7 of this administrative regulation, and HCl and Cl<sub>2</sub>, and the following information to support such determinations:

- a. The estimated air pollution control system (APCS) removal efficiency for particulate matter, HCl, Cl<sub>2</sub>, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium;

- b. To estimate APCS removal efficiency, the owner or operator shall use either best engineering judgment or the procedures prescribed in Appendix IX of 40 CFR Part 266, adopted in Section 11 [9(1)(a)] of 401 KAR 36:025;

- c. If best engineering judgment is used to estimate APCS removal

efficiency, the basis for the judgment. Use of best engineering judgment shall be in conformance with provisions of subparagraph 2d of this paragraph;

5. Determination of allowable emissions rates for HCl, Cl<sub>2</sub>, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium, and the following information to support such determinations:

- a. For all facilities:

- (i) Physical stack height;

- (ii) Good engineering practice stack height as defined by 40 CFR 51.100(ii);

- (iii) Maximum flue gas flow rate;

- (iv) Maximum flue gas temperature;

- (v) Attach a USGS topographic map (or equivalent) showing the facility location and surrounding land within five (5) km of the facility;

- (vi) Identify terrain type: complex or noncomplex; and

- (vii) Identify land use: urban or rural;

- b. For owners and operators using Tier III site specific dispersion modeling to determine allowable levels under Section 7(4) or 8(3) of this administrative regulation, or adjusted Tier I feed rate screening limits under Section 7(5) or 8(5) of this administrative regulation:

- (i) Dispersion model and version used;

- (ii) Source of meteorological data;

- (iii) The dilution factor in micrograms per cubic meter per gram per second of emissions for the maximum annual average off-site (unless on-site is required) ground level concentration (MEI location); and

- (iv) Indicate the MEI location on the map required under clause a(v) of this subparagraph;

6. For facilities complying with the Tier II or III emissions rate controls for metals or HCl and Cl<sub>2</sub>, a comparison of the estimated controlled emissions rates determined under subparagraph 4 of this paragraph with the allowable emission rates determined under subparagraph 5 of this paragraph;

7. For facilities complying with the Tier I (or adjusted Tier I) feed rate screening limits for metals or total chloride and chlorine, a comparison of actual feed rates of each metal and total chlorine and chloride determined under subparagraph 3 of this paragraph to the Tier I allowable feed rates;

8. For industrial furnaces that feed hazardous waste for any purpose other than solely as an ingredient (as defined at subsection (1)(e)2 of this section) at any location other than the product discharge end of the device, documentation of compliance with the requirements of subsection (1)(e)1a to c of this section; and

9. For industrial furnaces that recycle collected particulate matter (PM) back into the furnace and that shall certify compliance with the metals emissions standards under subsection (3)(c)2a of this section:

- a. The applicable particulate matter standard in lb/hr; and

- b. The precompliance limit on the concentration of each metal in collected PM.

- (c) Limits on operating conditions. The owner and operator shall establish limits on the following parameters consistent with the determinations made under paragraph (b) of this subsection and certify (under provisions of paragraph (i) of this subsection) to the cabinet that the facility shall operate within the limits during interim status when there is hazardous waste in the unit until revised certification of precompliance under paragraph (h) of this subsection or certification of compliance under subsection (3) of this section:

1. Feed rate of total hazardous waste and (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under Section 7(2) or (5) of this administrative regulation) pumpable hazardous waste;

2. Feed rate of each metal in the following feed streams:

- a. Total feed streams, except that industrial furnaces that comply with the alternative metals implementation approach under paragraph (d) of this subsection shall specify limits on the concentration of each metal in collected particulate matter in lieu of feed rate limits for total

feedstreams;

b. Total hazardous waste feed, unless complying with Tier I or adjusted Tier I metals feed rate screening limits under Section 7(2) or (5) of this administrative regulation; and

c. Total pumpable hazardous waste feed, unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under Section 7(3) or (5) of this administrative regulation;

3. Total feed rate of chlorine and chloride in total feed streams;

4. Total feed rate of ash in total feed streams, except that the ash feed rate for cement kilns and light-weight aggregate kilns is not limited; and

5. Maximum production rate of the device in appropriate units when producing normal product, unless complying with the Tier I or adjusted Tier I feed rate screening limits for chlorine under Section 8(2)(a) or (5) of this administrative regulation and for all metals under Section 7(2) or (5) of this administrative regulation, and all the uncontrolled particulate emissions do not exceed the standard under Section 6 of this administrative regulation.

(d) Operating requirements for furnaces that recycle PM. Owners and operators of furnaces that recycle collected particulate matter (PM) back into the furnace and that shall certify compliance with the metals emissions controls under subsection (3)(c)2a of this section shall comply with the special operating requirements provided in "Alternative Methodology for Implementing Metals Controls" incorporated in Appendix IX of 40 CFR Part 266, adopted in Section 11(1) [9(4)(a)] of 401 KAR 36:025.

(e) Measurement of feed rates and production rate.

1. General requirements. Limits on each of the parameters specified in paragraph (c) of this subsection (except for limits on metals concentrations in collected particulate matter (PM) for industrial furnaces that recycle collected PM) shall be established and continuously monitored and recorded under either of the following methods:

a. Instantaneous limits. A limit for a parameter may be established and continuously monitored and recorded on an instantaneous basis (that is, the value that occurs at any time) not to be exceeded at any time; or

b. Hourly rolling average limits. A limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:

(i) A continuous monitor is one (1) which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each fifteen (15) seconds, and computes and records the average value at least every sixty (60) seconds.

(ii) An hourly rolling average is the arithmetic mean of the sixty (60) most recent one (1) minute average values recorded by the continuous monitoring system.

2. Rolling average limits for carcinogenic metals and lead. Feed rate limits for the carcinogenic metals (arsenic, beryllium, cadmium, and chromium) and lead may be established either on an hourly rolling average basis as prescribed by paragraph (e)1b of this subsection or on up to a twenty-four (24) hour rolling average basis. If the owner or operator elects to use an averaging period from two (2) to twenty-four (24) hours:

a. The feed rate of each metal shall be limited at any time to ten (10) times the feed rate that would be allowed on a hourly rolling average basis;

b. The continuous monitor shall meet the following specifications:

(i) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each fifteen (15) seconds, and computes and records the average value at least every sixty (60) seconds.

(ii) The rolling average for the selected averaging period is defined as the arithmetic mean of one (1) hour block averages for the averaging period. A one (1) hour block average is the arithmetic mean of the one (1) minute averages recorded during the sixty (60) minute

period beginning at one (1) minute after the beginning of preceding clock hour.

3. Feed rate limits for metals, total chloride and chlorine, and ash. Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (that is, metals, chloride, chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream shall be monitored under the continuous monitoring requirements of subparagraphs 1 and 2 of this paragraph.

(f) Public notice requirements at precompliance. On or before August 21, 1991, the owner or operator shall submit a notice with the following information for publication in a major local newspaper of general circulation and send a copy of the notice to the appropriate units of state and local government. The owner and operator shall provide to the cabinet with the certification of precompliance evidence of submitting the notice for publication. The notice, which shall be entitled "Notice of Certification of Precompliance with Hazardous Waste Burning Requirements of 401 KAR 36:020", shall include:

1. Name and address of the owner and operator of the facility as well as the location of the device burning hazardous waste;

2. Date that the certification of precompliance is submitted to the cabinet;

3. Brief description of the regulatory process required to comply with the interim status requirements of this section including required emissions testing to demonstrate conformance with emissions standards for organic compounds, particulate matter, metals, and HCl and Cl<sub>2</sub>;

4. Types and quantities of hazardous waste burned including, but not limited to, source, whether solids or liquids, as well as an appropriate description of the waste;

5. Type of device(s) in which the hazardous waste is burned including a physical description and maximum production rate of each device;

6. Types and quantities of other fuels and industrial furnace feedstocks fed to each unit;

7. Brief description of the basis for this certification of precompliance as specified in paragraph (b) of this subsection;

8. Locations where the record for the facility may be viewed and copied by interested parties. These records and locations shall at a minimum include:

a. The administrative record kept by the cabinet office where the supporting documentation was submitted or another location designated by the cabinet; and

b. The BIF correspondence file kept at the facility site where the device is located. The correspondence file must include all correspondence between the facility and EPA, the cabinet, and local regulatory officials, including copies of all certifications and notifications, such as the precompliance certification, precompliance public notice, notice of compliance testing, compliance test report, compliance certification, time extension requests and approvals or denials, enforcement notifications of violations, and copies of EPA and cabinet site visit reports submitted to the owner or operator;

9. Notification of the establishment of a facility mailing list whereby interested parties shall notify the cabinet that they wish to be placed on the mailing list to receive future information and notices about this facility; and

10. Location (mailing address) of the applicable EPA regional office, hazardous waste division, where further information may be obtained on EPA regulation of hazardous waste burning.

(g) Monitoring other operating parameters. When the monitoring systems for the operating parameters listed in subsection (3)(a)5 to 13 of this section are installed and operating in conformance with vendor specifications or (for CO, HC, and oxygen) specifications provided by Appendix IX of 40 CFR Part 266, adopted in Section 11 [9(4)(a)] of 401 KAR 36:025 as appropriate, the parameters shall be continuously monitored and records shall be maintained in the



operating record.

(h) Revised certification of precompliance. The owner or operator may revise, at any time, the information and operating conditions documented under paragraphs (b) and (c) of this subsection in the certification of precompliance by submitting a revised certification of precompliance under procedures provided by those subsections.

1. The public notice requirements of paragraph (f) of this subsection do not apply to recertifications.

2. The owner and operator shall operate the facility within the limits established for the operating parameters under paragraph (c) of this subsection until a revised certification is submitted under this section or a certification of compliance is submitted under subsection (3) of this section.

(i) Certification of precompliance statement. The owner or operator shall include the following signed statement with the certification of precompliance submitted to the cabinet:

"I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation. Copies of all emissions tests, dispersion modeling results, and other information used to determine conformance with the requirements of Section 4(2) of this administrative regulation are available at the facility and may be obtained from the facility contact person listed above. Based on my inquiry of the person or persons who manages the facility, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also acknowledge that the operating limits established in this certification pursuant to Section 4(2)(c) and (d) of 401 KAR 36:020 are enforceable limits at which the facility may legally operate during interim status until:

1. A revised certification of precompliance is submitted;
2. A certification of compliance is submitted; or
3. An operating permit is issued."

(3) Certification of compliance. The owner or operator shall conduct emissions testing to document compliance with the emissions standards of Sections 5(2) to (5) and 6, 7, and 8 of this administrative regulation and subsection (1)(e)1d of this section, under the procedures prescribed by this subsection, except under extensions of time provided by paragraph (g) of this subsection. Based on the compliance test, the owner or operator shall submit to the cabinet on or before August 21, 1992 a complete and accurate "certification of compliance" (under paragraph (d) of this subsection) with those emission standards establishing limits on the operating parameters specified in paragraph (a) of this subsection.

(a) Limits on operating conditions. The owner or operator shall establish limits on the following parameters based on operations during the compliance test (under procedures prescribed in paragraph (d)4 of this subsection) or as otherwise specified by the cabinet and include these limits with the certification of compliance. The boiler or industrial furnace shall be operated in accordance with these operating limits and all applicable emissions standards of subsection (1)(e)1d of this section, ~~and~~ Sections 5(2) to (5) and 6, 7, and 8 of this administrative regulation at all times when there is hazardous waste in the unit ~~until an operating permit is issued~~.

1. Feed rate of total hazardous waste and (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under Section 7(2) or (5) of this administrative regulation and the total chlorine and chloride feed rate screening limits under Section 8(2)(a) or (5) of this administrative regulation) pumpable hazardous waste;

2. Feed rate of each metal in the following feedstreams:

a. Total feedstreams, except that:

(i) Facilities that comply with Tier I or adjusted Tier I metals feed rate screening limits may set their operating limits at the metals feed

rate screening limits determined under Section 7(2) or (5) of this administrative regulation; and

(ii) Industrial furnaces that shall comply with the alternative metals implementation approach under paragraph (c)2 of this subsection shall specify limits on the concentration of each metal in the collected particulate matter in lieu of feed rate limits for total feedstreams;

b. Total hazardous waste feed (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under Section 7(2) or (5) of this administrative regulation; and

c. Total pumpable hazardous waste feed (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under Section 7(2) or (5) of this administrative regulation);

3. Total feed rate of chlorine and chloride in total feedstreams, except that facilities that comply with Tier I or adjusted Tier I feed rate screening limits may set their operating limits at the total chlorine and chloride feed rate screening limits determined under Section 8(2)(a) or (5) of this administrative regulation;

4. Total feed rate of ash in total feedstreams, except that the ash feed rate for cement kilns and light-weight aggregate kilns is not limited;

5. Carbon monoxide (CO) concentration, and where required, hydrocarbon (HC) concentration in stack gas. When complying with the CO controls of Section 5(2) of this administrative regulation, the CO limit shall be 100 ppmv, and when complying with the HC controls of Section 5(3) of this administrative regulation, the HC controls shall be twenty (20) ppmv. When complying with the CO controls of Section 5(3) of this administrative regulation, the CO limit shall be established based on the compliance test;

6. Maximum production rate of the device in appropriate units when producing normal product, unless complying with the Tier I or adjusted Tier I feed rate screening limits for chlorine under Section 8(2)(a) or (5) of this administrative regulation and for all metals under Section 7(2) or (5) of this administrative regulation, and the uncontrolled particulate emissions do not exceed the standard under Section 6 of this administrative regulation;

7. Maximum combustion chamber temperature where the temperature measurement is as close to the combustion zone as possible and is upstream of any quench water injection (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under Section 7(2) or (5) of this administrative regulation);

8. Maximum flue gas temperature entering a particulate matter control device (unless complying with Tier I or adjusted Tier I metals feed rate screening limits under Section 7(2) or (5) of this administrative regulation, and the total chlorine and chloride feed rate screening limits under Section 8(2) or (5) of this administrative regulation);

9. For systems using wet scrubbers, including wet ionizing scrubbers (unless complying with Tier I or adjusted Tier I metals feed rate screening limits under Section 7(2)(a) or (5) of this administrative regulation);

a. Minimum liquid to flue gas ratio;

b. Minimum scrubber blowdown from the system or maximum suspended solids content of scrubber water; and

c. Minimum pH level of the scrubber water;

10. For systems using venturi scrubbers, the minimum differential gas pressure across the venturi (unless complying with Tier I or adjusted Tier I metals feed rate screening limits under Section 7(2) or (5) of this administrative regulation and the total chlorine and chloride feed rate screening limits under Section 8(2)(a) or (5) of this administrative regulation);

11. For systems using dry scrubbers (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under Section 7(2) or (5) of this administrative regulation and the total chlorine and chloride feed rate screening limits under Section 8(2)(a) or (5) of this administrative regulation);

a. Minimum caustic feed rate; and

b. Maximum flue gas flow rate;

12. For systems using wet ionizing scrubbers or electrostatic

precipitation (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under Section 7(2) or (5) of this administrative regulation and the total chlorine and chloride feed rate screening limits under Section 8(2)(a) or (5) of this administrative regulation):

a. Minimum electrical power in kilovolt amperes (kVA) to the precipitator plates; and

b. Maximum flue gas flow rate; and

13. For systems using fabric filters (baghouses), the minimum pressure drop (unless complying with Tier I or adjusted Tier I metal feed rate screening limits under Section 7(2) or (5) of this administrative regulation and the total chlorine and chloride feed rate screening limits under Section 8(2)(a) or (5) of this administrative regulation).

(b) Prior notice of compliance testing. At least thirty (30) days prior to the compliance testing required by paragraph (c) of this subsection, the owner or operator shall notify the cabinet and submit the following information:

1. General facility information including:

a. EPA facility ID number;

b. Facility name, contact person, telephone number, and address;

c. Person responsible for conducting compliance test, including company name, address, and telephone number, and a statement of qualifications;

d. Planned date of the compliance test;

2. Specific information on each device to be tested including:

a. Description of boiler or industrial furnace;

b. A scaled plot plan showing the entire facility and location of the boiler or industrial furnace;

c. A description of the air pollution control system;

d. Identification of the continuous emission monitors that are installed, including:

(i) Carbon monoxide monitor;

(ii) Oxygen monitor;

(iii) Hydrocarbon monitor, specifying the minimum temperature of the system and, if the temperature is less than 150 degrees Centigrade, an explanation of why a heated system is not used (see paragraph (e) of this subsection) and a brief description of the sample gas conditioning system;

e. Indication of whether the stack is shared with another device that shall be in operation during the compliance test;

f. Other information useful to an understanding of the system design or operation.

3. Information on the testing planned, including a complete copy of the test protocol and quality assurance/quality control (QA/QC) plan, and a summary description for each test providing the following information at a minimum:

a. Purpose of the test (for example, demonstrate compliance with emissions of particulate matter); and

b. Planned operating conditions, including levels for each pertinent parameter specified in paragraph (a) of this subsection.

(c) Compliance testing.

1. General. Compliance testing shall be conducted under conditions for which the owner or operator has submitted a certification of precompliance under subsection (2) of this section and under conditions established in the notification of compliance testing required by paragraph (b) of this subsection. The owner or operator may seek approval on a case-by-case basis to use compliance test data from one (1) unit instead of testing a similar on-site unit. To support the request, the owner or operator must provide a comparison of the hazardous waste burned and other feedstreams, and the design, operation, and maintenance of both the tested unit and the similar unit. The cabinet shall provide a written approval to use compliance test data instead of testing a similar unit if the cabinet finds that the hazardous wastes, the devices, and the operating conditions are sufficiently similar, and the data from the other compliance test is adequate to meet the requirements of this subsection.

2. Special requirements for industrial furnaces that recycle collected particulate matter (PM). Owners and operators of industrial furnaces that recycle back into the furnace PM from the air pollution control system shall comply with one of the following procedures for testing to determine compliance with the metals standards of Section 7(3) or (4) of this administrative regulation.

a. The special testing requirements prescribed in "Alternative Method for Implementing Metals Controls" in Appendix IX of 40 CFR Part 266 that is adopted in Section 11 of 401 KAR 36:025; or

b. Stack emissions testing for a minimum of six (6) hours each day while hazardous waste is burned during interim status. The testing shall be conducted when burning normal hazardous waste for that day at normal feed rates for that day and when the air pollution control system is operated under normal conditions. During interim status, hazardous waste analysis for metals content shall be sufficient for the owner or operator to determine if changes in metals content may affect the ability of the facility to meet the metals emissions standards established in Section 7(3) or (4) of this administrative regulation. Under this option, operating limits (under subsection (3)(a) of this section) shall be established during compliance testing under subsection (3)(c) of this section only on the following parameters:

(i) Feed rate of total hazardous waste;

(ii) Total feed rate of chlorine and chloride in total feedstreams;

(iii) Total feed rate of ash in total feedstreams, except that the ash feed rate for cement kilns and light-weight aggregate kilns is not limited;

(iv) Carbon monoxide concentration, and where required, hydrocarbon concentration in stack gas;

(v) Maximum production rate of the device in appropriate units when producing normal product; or

c. Conduct compliance testing to determine compliance with the metals standards to establish limits on the operating parameters of subsection (3)(a) of this section only after the kiln system has been conditioned to enable it to reach equilibrium with respect to metals fed into the system and metals emissions. During conditioning, hazardous waste and raw materials having the same metals content as will be fed during the compliance test shall be fed at the feed rates that will be fed during the compliance test.

3. Conduct of compliance testing.

a. If compliance with all applicable emissions standards of Sections 5 to 8 of this administrative regulation is not demonstrated simultaneously during a set of test runs, the operating conditions of additional test runs required to demonstrate compliance with remaining emissions standards shall be as close as possible to the original operating conditions.

b. Prior to obtaining test data for purposes of demonstrating compliance with the applicable emissions standards of Sections 5 to 8 of this administrative regulation or establishing limits on operating parameters under this section, the facility shall operate under compliance test conditions for a sufficient period to reach steady-state operations. Industrial furnaces that recycle collected particulate matter back into the furnace and that comply with subsection (3)(c)2a or b of this section, however, need not reach steady state conditions with respect to the flow of metals in the system prior to beginning compliance testing for metals.

c. Compliance test data on the level of an operating parameter for which a limit shall be established in the certification of compliance shall be obtained during the emissions sampling for the pollutant(s) (that is, metals, PM, HCl, Cl<sub>2</sub>, organic compounds) for which the parameter shall be established as specified by subsection (3)(a) of this section.

(d) Certification of compliance. Within ninety (90) days of completing compliance testing, the owner or operator shall certify to the cabinet compliance with the emissions standards of Section 5(2), (3), and (15) of this administrative regulation, Sections 6 to 8 of this administrative regulation, and subsection (1)(d)1d of this section. The certification of compliance shall include the following information:

1. General facility and testing information including:
  - a. EPA facility ID number;
  - b. Facility name, contact person, telephone number, and address;
  - c. Person responsible for conducting compliance testing, including company name, address, and telephone number, and a statement of qualifications;
  - d. Date(s) of each compliance test;
  - e. Description of boiler or industrial furnace tested;
  - f. Person responsible for quality assurance/quality control (QA/QC), title, and telephone number, and statement that procedures prescribed in the QA/QC plan submitted under paragraph (b)3 of this subsection have been followed, or a description of any changes and an explanation of why changes were necessary.
  - g. Description of any changes in the unit configuration prior to or during testing that would alter any of the information submitted in the prior notice of compliance testing under paragraph (b) of this subsection, and an explanation of why the changes were necessary;
  - h. Description of any changes in the planned test conditions prior to or during the testing that alter any of the information submitted in the prior notice of compliance testing under paragraph (b) of this subsection, and an explanation of why the changes were necessary; and
    - i. The complete report on results of emissions testing.
2. Specific information on each test including:
  - a. Purpose(s) of test (for example, demonstrate conformance with the emissions limits for particulate matter, metals, HCl, Cl<sub>2</sub>, and CO); and
  - b. Summary of test results for each run and for each test including the following information:
    - (i) Date of run;
    - (ii) Duration of run;
    - (iii) Time-weighted average and highest hourly rolling average CO level for each run and for the test;
    - (iv) Highest hourly rolling average HC level, if HC monitoring is required for each run and for the test;
    - (v) If dioxin and furan testing is required under Section 5(5) of this administrative regulation, time-weighted average emissions for each run and for the test of chlorinated dioxin and furan emissions, and the predicted maximum annual average ground level concentration of the toxicity equivalency factor;
    - (vi) Time-weighted average particulate matter emissions for each run and for the test;
    - (vii) Time-weighted average HCl and Cl<sub>2</sub> emissions for each run and for the test;
    - (viii) Time-weighted average emissions for the metals subject to regulation under Section 7 of this administrative regulation for each run and for the test; and
    - (ix) QA/QC results.
  3. Comparison of the actual emissions during each test with the emissions limits prescribed by Section 5(3), (4) and (5) of this administrative regulation, Sections 6 to 8 of this administrative regulation and established for the facility in the certification of precompliance under subsection (2) of this section.
  4. Determination of operating limits based on all valid runs of the compliance test for each applicable parameter listed in paragraph (a) of this subsection using either of the following procedures:
    - a. Instantaneous limits. A parameter may be measured and recorded on an instantaneous basis (that is, the value that occurs at any time) and the operating limit specified as the time-weighted average during all runs of the compliance test; or
    - b. Hourly rolling average basis.
      - (i) The limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:
        - i. A continuous monitor is one (1) which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each fifteen (15) seconds, and computes and records the average value at least every sixty (60) seconds; and

ii. An hourly rolling average is the arithmetic mean of the sixty (60) most recent one (1) minute average values recorded by the continuous monitoring system.

(ii) The operating limit for the parameter shall be established based on compliance test data as the average over all test runs of the highest hourly rolling average value for each run.

c. Rolling average limits for carcinogenic metals and lead. Feed rate limits for the carcinogenic metals (that is, arsenic, beryllium, cadmium, and chromium) and lead may be established either on an hourly rolling average basis as prescribed by clause b of this subparagraph or up to a twenty-four (24) hour rolling average basis. If the owner or operator elects to use an averaging period from two (2) to twenty-four (24) hours:

(i) The feed rate of each metal shall be limited at any time to ten (10) times the feed rate that would be allowed on a hourly rolling average basis;

(ii) The continuous monitor shall meet the following specifications:

i. A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each fifteen (15) seconds, and computes and records the average value at least every sixty (60) seconds; and

ii. The rolling average for the selected averaging period is defined as arithmetic mean of one (1) hour block averages for the averaging period. A one (1) hour block average is the arithmetic mean of the one minute averages recorded during the sixty (60) minute period beginning at one (1) minute after the beginning of preceding clock hour; and

(iii) The operating limit for the feed rate of each metal shall be established based on compliance test data as the average over all test runs of the highest hourly rolling average feed rate for each run.

d. Feed rate limits for metals, total chloride and chlorine, and ash. Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (metals, chloride, chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream shall be monitored under the continuous monitoring requirements of clauses a to c of this subparagraph.

5. Certification of compliance statement. The following statement shall accompany the certification of compliance:

"I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation. Copies of all emissions tests, dispersion modeling results and other information used to determine conformance with the requirements of Section 4(3) of 401 KAR 36:020 are available at the facility and can be obtained from the facility contact person listed above. Based on my inquiry of the person or persons who manages the facility, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also acknowledge that the operating conditions established in this certification pursuant to Section 4(3)(d)4 of 401 KAR 36:020 are enforceable limits at which the facility can legally operate during interim status until a revised certification of compliance is submitted."

(e) Special requirements for HC monitoring systems. When an owner or operator is required to comply with the hydrocarbon (HC) controls provided by Section 5(3) of this administrative regulation, subsection (1)(e)1d of this section, a conditioned gas monitoring system may be used in conformance with specifications provided in Appendix IX of 40 CFR Part 266, adopted in Section 11 [9(4)(a)] of 401 KAR 36:025 provided that the owner or operator submits a certification of compliance without using extensions of time provided by paragraph (g) of this subsection.

(f) Special operating requirements for industrial furnaces that recycle collected PM. Owners and operators of industrial furnaces that recycle back into the furnace particulate matter (PM) from the air pollution control system shall:

1. When complying with the requirements of paragraph (c)2a of this subsection, comply with the operating requirements prescribed in "Alternative Method to Implement the Metals Controls" incorporated in Appendix IX of 40 CFR Part 266, adopted in Section 11(1) [9(1)(a)] of 401 KAR 36:025; and

2. When complying with the requirements of paragraph (c)2b of this subsection, comply with the operating requirements prescribed by that subsection.

(g) Extensions of time.

1. If the owner or operator does not submit a complete certification of compliance for all of the applicable emissions standards of Sections 5 to 8 of this administrative regulation by August 21, 1992, he shall either:

a. Stop burning hazardous waste and begin closure activities under subsection (12) of this section for the hazardous waste portion of the facility; or

b. Limit hazardous waste burning only for purposes of compliance testing (and pretesting to prepare for compliance testing) a total period of 720 hours for the period of time beginning August 21, 1992, submit a notification to the cabinet by August 21, 1992 stating that the facility is operating under restricted interim status and intends to resume burning hazardous waste, and submit a complete certification of compliance by August 23, 1993; or

c. Obtain a case-by-case extension of time under subparagraph 2 of this paragraph.

2. The owner or operator may request a case-by-case extension of time to extend any time limit provided by this subsection if compliance with the time limit is not practicable for reasons beyond the control of the owner or operator.

a. In granting an extension, the cabinet may apply conditions as the facts warrant to ensure timely compliance with the requirements of this section and that the facility operates in a manner that does not pose a hazard to human health and the environment;

b. When an owner and operator request an extension of time to enable the facility to comply with the alternative hydrocarbon provisions of Section 5(6) of this administrative regulation and (them te) obtain a hazardous waste [RCRA] operating permit because the facility cannot meet the HC limit of Section 5(3) of this administrative regulation:

(i) The cabinet shall, in considering whether to grant the extension:

i. Determine whether the owner and operator have submitted in a timely manner a complete Part B permit application that includes information required under Appendix IX of 40 CFR Part 266, adopted in Section 11 [9(1)(a)] of 401 KAR 36:025 of this chapter; and

ii. Consider whether the owner and operator have made a good faith effort to certify compliance with all other emission controls, including the controls on dioxins and furans of Section 5(5) of this administrative regulation and the controls on PM, metals, and HCl/Cl<sub>2</sub>.

(ii) If an extension is granted, the cabinet shall, as a condition of the extension, require the facility to operate under flue gas concentration limits on CO and HC that, based on available information, including information in the Part B permit application, are baseline CO and HC levels as defined by Section 5(6)(a) of this administrative regulation.

(h) Revised certification of compliance. The owner or operator may submit at any time a revised certification of compliance (recertification of compliance) under the following procedures:

1. Prior to submittal of a revised certification of compliance, hazardous waste may not be burned for more than a total of 720 hours under operating conditions that exceed those established under a current certification of compliance, and such burning may be conducted only for purposes of determining whether the facility can

operate under revised conditions and continue to meet the applicable emissions standards of Sections 5 to 8 of this administrative regulation;

2. At least thirty (30) days prior to first burning hazardous waste under operating conditions that exceed those established under a current certification of compliance, the owner or operator shall notify the cabinet and submit the following information:

a. EPA facility ID number, and facility name, contact person, telephone number, and address;

b. Operating conditions that the owner or operator is seeking to revise and description of the changes in facility design or operation that prompted the need to seek to revise the operating conditions;

c. A determination that when operating under the revised operating conditions, the applicable emissions standards of Sections 5 to 8 of this administrative regulation are not likely to be exceeded. To document this determination, the owner or operator shall submit the applicable information required under subsection (2)(b) of this section; and

d. Complete emissions testing protocol for any pretesting and for a new compliance test to determine compliance with the applicable emissions standards of Sections 5 to 8 of this administrative regulation when operating under revised operating conditions. The protocol shall include a schedule of pretesting and compliance testing. If the owner and operator revises the scheduled date for the compliance test, he shall notify the cabinet in writing at least thirty (30) days prior to the revised date of the compliance test;

3. Conduct a compliance test under the revised operating conditions and the protocol submitted to the cabinet to determine compliance with the applicable emissions standards of Sections 5 to 8 of this administrative regulation; and

4. Submit a revised certification of compliance under paragraph (d) of this subsection.

(4) Periodic recertifications. The owner or operator shall conduct compliance testing and submit to the cabinet a recertification of compliance under provisions of subsection (3) of this section within three (3) years from submitting the previous certification or recertification. If the owner or operator seeks to recertify compliance under new operating conditions, he shall comply with the requirements of subsection (3)(h) of this section.

(5) Noncompliance with certification schedule. If the owner or operator does not comply with the interim status compliance schedule provided by subsections (2) to (4) of this section, hazardous waste burning shall terminate on the date that the deadline is missed, closure activities shall begin under subsection (12) of this section, and hazardous waste burning shall not resume except under an operating permit issued under Section 7 of 401 KAR 38:060. For purposes of compliance with the closure provisions of subsection (12) of this section and Sections 3(4)(b) and 4 of 401 KAR 35:070, the boiler or industrial furnace has received "the known final volume of hazardous waste" on the date that the deadline is missed.

(6) Start-up and shut-down. Hazardous waste (except waste fed solely as an ingredient under the Tier I (or adjusted Tier I) feed rate screening limits for metals and chloride, chlorine) shall not be fed into the device during start-up and shut-down of the boiler or industrial furnace, unless the device is operating within the conditions of operation specified in the certification of compliance.

(7) Automatic waste feed cutoff. During the compliance test required by subsection (3)(c) of this section, and upon certification of compliance under subsection (3) of this section, a boiler or industrial furnace shall be operated with a functioning system that automatically cuts off the hazardous waste feed when the applicable operating conditions specified in subsections (3)(a)1(v) to (xiii) of this section deviate from those established in the certification of compliance. In addition:

(a) To minimize emissions of organic compounds, the minimum combustion chamber temperature (or the indicator of combustion chamber temperature) that occurred during the compliance test shall

be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber, with the minimum temperature during the compliance test defined as either:

1. If compliance with the combustion chamber temperature limit is based on a hourly rolling average, the minimum temperature during the compliance test is considered to be the average over all runs of the lowest hourly rolling average for each run; or

2. If compliance with the combustion chamber temperature limit is based on an instantaneous temperature measurement, the minimum temperature during the compliance test is considered to be the time-weighted average temperature during all runs of the test; and

(b) Operating parameters limited by the certification of compliance shall continue to be monitored during the cutoff, and the hazardous waste feed shall not be restarted until the levels of those parameters comply with the limits established in the certification of compliance.

(8) Fugitive emissions. Fugitive emissions shall be controlled by:

(a) Keeping the combustion zone totally sealed against fugitive emissions; or

(b) Maintaining the combustion zone pressure lower than atmospheric pressure; or

(c) An alternate means of control that the owner or operator demonstrates provides fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure. Support for this demonstration shall be included in the operating record.

(9) Changes. A boiler or industrial furnace shall cease burning hazardous waste when changes in combustion properties, or feed rates of the hazardous waste, other fuels, or industrial furnace feedstocks, or changes in the boiler or industrial furnace design or operating conditions deviate from the limits specified in the certification of compliance.

(10) Monitoring and inspections.

(a) The owner or operator shall monitor and record the following, at a minimum, while burning hazardous waste:

1. Feed rates and composition of hazardous waste, other fuels, and industrial furnace feed stocks, and feed rates of ash, metals, and total chloride and chlorine as necessary to ensure conformance with the certification of precompliance or certification of compliance;

2. Carbon monoxide (CO), oxygen, and if applicable, hydrocarbons (HC), on a continuous basis at a common point in the boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere in accordance with the operating limits specified in the certification of compliance. CO, HC, and oxygen monitors shall be installed, operated, and maintained in accordance with methods specified in Appendix IX of 40 CFR Part 266, adopted in Section 11 [941(a)] of 401 KAR 36:025; and

3. Upon the request of the cabinet, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feed stocks as appropriate) and the stack gas emissions shall be conducted to verify that the operating conditions established in the certification of precompliance or certification of compliance achieve the applicable standards of Sections 5 to 8 of this administrative regulation.

(b) The boiler or industrial furnace and associated equipment (for example, pumps, valves, pipes, and fuel storage tanks) shall be subjected to thorough visual inspection when they contain hazardous waste, at least daily for leaks, spills, fugitive emissions, and signs of tampering.

(c) The automatic hazardous waste feed cutoff system and associated alarms shall be tested at least once every seven (7) days when hazardous waste is burned to verify operability, unless the owner or operator can demonstrate that weekly inspections shall unduly restrict or upset operations and that less frequent inspections will be adequate. Support for the demonstration shall be included in the operating record. At a minimum, operational testing shall be conducted at least once every thirty (30) days.

(d) These monitoring and inspection data shall be recorded and the records shall be placed in the operating log.

(11) Recordkeeping. The owner or operator shall keep in the operating record of the facility all information and data required by this section until closure of the boiler or industrial furnace unit.

(12) Closure. At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the boiler or industrial furnace and shall comply with Sections 2 to 6 of 401 KAR 35:070.

Section 5. Standards to Control Organic Emissions. (1) DRE standard.

(a) General. Except as provided in paragraph (c) of this subsection, a boiler or industrial furnace burning hazardous waste shall achieve a destruction and removal efficiency (DRE) of 99.99 percent for all organic hazardous constituents in the waste feed. To demonstrate conformance with this requirement, 99.99 percent DRE shall be demonstrated during a trial burn for each principal organic hazardous constituent (POHC) designated (under paragraph (b) of this subsection) in its permit for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \left[ 1 - \frac{W_{out}}{W_{in}} \right] \times 100$$

where:

$W_{in}$  = Mass feed rate of one principal organic hazardous constituent (POHC) in the hazardous waste fired to the boiler or industrial furnace; and

$W_{out}$  = Mass emission rate of the same POHC present in stack gas prior to release to the atmosphere.

(b) Designation of POHCs. Principal organic hazardous constituents (POHCs) are those compounds for which compliance with the DRE requirements of this section shall be demonstrated in a trial burn in conformance with procedures prescribed in Section 7 of 401 KAR 36:025. One (1) or more POHCs shall be designated by the cabinet for each waste feed to be burned. POHCs shall be designated based on the degree of difficulty of destruction of the organic constituents in the waste and on their concentrations or mass in the waste feed considering the results of waste analyses submitted with Part B of the permit application. POHCs are most likely to be selected from among those compounds listed in 401 KAR 31:170 that are also present in the normal waste feed. However, if the applicant demonstrates to the cabinet's satisfaction that a compound not listed in 401 KAR 31:170 or not present in the normal waste feed is a suitable indicator of compliance with the DRE requirements of this section, that compound may be designated as a POHC. Such POHCs need not be toxic or organic compounds.

(c) Dioxin-listed waste. A boiler or industrial furnace burning hazardous waste containing (or derived from) EPA Hazardous Wastes Nos. F020, F021, F022, F023, F026, or F027 shall achieve a destruction and removal efficiency (DRE) of 99.9999 percent for each POHC designated (under paragraph (b) of this subsection) in its permit. This performance shall be demonstrated on POHCs that are more difficult to burn than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in paragraph (a) of this subsection. In addition, the owner or operator of the boiler or industrial furnace shall notify the cabinet of intent to burn EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027.

(d) Automatic waiver of DRE trial burn. Owners and operators of boilers operated under the special operating requirements provided by Section 11 of this administrative regulation are considered to be in compliance with the DRE standard of paragraph (a) of this subsection and are exempt from the DRE trial burn.

(e) Low-risk waste. Owners and operators of boilers or industrial furnaces that burn hazardous waste in compliance with the requirements of Section 10(1) of this administrative regulation are considered to be in compliance with the DRE standard of paragraph (a) of this subsection and are exempt from the DRE trial burn.

(2) Carbon monoxide standard.

(a) Except as provided in subsection (3) of this section, the stack gas concentration of carbon monoxide (CO) from a boiler or industrial furnace burning hazardous waste shall not exceed 100 ppmv on an hourly rolling average basis (that is, over any sixty (60) minute period), continuously corrected to seven (7) percent oxygen, dry gas basis.

(b) CO and oxygen shall be continuously monitored in conformance with "Performance Specifications for Continuous Emission Monitoring of Carbon Monoxide and Oxygen for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste" in Appendix IX of 40 CFR Part 266, adopted in Section 11 [9(1)(a)] of 401 KAR 36:025.

(c) Compliance with the 100 ppmv CO limit shall be demonstrated during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). To demonstrate compliance, the highest hourly rolling average CO level during any valid run of the trial burn or compliance test shall not exceed 100 ppmv.

(3) Alternative carbon monoxide standard.

(a) The stack gas concentration of carbon monoxide (CO) from a boiler or industrial furnace burning hazardous waste may exceed the 100 ppmv limit provided that stack gas concentrations of hydrocarbons (HC) do not exceed 20 ppmv, except as provided by subsection (6) of this section for certain industrial furnaces.

(b) HC limits shall be established under this section on an hourly rolling average basis (over any sixty (60) minute period), reported as propane, and continuously corrected to seven (7) percent oxygen, dry gas basis.

(c) HC shall be continuously monitored in conformance with "Performance Specifications for Continuous Emission Monitoring of Hydrocarbons for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste" in Appendix IX of 40 CFR Part 266, adopted in Section 11 [9(1)(a)] of 401 KAR 36:025. CO and oxygen shall be continuously monitored in conformance with subsection (2)(b) of this section.

(d) The alternative CO standard is established based on CO data during the trial burn (for a new facility) and the compliance test (for an interim status facility). The alternative CO standard is the average over all valid runs of the highest hourly average CO level for each run. The CO limit is implemented on an hourly rolling average basis, and continuously corrected to seven (7) percent oxygen, dry gas basis.

(4) Special requirements for furnaces. Owners and operators of industrial furnaces (for example, kilns, cupolas) that feed hazardous waste for a purpose other than solely as an ingredient (see Section 4(1)(e)2 of this administrative regulation) at any location other than the end where products are normally discharged and where fuels are normally fired shall comply with the hydrocarbon limits provided by subsections (3) or (6) of this section irrespective of whether stack gas CO concentrations meet the 100 ppmv limit of subsection (2) of this section.

(5) Controls for dioxins and furans. Owners and operators of boilers and industrial furnaces that are equipped with a dry particulate matter control device that operates within the temperature range of 450-750 degrees Fahrenheit, and industrial furnaces operating under an alternative hydrocarbon limit established under subsection (6) of this section shall conduct a site-specific risk assessment as follows to demonstrate that emissions of chlorinated dibenzo-p-dioxins and dibenzofurans do not result in an increased lifetime cancer risk to the hypothetical maximum exposed individual (MEI) exceeding one (1) in 1,000,000:

(a) During the trial burn (for new facilities or an interim status

facility applying for a permit) or compliance test (for interim status facilities), determine emission rates of the tetra-octa congeners of chlorinated dibenzo-p-dioxins and dibenzofurans (CDDs/CDFs) using Method 23, "Determination of Polychlorinated Dibenzo-p-Dioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) from Stationary Sources", in Appendix IX of 40 CFR Part 266, adopted in Section 11 [9(1)(a)] of 401 KAR 36:025;

(b) Estimate the 2,3,7,8-TCDD toxicity equivalence of the tetra-octa CDDs/CDFs congeners using "Procedures for Estimating the Toxicity Equivalence of Chlorinated Dibenzo-p-Dioxin and Dibenzofuran Congeners", Appendix IX of 40 CFR Part 266, adopted in Section 11 [9(1)(a)] of 401 KAR 36:025. Multiply the emission rates of CDD/CDF congeners with a toxicity equivalence greater than zero (see the procedure) by the calculated toxicity equivalence factor to estimate the equivalent emission rate of 2,3,7,8-TCDD;

(c) Conduct dispersion modeling using methods recommended in Appendix W of 40 CFR Part 51 ("Guideline on Air Quality Models (Revised)" and its supplements), the "Hazardous Waste Combustion Air Quality Screening Procedure," provided in Appendix IX of 40 CFR Part 266, adopted in Section 11(1) of 401 KAR 36:025, or in Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, (Revised) incorporated in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010 [Guideline on Air Quality Models (Revised) or the "Hazardous Waste Combustion Air Quality Screening Procedure", which are provided in Section 9(1)(a) and (b), respectively, of 401 KAR 36:025, or "EPA SCREEN Screening Procedure" as described in Screening Procedures for Estimating Air Quality Impact of Stationary Sources] to predict the maximum annual average off-site ground level concentration of 2,3,7,8-TCDD equivalents determined under paragraph (b) of this subsection. The maximum annual average [on-site] concentration shall be used when a person resides on-site; and

(d) The ratio of the predicted maximum annual average ground level concentration of 2,3,7,8-TCDD equivalents to the risk-specific dose for 2,3,7,8-TCDD provided in Section 5 of 401 KAR 36:025 ( $2.2 \times 10^{-7}$ ) shall not exceed one (1.0).

(6) ~~Alternative HC limit for furnaces with organic matter in raw material. For industrial furnaces that cannot meet the 20 ppmv HC limit because of organic matter in normal raw material, the cabinet may establish an alternative HC limit on a case-by-case basis (under a Part B permit proceeding) at a level that ensures that flue gas HC (and CO) concentrations when burning hazardous waste are not greater than when not burning hazardous waste (the baseline HC level) provided that the owner or operator complies with the following requirements. However, cement kilns equipped with a bypass duct meeting the requirements of subsection (7) of this section, are not eligible for an alternative HC limit.~~

~~(a) The owner or operator shall demonstrate that the facility is designed and operated to minimize hydrocarbon emissions from fuels and raw materials when the baseline HC (and CO) level is determined. The baseline HC (and CO) level is defined as the average over all valid test runs of the highest hourly rolling average value for each run when the facility does not burn hazardous waste, and produces normal products under normal operating conditions feeding normal feedstocks and fuels. More than one (1) baseline level may be determined if the facility operates under different modes that may generate significantly different HC (and CO) levels;~~

~~(b) The owner or operator shall develop an approach to monitor over time changes in the operation of the facility that could reduce the baseline HC level;~~

~~(c) The owner or operator shall conduct emissions testing during the trial burn to:~~

- ~~1. Determine the baseline HC (and CO) level;~~
- ~~2. Demonstrate that, when hazardous waste is burned, HC (and CO) levels do not exceed the baseline level; and~~
- ~~3. Identify the types and concentrations of organic compounds listed in 401 KAR 31:170, that are emitted and conduct dispersion~~



## ADMINISTRATIVE REGISTER - 775

modeling to predict the maximum annual average ground level concentration of each organic compound. On-site ground level concentrations shall be considered for this evaluation if a person resides on-site.

a. Sampling and analysis of organic emissions shall be conducted using procedures prescribed by the cabinet.

b. Dispersion modeling shall be conducted according to procedures provided by subsection (5)(b) of this section; and

4. Demonstrate that maximum annual average ground level concentrations of the organic compounds identified in subparagraph 3 of this paragraph do not exceed the following levels:

a. For the noncarcinogenic compounds listed in Section 4 of 401 KAR 36:025, the levels established in Section 4 of 401 KAR 36:025;

b. For the carcinogenic compounds listed in Section 5 of 401 KAR 36:025, the sum for all compounds of the ratios of the actual ground level concentration to the level established in Section 5 of 401 KAR 36:025 shall not exceed one (1.0). To estimate the health risk from chlorinated dibenzo p dioxins and dibenzofuran congeners, use the procedures prescribed by subsection (5)(c) of this section to estimate the 2,3,7,8 TCDD toxicity equivalence of the congeners.

c. For compounds not listed in Sections 4 or 5 of 401 KAR 36:025, one tenth (0.1) micrograms per cubic meter.

(d) All hydrocarbon levels specified under this paragraph shall be monitored and reported as specified in subsections (3)(a) and (b) of this section.

(7) Monitoring CO and HC in the bypass duct of a cement kiln. Cement kilns may comply with the carbon monoxide and hydrocarbon limits provided by subsections (2) to (4) of this section by monitoring in the by pass duct provided that:

(a) Hazardous waste is fired only into the kiln and not at any location downstream from the kiln exit relative to the direction of gas flow; and

(b) The bypass duct diverts a minimum of ten (10) percent of kiln off-gas into the duct.

(7) [(8)] Use of emissions test data to demonstrate compliance and establish operating limits. Compliance with the requirements of this section shall be demonstrated simultaneously by emissions testing or during separate runs under identical operating conditions. Further, data to demonstrate compliance with the CO and HC limits of this section or to establish alternative CO or HC limits under this section shall be obtained during the time that DRE testing, and where applicable, CDD/CDF testing under subsection (5) of this section and comprehensive organic emissions testing under subsection (6) of this section is conducted.

(8) [(9)] Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under Section 3 of this administrative regulation) shall be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this section may be "information" justifying modification or revocation and reissuance of a permit under Section 2 of 401 KAR 38:040.

Section 6. Standards to Control Particulate Matter. (1) A boiler or industrial furnace burning hazardous waste shall not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) after correction to a stack gas concentration of seven (7) percent oxygen, using procedures prescribed in Methods 1 to 5 of Appendix A to 40 CFR Part 60, and Appendix IX of 40 CFR Part 266, adopted in Section 11 [(4)(a)] of 401 KAR 36:025.

(2) An owner or operator meeting the requirements of Section 10(2) of this administrative regulation for the low risk waste exemption shall be exempt from the particulate matter standard.

(3) For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under Section 3 of this administrative regulation) shall be regarded as compliance with this

section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this section may be "information" justifying modification or revocation and reissuance of a permit under Section 2 of 401 KAR 38:040.

Section 7. Standards to Control Metals Emissions. (1) General. The owner or operator shall comply with the metals standards provided by subsections (2), (3), (4), (5), or (6) of this section for each metal listed in subsection (2) of this section that is present in the hazardous waste at detectable levels using analytical procedures specified in test methods for evaluating solid waste, physical/chemical methods (SW-846).

(2) Tier I feed rate screening limits. Feed rate screening limits for metals are specified in Section 1 of 401 KAR 36:025 as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. Criteria for facilities that are not eligible to comply with the screening limits are provided in paragraph (g) of this subsection.

(a) Noncarcinogenic metals. The feed rates of antimony, barium, lead, mercury, thallium, and silver in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks shall not exceed the screening limits specified in Section 1 of 401 KAR 36:025.

1. The feed rate screening limits for antimony, barium, mercury, thallium, and silver are based on either:

a. An hourly rolling average as defined in Section 3(5)(f)1b of this administrative regulation; or

b. An instantaneous limit not to be exceeded at any time.

2. The feed rate screening limit for lead is based on one of the following:

a. An hourly rolling average as defined in Section 3(5)(f)1b of this administrative regulation;

b. An averaging period of two (2) to twenty-four (24) hours as defined in Section 3(5)(f)2 of this administrative regulation with an instantaneous feed rate limit not to exceed ten (10) times the feed rate that would be allowed on an hourly rolling average basis; or

c. An instantaneous limit not to be exceeded at any time.

(b) Carcinogenic metals.

1. The feed rates of arsenic, cadmium, beryllium, and chromium in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks shall not exceed values derived from the screening limits specified in Section 1 of 401 KAR 36:025. The feed rate of each of these metals is limited to a level such that the sum of the ratios of the actual feed rate to the feed rate screening limit specified in Section 1 of 401 KAR 36:025 shall not exceed one (1.0), as provided by the following equation:

$$\sum_{i=1}^n \frac{AFR_i}{FRSL_i} \leq 1.0$$

where:

n = number of carcinogenic metals

AFR = actual feed rate to the device for metal "i"

FRSL = feed rate screening limit provided by Section 1 of 401 KAR 36:025 for metal "i".

2. The feed rate screening limits for the carcinogenic metals are based on either:

a. An hourly rolling average; or

b. An averaging period of two (2) to twenty-four (24) hours as defined in Section 3(5)(f)2 of this administrative regulation with an instantaneous feed rate limit not to exceed ten (10) times the feed rate that would be allowed on an hourly rolling average basis.

(c) TESH.

1. The terrain-adjusted effective stack height is determined according to the following equation:

$$TESH = H_a + H_1 - T_r$$

where:

Ha = Actual physical stack height

H1 = Plume rise as determined from Section 6 of 401 KAR 36:025

as a function of stack flow rate and stack gas exhaust temperature.

Tr = Terrain rise within five kilometers of the stack.

2. The stack height (Ha) shall not exceed good engineering practice as specified in 40 CFR 51.100(ii).

3. If the TESH for a particular facility is not listed in 401 KAR 36:025, the nearest lower TESH listed in the table shall be used. If the TESH is four (4) meters or less, a value of four (4) meters shall be used.

(d) Terrain type. The screening limits are a function of whether the facility is located in noncomplex or complex terrain. A device located where any part of the surrounding terrain within five (5) kilometers of the stack equals or exceeds the elevation of the physical stack height (Ha) is considered to be in complex terrain and the screening limits for complex terrain apply. Terrain measurements are to be made from USGS 7.5-minute topographic maps of the area surrounding the facility.

(e) Land use. The screening limits are a function of whether the facility is located in an area where the land use is urban or rural. To determine whether land use in the vicinity of the facility is urban or rural, procedures provided in Section 9(1)(a) or (b) of 401 KAR 36:025 shall be used.

(f) Multiple stacks. Owners and operators of facilities with more than one (1) on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls of metals emissions under a hazardous waste operating permit or interim status controls shall comply with the screening limits for all such units assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics. The worst-case stack is determined from the following equation as applied to each stack:

$$K = HVT$$

Where:

K = a parameter accounting for relative influence of stack height and plume rise;

H = physical stack height (meters);

V = stack gas flow rate (m<sup>3</sup>/second); and

T = exhaust temperature (°K).

The stack with the lowest value of K is the worst-case stack.

(g) Criteria for facilities not eligible for screening limits. If any criteria below are met, the Tier I and Tier II screening limits do not apply. Owners and operators of such facilities shall comply with either the Tier III standards provided by subsection (4) of this section or with the adjusted Tier I feed rate screening limits provided by subsection (5) of this section.

1. The device is located in a narrow valley less than one (1) kilometer wide;

2. The device has a stack taller than twenty (20) meters and is located such that the terrain rises to the physical height within one (1) kilometer of the facility;

3. The device has a stack taller than twenty (20) meters and is located within five (5) kilometers of a shoreline of a large body of water such as an ocean or large lake;

4. The physical stack height of any stack is less than two and one-half (2.5) times the height of any building within five building heights or five (5) projected building widths of the stack and the distance from the stack to the closest boundary is within five (5) building heights or five (5) projected building widths of the associated building; or

5. The cabinet determines that standards based on site-specific dispersion modeling are required.

(h) Implementation. The feed rate of metals in each feedstream shall be monitored to ensure that the feed rate screening limits are

not exceeded.

(3) Tier II emission rate screening limits. Emission rate screening limits are specified in Section 1 of 401 KAR 36:025 as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. Criteria for facilities that are not eligible to comply with the screening limits are provided in subsection (2)(g) of this section.

(a) Noncarcinogenic metals. The emission rates of antimony, barium, lead, mercury, thallium, and silver shall not exceed the screening limits specified in Section 1 of 401 KAR 36:025.

(b) Carcinogenic metals. The emission rates of arsenic, cadmium, beryllium, and chromium shall not exceed values derived from the screening limits specified in Section 1 of 401 KAR 36:025. The emission rate of each of these metals is limited to a level such that the sum of the ratios of the actual emission rate to the emission rate screening limit specified in Section 1 of 401 KAR 36:025 shall not exceed one (1.0), as provided by the following equation:

$$\sum_{i=1}^n \frac{AER_{(i)}}{ERSL_{(i)}} \leq 1.0$$

where:

n = number of carcinogenic metals

AER = actual emission rate for metal "i"

ERSL = emission rate screening limit provided by Section 1 of 401 KAR 36:025 for metal "i".

(c) Implementation. The emission rate limits shall be implemented by limiting feed rates of the individual metals to levels during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). The feed rate averaging periods are the same as provided by subsections (2)(a)1 and 2 and (b)2 of this section. The feed rate of metals in each feedstream shall be monitored to ensure that the feed rate limits for the feedstreams specified under Sections 3 or 4 of this administrative regulation are not exceeded.

(d) Definitions and limitations. The definitions and limitations provided by subsection (2) of this section for the following terms also apply to the Tier II emission rate screening limits provided by this subsection: terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use, and criteria for facilities not eligible to use the screening limits.

(e) Multiple stacks.

1. Owners and operators of facilities with more than one (1) on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on metals emissions under a hazardous waste operating permit or interim status controls shall comply with the emissions screening limits for any such stacks assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics.

2. The worst-case stack is determined by procedures provided in subsection (2)(f) of this section.

3. For each metal, the total emissions of the metal from those stacks shall not exceed the screening limit for the worst-case stack.

(4) Tier III and adjusted Tier I site-specific risk assessment. The requirements of this subsection apply to facilities complying with either the Tier III or adjusted Tier I controls, except where specified otherwise.

(a) General. Conformance with the Tier III metals controls shall be demonstrated by emissions testing to determine the emission rate for each metal. In addition, conformance with either the Tier III or adjusted Tier I metals controls shall be demonstrated by air dispersion modeling to predict the maximum annual average off-site ground level concentration for each [---air] dispersion modeling to predict the maximum annual average off-site ground level concentration for each metal, and a demonstration that acceptable ambient levels are not exceeded.

(b) Acceptable ambient levels. Sections 4 or 5 of 401 KAR 36:025 list the acceptable ambient levels for purposes of this administrative regulation. Reference air concentrations (RACs) are listed for the noncarcinogenic metals and  $10^{-5}$  risk-specific doses (RSDs) are listed for the carcinogenic metals. The RSD for a metal is the acceptable ambient level for that metal provided that only one of the four carcinogenic metals is emitted. If more than one (1) carcinogenic metal is emitted, the acceptable ambient level for the carcinogenic metals is a fraction of the RSD as described in paragraph (c) of this subsection.

(c) Carcinogenic metals. For the carcinogenic metals, arsenic, cadmium, beryllium, and chromium, the sum of the ratios of the predicted maximum annual average off-site ground level concentrations (except that on-site concentrations shall be considered if a person resides on-site) to the risk-specific dose (RSD) for all carcinogenic metals emitted shall not exceed one (1.0) as determined by the following equation:

$$\frac{\sum_{i=1}^n \text{Predicted Ambient Concentration}_{(i)}}{\text{Risk-Specific Dose}_{(i)}} \leq 1.0$$

where: n = number of carcinogenic metals.

(d) Noncarcinogenic metals. For the noncarcinogenic metals, the predicted maximum annual average off-site ground level concentration for each metal shall not exceed the reference air concentration (RAC).

(e) Multiple stacks. Owners and operators of facilities with more than one (1) on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on metals emissions under a hazardous waste operating permit or interim status controls shall conduct emissions testing (except that facilities complying with adjusted Tier I controls need not conduct emissions testing) and dispersion modeling to demonstrate that the aggregate emissions from all such on-site stacks do not result in an exceedance of the acceptable ambient levels.

(f) Implementation. Under Tier III, the metals controls shall be implemented by limiting feed rates of the individual metals to levels during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). The feed rate averaging periods are the same as provided by subsections (2)(a)1 and 2 and (b)2 of this section. The feed rate of metals in each feedstream shall be monitored to ensure that the feed rate limits for the feedstreams specified under Sections 3 or 4 of this administrative regulation are not exceeded.

(5) Adjusted Tier I feed rate screening limits. The owner or operator may adjust the feed rate screening limits provided by Section 1 of 401 KAR 36:025 to account for site-specific dispersion modeling. Under this approach, the adjusted feed rate screening limit for a metal is determined by back-calculating from the acceptable ambient levels provided by Sections 4 and 5 of 401 KAR 36:025 using dispersion modeling to determine the maximum allowable emission rate. This emission rate becomes the adjusted Tier I feed rate screening limit. The feed rate screening limits for carcinogenic metals are implemented as prescribed in subsection (2)(b) of this section.

(6) Alternative implementation approaches.

(a) The cabinet may approve on a case-by-case basis approaches to implement the Tier II or Tier III metals emission limits provided by subsection (3) or (4) of this section alternative to monitoring the feed rate of metals in each feedstream.

(b) The emission limits provided by subsection (4) of this section shall be determined as follows:

1. For each noncarcinogenic metal, by back-calculating from the RAC provided in Section 4 of 401 KAR 36:025 to determine the allowable emission rate for each metal using the dilution factor for the maximum annual average ground level concentration predicted by dispersion modeling in conformance with subsection (8) of this

section; and

2. For each carcinogenic metal by:

a. Back-calculating from the RSD provided in Section 5 of 401 KAR 36:025 to determine the allowable emission rate for each metal if that metal were the only carcinogenic metal emitted using the dilution factor for the maximum annual average ground level concentration predicted by dispersion modeling in conformance with subsection (8) of this section; and

b. If more than one (1) carcinogenic metal is emitted, selecting an emission limit for each carcinogenic metal not to exceed the emission rate determined by clause a of this subparagraph such that the sum for all carcinogenic metals of the ratios of the selected emission limit to the emission rate determined by that subsection does not exceed one (1.0).

(7) Emission testing.

(a) General. Emission testing for metals shall be conducted using the Multiple Metals Train as described in Section 11 ~~9(1)(a)~~ of 401 KAR 36:025.

(b) Hexavalent chromium. Emissions of chromium are assumed to be hexavalent chromium unless the owner or operator conducts emissions testing to determine hexavalent chromium emissions using procedures prescribed in Section 11 ~~9(1)(a)~~ of 401 KAR 36:025.

(8) Dispersion modeling. Dispersion modeling required under this section must be conducted according to methods recommended in Appendix W of 40 CFR Part 51 ("Guideline on Air Quality Models (Revised)" and its supplements), the "Hazardous Waste Combustion Air Quality Screening Procedure," provided in Appendix IX of 40 CFR Part 266, adopted in Section 11(1) of 401 KAR 36:025, or in Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, (Revised) incorporated in 40 CFR 260.11 which is adopted in Section 3 of 401 KAR 30:010 ~~Dispersion modeling required under this section shall be conducted according to methods recommended in Section 9(1)(b) of 401 KAR 36:025, the "Hazardous Waste Combustion Air Quality Screening Procedure" described in Section 9(1)(a) of 401 KAR 36:025, or "EPA SCREEN Screening Procedure" as described in Screening Procedures for Estimating Air Quality Impact of Stationary Sources~~ to predict the maximum annual average off-site ground level concentration. However, on-site concentrations shall be considered when a person resides on-site.

(9) Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under Section 3 of this administrative regulation) shall be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this section may be "information" justifying modification or revocation and reissuance of a permit under Section 2 of 401 KAR 38:040.

Section 8. Standards to Control Hydrogen Chloride (HCl) and Chlorine Gas (Cl<sub>2</sub>) Emissions. (1) General. The owner or operator shall comply with the hydrogen chloride (HCl) and chlorine (Cl<sub>2</sub>) controls provided by subsections (2), ~~or~~ (3), or (5) of this section.

(2) Screening limits.

(a) Tier I feed rate screening limits. Feed rate screening limits are specified for total chlorine in Section 2 of 401 KAR 36:025 as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. The feed rate of total chlorine and chloride, both organic and inorganic, in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks shall not exceed the levels specified.

(b) Tier II emission rate screening limits. Emission rate screening limits for HCl and Cl<sub>2</sub> are specified in Section 3 of 401 KAR 36:025 as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. The stack emission rates of HCl and Cl<sub>2</sub> shall not exceed the levels specified.

(c) Definitions and limitations. The definitions and limitations provided by Section 7(2) of this administrative regulation for the

following terms also apply to the screening limits provided by this subsection: terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use, and criteria for facilities not eligible to use the screening limits.

(d) Multiple stacks. Owners and operators of facilities with more than one (1) on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on HCl or Cl<sub>2</sub> emissions under a hazardous waste operating permit or interim status controls shall comply with the Tier I and Tier II screening limits for those stacks assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics.

1. The worst-case stack is determined by procedures provided in Section 7(2)(f) of this administrative regulation.

2. Under Tier I, the total feed rate of chlorine and chloride to all subject devices shall not exceed the screening limit for the worst-case stack.

3. Under Tier II, the total emissions of HCl and Cl<sub>2</sub> from all subject stacks shall not exceed the screening limit for the worst-case stack.

(3) Tier III site-specific risk assessments.

(a) General. Conformance with the Tier III controls shall be demonstrated by emissions testing to determine the emission rate for HCl and Cl<sub>2</sub>, air dispersion modeling to predict the maximum annual average off-site ground level concentration for each compound, and a demonstration that acceptable ambient levels are not exceeded.

(b) Acceptable ambient levels. Section 4 of 401 KAR 36:025 lists the reference air concentrations (RACs) for HCl (7 micrograms per cubic meter) and Cl<sub>2</sub> (0.4 micrograms per cubic meter).

(c) Multiple stacks. Owners and operators of facilities with more than one (1) on-site stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on HCl or Cl<sub>2</sub> emissions under a hazardous waste operating permit or interim status controls shall conduct emissions testing and dispersion modeling to demonstrate that the aggregate emissions from all such on-site stacks do not result in an exceedance of the acceptable ambient levels for HCl and Cl<sub>2</sub>.

(4) Averaging periods. The HCl and Cl<sub>2</sub> controls are implemented by limiting the feed rate of total chlorine and chloride in all feed-streams, including hazardous waste, fuels, and industrial furnace feed stocks. Under Tier I, the feed rate of total chloride and chlorine is limited to the Tier I screening limits. Under Tier II and Tier III, the feed rate of total chloride and chlorine is limited to the feed rates during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). The feed rate limits are based on either:

(a) An hourly rolling average as defined in Section 3(5)(f) of this administrative regulation; or

(b) An instantaneous basis not to be exceeded at any time.

(5) Adjusted Tier I feed rate screening limits. The owner or operator may adjust the feed rate screening limit provided by Section 2 of 401 KAR 36:025 to account for site-specific dispersion modeling. Under this approach, the adjusted feed rate screening limit is determined by back-calculating from the acceptable ambient level for Cl<sub>2</sub> provided by Section 4 of 401 KAR 36:025 using dispersion modeling to determine the maximum allowable emission rate. This emission rate becomes the adjusted Tier I feed rate screening limit.

(6) Emissions testing. Emissions testing for HCl and Cl<sub>2</sub> shall be conducted using the procedures described in Appendix IX of 40 CFR Part 266, adopted in Section 11 [9(4)(a)] of 401 KAR 36:025.

(7) Dispersion modeling. Dispersion modeling shall be conducted according to the provisions of Section 7(8) of this administrative regulation.

(8) Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under Section 3 of this administrative regulation) shall be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with

the requirements of this section may be "information" justifying modification or revocation and reissuance of a permit under Section 2 of 401 KAR 38:040.

Section 9. Small Quantity On-site Burner Exemption. (1) Exempt quantities. Owners and operators of facilities that burn hazardous waste in an on-site boiler or industrial furnace are exempt from the requirements of this administrative regulation provided that:

(a) The quantity of hazardous waste burned in a device for a calendar month does not exceed the limits provided in the following table based on the terrain-adjusted effective stack height as defined in Section 7(2)(c) of this administrative regulation:

Exempt Quantities for Small Quantity Burner Exemption

| Terrain-adjusted<br>effective stack<br>height of<br>device (meters) | Allowable<br>hazardous<br>waste<br>burning<br>rate<br>(gallons/<br>month) | Terrain-adjusted<br>effective stack<br>height of<br>device (meters) | Allowable<br>hazardous<br>waste<br>burning<br>rate<br>(gallons/<br>month) |
|---|---|---|---|
| 0 to 3.9  | 0   | 40.0 to 44.9  | 210   |
| 4.0 to 5.9  | 13  | 45.0 to 49.9  | 260   |
| 6.0 to 7.9  | 18  | 50.0 to 54.9  | 330   |
| 8.0 to 9.9  | 27  | 55.0 to 59.9  | 400   |
| 10.0 to 11.9  | 40  | 60.0 to 64.9  | 490   |
| 12.0 to 13.9  | 48  | 65.0 to 69.9  | 610   |
| 14.0 to 15.9  | 59  | 70.0 to 74.9  | 680   |
| 16.0 to 17.9  | 69  | 75.0 to 79.9  | 760   |
| 18.0 to 19.9  | 76  | 80.0 to 84.9  | 850   |
| 20.0 to 21.9  | 84  | 85.0 to 89.9  | 960   |
| 22.0 to 23.9  | 93  | 90.0 to 94.9  | 1,100   |
| 24.0 to 25.9  | 100   | 95.0 to 99.9  | 1,200   |
| 26.0 to 27.9  | 110   | 100.0 to 104.9  | 1,300   |
| 28.0 to 29.9  | 130   | 105.0 to 109.9  | 1,500   |
| 30.0 to 34.9  | 140   | 110.0 to 114.9  | 1,700   |
| 35.0 to 39.9  | 170   | 115.0 or greater  | 1,900   |

(b) The maximum hazardous waste firing rate does not exceed at any time one (1) percent of the total fuel requirements for the device (hazardous waste plus other fuel) on a total heat input or mass input basis, whichever results in the lower mass feed rate of hazardous waste;

(c) The hazardous waste has a minimum heating value of 5,000 Btu/lb, as generated; and

(d) The hazardous waste fuel does not contain (and is not derived from) EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027.

(2) Mixing with nonhazardous fuels. If hazardous waste fuel is mixed with a nonhazardous fuel, the quantity of hazardous waste before such mixing is used to comply with subsection (1) of this section.

(3) Multiple stacks. If an owner or operator burns hazardous waste in more than one (1) on-site boiler or industrial furnace exempt under this administrative regulation, the quantity limits provided by subsection (1)(a) of this section are implemented according to the following equation:

$$\frac{\sum_{i=1}^n \text{Actual Quantity Burned}_i}{\text{Allowable Quantity Burned}_0} \leq 1.0$$

where:

n means the number of stacks;

Actual Quantity Burned means the waste quantity burned per month in device "i";

Allowable Quantity Burned, means the maximum allowable exempt quantity for stack "i" from the table in subsection (1)(a) of this section.

(4) Notification requirements. The owner or operator of facilities qualifying for the small quantity burner exemption under this section shall provide a one (1) time signed, written notice to the cabinet indicating the following:

(a) The combustion unit is operating as a small quantity burner of hazardous waste;

(b) The owner and operator is in compliance with the requirements of this administrative regulation; and

(c) The maximum quantity of hazardous waste that the facility may burn per month as provided by subsection (1)(a) of this section.

(5) Recordkeeping requirements. The owner or operator shall maintain at the facility for at least three (3) years sufficient records documenting compliance with the hazardous waste quantity, firing rate, and heating value limits of this section. At a minimum, these records shall indicate the quantity of hazardous waste and other fuel burned in each unit per calendar month, and the heating value of the hazardous waste.

Section 10. Low Risk Waste Exemption. (1) Waiver of DRE standard. The DRE standard of Section 5(1) of this administrative regulation does not apply if the boiler or industrial furnace is operated in conformance with paragraph (a) of this subsection and the owner or operator demonstrates by procedures prescribed in paragraph (b) of this subsection that the burning shall not result in unacceptable adverse health effects.

(a) The device shall be operated as follows:

1. A minimum of fifty (50) percent of fuel fired to the device shall be fossil fuel, fuels derived from fossil fuel, tall oil, or, if approved by the cabinet on a case-by-case basis, other nonhazardous fuel with combustion characteristics comparable to fossil fuel. Such fuels are termed "primary fuel" for purposes of this section. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The fifty (50) percent primary fuel firing rate shall be determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired;

2. Primary fuels and hazardous waste fuels shall have a minimum as-fired heating value of 8,000 Btu/lb;

3. The hazardous waste is fired directly into the primary fuel flame zone of the combustion chamber; and

4. The device operates in conformance with the carbon monoxide controls provided by Section 5(2)(a) of this administrative regulation. Devices subject to the exemption provided by this section are not eligible for the alternative carbon monoxide controls provided by Section 5(3) of this administrative regulation.

(b) Procedures to demonstrate that the hazardous waste burning shall not pose unacceptable adverse public health effects are as follows:

1. Identify and quantify those nonmetal compounds listed in Section 8 of 401 KAR 36:025 that could reasonably be expected to be present in the hazardous waste. The constituents excluded from analysis shall be identified and the basis for their exclusion explained;

2. Calculate reasonable, worst case emission rates for each constituent identified in subparagraph 1 of this paragraph by assuming the device achieves 99.9 percent destruction and removal efficiency. That is, assume that one-tenth (0.1) percent of the mass weight of each constituent fed to the device is emitted.

3. For each constituent identified in subparagraph 1 of this paragraph, use emissions dispersion modeling to predict the maximum annual average ground level concentration of the constituent.

a. Dispersion modeling shall be conducted using methods specified in Section 7(8) of this administrative regulation.

b. Owners and operators of facilities with more than one (1) on-site stack from a boiler or industrial furnace that is exempt under this section shall conduct dispersion modeling of emissions from all stacks

exempt under this section to predict ambient levels prescribed by this subsection.

4. Ground level concentrations of constituents predicted under subparagraph 3 of this paragraph shall not exceed the following levels:

a. For the noncarcinogenic compounds listed in Section 4 of 401 KAR 36:025, the levels established in Section 4 of 401 KAR 36:025.

b. For the carcinogenic compounds listed in Section 5 of 401 KAR 36:025, the sum for all constituents of the ratios of the actual ground level concentration to the level established in Section 5 of 401 KAR 36:025 shall not exceed one (1.0); and

c. For constituents not listed in Sections 4 or 5 of 401 KAR 36:025, one-tenth (0.1) micrograms per cubic meter.

(2) Waiver of particulate matter standard. The particulate matter standard of Section 6 of this administrative regulation shall not apply if:

(a) The DRE standard is waived under subsection (1) of this section; and

(b) The owner or operator complies with the Tier I or adjusted Tier I metals feed rate screening limits provided by Section 7(2) or (5) of this administrative regulation.

Section 11. Waiver of DRE Trial Burn for Boilers. Boilers that operate under the special requirements of this section, and that do not burn hazardous waste containing (or derived from) EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027, are considered to be in conformance with the DRE standard of Section 5(1) of this administrative regulation, and a trial burn to demonstrate DRE is waived. When burning hazardous waste:

(1) A minimum of fifty (50) percent of fuel fired to the device shall be fossil fuel, fuels derived from fossil fuel, tall oil, or, if approved by the cabinet on a case-by-case basis, other nonhazardous fuel with combustion characteristics comparable to fossil fuel. Such fuels are termed "primary fuel" for purposes of this section. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The fifty (50) percent primary fuel firing rate shall be determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired;

(2) Boiler load shall not be less than forty (40) percent. Boiler load is the ratio at any time of the total heat input to the maximum design heat input;

(3) Primary fuels and hazardous waste fuels shall have a minimum as-fired heating value of 8,000 Btu/lb, and each material fired in a burner where hazardous waste is fired shall have a heating value of at least 8,000 Btu/lb, as-fired;

(4) The device shall operate in conformance with the carbon monoxide standard provided by Section 5(2)(a) of this administrative regulation. Boilers subject to the waiver of the DRE trial burn provided by this section are not eligible for the alternative carbon monoxide standard provided by Section 5(3) of this administrative regulation;

(5) The boiler shall be a water tube type boiler that does not feed fuel using a stoker or stoker type mechanism; and

(6) The hazardous waste shall be fired directly into the primary fuel flame zone of the combustion chamber with an air or steam atomization firing system, mechanical atomization system, or a rotary cup atomization system under the following conditions:

(a) Viscosity. The viscosity of the hazardous waste fuel as-fired shall not exceed 300 SSU;

(b) Particle size. When a high pressure air or steam atomizer, low pressure atomizer, or mechanical atomizer is used, seventy (70) percent of the hazardous waste fuel shall pass through a 200 mesh (seventy-four (74) micron) screen, and when a rotary cup atomizer is used, seventy (70) percent of the hazardous waste shall pass through a 100 mesh (150 micron) screen;

(c) Mechanical atomization systems. Fuel pressure within a mechanical atomization system and fuel flow rate shall be maintained within the design range taking into account the viscosity and volatility

of the fuel;

(d) Rotary cup atomization systems. Fuel flow rate through a rotary cup atomization system shall be maintained within the design range taking into account the viscosity and volatility of the fuel.

Section 12. Standards for Direct Transfer. (1) Applicability. This administrative regulation applies to owners and operators of boilers and industrial furnaces subject to Section 3 or 4 of this administrative regulation if hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit.

(2) Definition.

(a) Terms previously defined in this subsection may be found in 401 KAR 36:005. [When used in this section, the following terms have the meanings given below:

1. "Direct transfer equipment" means any device (including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps) that is used to distribute, meter, or control the flow of hazardous waste between a container (for example, transport vehicle) and a boiler or industrial furnace.

2. "Container" means any portable device in which hazardous waste is transported, stored, treated, or otherwise handled, and includes transport vehicles that are containers themselves (for example, tank trucks, tanker trailers, and rail tank cars), and containers placed on or in a transport vehicle.]

(b) This section references several requirements provided in 401 KAR 34:180 and 34:190 and 401 KAR 35:180 and 35:190. For purposes of this section, the term "tank systems" in those referenced requirements means direct transfer equipment as defined in paragraph (a) of this subsection.

(3) General operating requirements.

(a) No direct transfer of a pumpable hazardous waste shall be conducted from an open-top container to a boiler or industrial furnace.

(b) Direct transfer equipment used for pumpable hazardous waste shall always be closed, except when necessary to add or remove the waste, and shall not be opened, handled, or stored in a manner that may cause any rupture or leak.

(c) The direct transfer of hazardous waste to a boiler or industrial furnace shall be conducted so that it does not:

1. Generate extreme heat or pressure, fire, explosion, or violent reaction;
2. Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;
3. Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
4. Damage the structural integrity of the container or direct transfer equipment containing the waste;
5. Adversely affect the capability of the boiler or industrial furnace to meet the standards provided by Sections 5 to 8 of this administrative regulation; or
6. Threaten human health or the environment.

(d) Hazardous waste shall not be placed in direct transfer equipment, if it could cause the equipment or its secondary containment system to rupture, leak, corrode, or otherwise fail.

(e) The owner or operator of the facility shall use appropriate controls and practices to prevent spills and overflows from the direct transfer equipment or its secondary containment systems. These include at a minimum:

1. Spill prevention controls (for example, check valves and dry discount couplings); and
2. Automatic waste feed cutoff to use if a leak or spill occurs from the direct transfer equipment.

(4) Areas where direct transfer vehicles (containers) are located. Areas where direct transfer vehicles (containers) are located. Applying the definition of container under this section, owners and operators shall comply with the following requirements:

(a) The containment requirements of Section 6 of 401 KAR

34:180;

(b) The use and management requirements of 401 KAR 35:180, except for Sections 1 and 5, and except that in lieu of the special requirements of Section 6 of 401 KAR 35:180 for ignitable or reactive waste, the owner or operator may comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjacent property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's (NFPA) "Flammable and Combustible Liquids Code" (1977 or 1981). The owner or operator shall obtain and keep on file at the facility a written certification by the local Fire Marshall that the installation meets the subject NFPA codes; and

(c) The closure requirements of Section 9 of 401 KAR 34:180.

(5) Direct transfer equipment. Direct transfer equipment shall meet the following requirements:

(a) Secondary containment. Owners and operators shall comply with the secondary containment requirements of Section 4 of 401 KAR 35:190, except for subsections (1), (4), (5), and (9) of 401 KAR 35:190 as follows:

1. For all new direct transfer equipment, prior to their being put into service; and

2. For existing direct transfer equipment within two (2) years after August 21, 1991.

(b) Requirements prior to meeting secondary containment requirements.

1. For existing direct transfer equipment that does not have secondary containment, the owner or operator shall determine whether the equipment is leaking or is unfit for use. The owner or operator shall obtain and keep on file at the facility a written assessment reviewed and certified by an engineer in accordance with Section 7(4) of 401 KAR 38:070 that attests to the equipment's integrity by August 21, 1992.

2. This assessment shall determine whether the direct transfer equipment is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be transferred to ensure that it shall not collapse, rupture, or fail. At a minimum, this assessment shall consider the following:

- a. Design standard(s), if available, according to which the direct transfer equipment was constructed;
- b. Hazardous characteristics of the waste(s) that have been or will be handled;
- c. Existing corrosion protection measures;
- d. Documented age of the equipment, if available, (otherwise, an estimate of the age); and
- e. Results of a leak test or other integrity examination such that the effects of temperature variations, vapor pockets, cracks, leaks, corrosion, and erosion are accounted for.

3. If, as a result of the assessment specified above, the direct transfer equipment is found to be leaking or unfit for use, the owner or operator shall comply with the requirements of Section 7(1) and (2) of 401 KAR 35:190.

(c) Inspections and recordkeeping.

1. The owner or operator shall inspect at least once each operating hour when hazardous waste is being transferred from the transport vehicle (container) to the boiler or industrial furnace:

a. Overfill and spill control equipment (for example, waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order;

b. The above ground portions of the direct transfer equipment to detect corrosion, erosion, or releases of waste (for example, wet spots and dead vegetation); and

c. Data gathered from monitoring equipment and leak-detection equipment, (for example, pressure and temperature gauges) to ensure that the direct transfer equipment is being operated according to its design.

2. The owner or operator shall inspect cathodic protection



systems, if used, to ensure that they are functioning properly according to the schedule provided by Section 6(2) of 401 KAR 35:190:

3. Records of inspections made under this subsection shall be maintained in the operating record at the facility, and available for inspection for at least three (3) years from the date of the inspection.

(d) Design and installation of new ancillary equipment. Owners and operators shall comply with the requirements of Section 3 of 401 KAR 35:190.

(e) Response to leaks or spills. Owners and operators shall comply with the requirements of Section 7 of 401 KAR 35:190.

(f) Closure. Owners and operators shall comply with the requirements of Section 8 of 401 KAR 35:190 except for Section 8(3)(b) to (d) of 401 KAR 35:190.

Section 13. Regulation of Residues. A residue derived from the burning or processing of hazardous waste in a boiler or industrial furnace is not excluded from the definition of a hazardous waste under Section 4(2)(d), (g) or (h) of 401 KAR 31:010 unless the device and the owner or operator meet the following requirements:

(1) The device meets the following criteria:

(a) Boilers. Boilers shall burn at least fifty (50) percent coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal;

(b) Ore or mineral furnaces. Industrial furnaces subject to Section 4(2)(g) of 401 KAR 31:010 shall process at least fifty (50) percent by weight normal, nonhazardous raw materials;

(c) Cement kilns. Cement kilns shall process at least fifty (50) percent by weight normal cement-production raw materials.

(2) The owner or operator demonstrates that the hazardous waste does not significantly affect the residue by demonstrating conformance with either of the following criteria:

(a) Comparison of waste-derived residue with normal residue. The waste-derived residue shall not contain 401 KAR 31:170 constituents (toxic constituents) that could reasonably be attributable to the hazardous waste at concentrations significantly higher than in residue generated without burning or processing of hazardous waste, using the following procedure. Toxic compounds that could reasonably be attributable to burning or processing the hazardous waste (constituents of concern) include toxic constituents in the hazardous waste, and the organic compounds listed in Section 8 of 401 KAR 36:025 that may be generated as products of incomplete combustion. Sampling and analyses shall be in conformance with procedures prescribed in test methods for evaluating solid waste, physical/chemical methods.

1. Normal residue. Concentrations of toxic constituents of concern in normal residue shall be determined based on analyses of a minimum of ten (10) samples representing a minimum of ten (10) days of operation. Composite samples may be used to develop a sample for analysis provided that the composting period does not exceed twenty-four (24) hours. The upper tolerance limit (at ninety-five (95) percent confidence with a ninety-five (95) percent proportion of the sample distribution) of the concentration in the normal residue shall be considered the statistically-derived concentration in the normal residue. If changes in raw materials or fuels reduce the statistically-derived concentrations of the toxic constituents of concern in the normal residue, the statistically-derived concentrations shall be revised or statistically-derived concentrations of toxic constituents in normal residue shall be established for a new mode of operation with the new raw material or fuel. To determine the upper tolerance limit in the normal residue, the owner or operator shall use statistical procedures prescribed in "Statistical Methodology for Bevill Residue Determinations" in Appendix IX of 40 CFR Part 266, adopted in Section 11 ~~(9)(1)(a)~~ of 401 KAR 36:025.

2. Waste-derived residue. Waste-derived residue shall be sampled and analyzed as often as necessary to determine whether the residue generated during each twenty-four (24) hour period has

concentrations of toxic constituents that are higher than the concentrations established for the normal residue under subparagraph 1 of this paragraph. If so, hazardous waste burning has significantly affected the residue and the residue shall not be excluded from the definition of a hazardous waste. Concentrations of toxic constituents of concern in the waste-derived residue shall be determined based on analysis of one (1) or more samples obtained over a twenty-four (24) hour period. Multiple samples may be analyzed, and multiple samples may be taken to form a composite sample for analysis provided that the sampling period does not exceed twenty-four (24) hours. If more than one (1) sample is analyzed to characterize waste-derived residues generated over a twenty-four (24) period, the concentration of each toxic constituent shall be the arithmetic mean of the concentrations in the samples. No results shall be disregarded; or

(b) Comparisons of waste-derived residue concentrations with health-based limits.

1. Nonmetal constituents. The concentrations of nonmetal toxic constituents of concern (specified in paragraph (a) of this subsection) in the waste-derived residue shall not exceed the health-based levels specified in Section 7 of 401 KAR 36:025 or the level of detection (using analytical procedures prescribed in SW-846, Third Edition, incorporated in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010), whichever is higher. If a health-based limit for a constituent of concern is not listed in Section 7 of 401 KAR 36:025, then a limit of 0.002 micrograms per kilogram or the level of detection (using analytical procedures prescribed in SW-846), whichever is higher, shall be used. If the owner or operator is unable to demonstrate conformance with the levels specified in Section 7 of 401 KAR 36:025 (and the default level of 0.002 micrograms per kilogram or the level of detection for constituents as identified in Note 1 in Section 7 of 401 KAR 36:025), for those constituents specified in paragraph (a) of this subsection, the owner or operator may comply with alternative levels defined as the land disposal restriction limits specified in Section 1 of 401 KAR 37:040 for F039 nonwastewaters. In complying with those alternative levels, if an owner or operator is unable to detect a constituent despite documenting use of best good-faith efforts consistent with applicable Kentucky administrative regulations, the owner or operator is deemed to be in compliance for that constituent. The owner or operator may demonstrate such good-faith efforts by achieving a detection limit for the constituent that does not exceed an order of magnitude above the level provided by Section 1 of 401 KAR 37:040 for F039 nonwastewaters; and

2. Metal constituents. The concentration of metals in an extract obtained using the Toxicity Characteristic Leaching Procedure of Section 5 of 401 KAR 31:030 shall not exceed the levels specified in Section 7 of 401 KAR 36:025; and

3. Sampling and analysis. Waste-derived residue shall be sampled and analyzed as often as necessary to determine whether the residue generated during each twenty-four (24) hour period has concentrations of toxic constituents that are higher than the health-based levels. Concentrations of toxic constituents of concern in the waste-derived residue shall be determined based on analysis of one (1) or more samples obtained over a twenty-four (24) hour period. Multiple samples may be analyzed, and multiple samples may be taken to form a composite sample for analysis provided that the sampling period does not exceed twenty-four (24) hours. If more than one (1) sample is analyzed to characterize waste-derived residues generated over a twenty-four (24) hour period, the concentration of each toxic constituent shall be the arithmetic mean of the concentrations in the samples. No results shall be disregarded.

(3) Records sufficient to document compliance with the provisions of this administrative regulation shall be retained until closure of the boiler or industrial furnace. At a minimum, the following shall be recorded:

(a) Levels of constituents in 401 KAR 31:170, that are present in waste-derived residues;

(b) If the waste-derived residue is compared with normal residue

## ADMINISTRATIVE REGISTER - 782

under subsection (2)(a) of this section:

1. The levels of constituents in 401 KAR 31:170, that are present in normal residues; and

2. Data and information, including analyses of samples as necessary, obtained to determine if changes in raw materials or fuels would reduce the concentration of toxic constituents of concern in the normal residue.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments apply to persons who process hazardous waste in boilers or industrial furnaces.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There are no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The implementation of this regulation will improve public health and the environment across the commonwealth.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, regulations, or policies that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste facilities that use boilers and industrial furnaces, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to hazardous waste processed in a boiler or industrial furnace. These additions and exclusions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

## ADMINISTRATIVE REGISTER - 783

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that process hazardous waste in boilers or industrial furnaces.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

**401 KAR 36:025. Tables and procedures associated with the standards for the management of specific hazardous wastes and specific types of hazardous waste management facilities.**

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR Part 266, Appendices I to XIII [~~July 1, 1992~~]

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and 224.46-530, and to establish the standards of Appendices I to XIII of 40 CFR Part 266 [~~July 1, 1992~~].

Section 1. Tier I and Tier II Feed Rate and Emissions Screening Limits for Metals. (1) Table 1-A. Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcinogenic Metals for Facilities in Noncomplex Terrain - Values for Urban Areas:

| Terrain adjusted<br>eff. stack ht. (m) | Antimony (g/hr) | Barium (g/hr) | Lead (g/hr) | Mercury (g/hr) | Silver (g/hr) | Thallium (g/hr) |
|--|-----------------|---------------|-------------|----------------|---------------|-----------------|
| 4                                      | 6.0E+01         | 1.0E+04       | 1.8E+01     | 6.0E+01        | 6.0E+02       | 6.0E+01         |
| 6                                      | 6.8E+01         | 1.1E+04       | 2.0E+01     | 6.8E+01        | 6.8E+02       | 6.8E+01         |
| 8                                      | 7.6E+01         | 1.3E+04       | 2.3E+01     | 7.6E+01        | 7.6E+02       | 7.6E+01         |
| 10                                     | 8.6E+01         | 1.4E+04       | 2.6E+01     | 8.6E+01        | 8.6E+02       | 8.6E+01         |
| 12                                     | 9.6E+01         | 1.7E+04       | 3.0E+01     | 9.6E+01        | 9.6E+02       | 9.6E+01         |
| 14                                     | 1.1E+02         | 1.8E+04       | 3.4E+01     | 1.1E+02        | 1.1E+03       | 1.1E+02         |
| 16                                     | 1.3E+02         | 2.1E+04       | 3.6E+01     | 1.3E+02        | 1.3E+03       | 1.3E+02         |
| 18                                     | 1.4E+02         | 2.4E+04       | 4.3E+01     | 1.4E+02        | 1.4E+03       | 1.4E+02         |
| 20                                     | 1.6E+02         | 2.7E+04       | 4.6E+01     | 1.6E+02        | 1.6E+03       | 1.6E+02         |
| 22                                     | 1.8E+02         | 3.0E+04       | 5.4E+01     | 1.8E+02        | 1.8E+03       | 1.8E+02         |
| 24                                     | 2.0E+02         | 3.4E+04       | 6.0E+01     | 2.0E+02        | 2.0E+03       | 2.0E+02         |
| 26                                     | 2.3E+02         | 3.9E+04       | 6.8E+01     | 2.3E+02        | 2.3E+03       | 2.3E+02         |
| 28                                     | 2.6E+02         | 4.3E+04       | 7.8E+01     | 2.6E+02        | 2.6E+03       | 2.6E+02         |
| 30                                     | 3.0E+02         | 5.0E+04       | 9.0E+01     | 3.0E+02        | 3.0E+03       | 3.0E+02         |
| 35                                     | 4.0E+02         | 6.6E+04       | 1.1E+02     | 4.0E+02        | 4.0E+03       | 4.0E+02         |
| 40                                     | 4.6E+02         | 7.8E+04       | 1.4E+02     | 4.6E+02        | 4.6E+03       | 4.6E+02         |
| 45                                     | 6.0E+02         | 1.0E+05       | 1.8E+02     | 6.0E+02        | 6.0E+03       | 6.0E+02         |
| 50                                     | 7.8E+02         | 1.3E+05       | 2.3E+02     | 7.8E+02        | 7.8E+03       | 7.8E+02         |
| 55                                     | 9.6E+02         | 1.7E+05       | 3.0E+02     | 9.6E+02        | 9.6E+03       | 9.6E+02         |
| 60                                     | 1.2E+03         | 2.0E+05       | 3.6E+02     | 1.2E+03        | 1.2E+04       | 1.2E+03         |
| 65                                     | 1.5E+03         | 2.5E+05       | 4.3E+02     | 1.5E+03        | 1.5E+04       | 1.5E+03         |
| 70                                     | 1.7E+03         | 2.8E+05       | 5.0E+02     | 1.7E+03        | 1.7E+04       | 1.7E+03         |
| 75                                     | 1.9E+03         | 3.2E+05       | 5.8E+02     | 1.9E+03        | 1.9E+04       | 1.9E+03         |
| 80                                     | 2.2E+03         | 3.6E+05       | 6.4E+02     | 2.2E+03        | 2.2E+04       | 2.2E+03         |
| 85                                     | 2.5E+03         | 4.0E+05       | 7.6E+02     | 2.5E+03        | 2.5E+04       | 2.5E+03         |
| 90                                     | 2.8E+03         | 4.6E+05       | 8.2E+02     | 2.8E+03        | 2.8E+04       | 2.8E+03         |
| 95                                     | 3.2E+03         | 5.4E+05       | 9.6E+02     | 3.2E+03        | 3.2E+04       | 3.2E+03         |
| 100                                    | 3.6E+03         | 6.0E+05       | 1.1E+03     | 3.6E+03        | 3.6E+04       | 3.6E+03         |
| 105                                    | 4.0E+03         | 6.8E+05       | 1.2E+03     | 4.0E+03        | 4.0E+04       | 4.0E+03         |
| 110                                    | 4.6E+03         | 7.8E+05       | 1.4E+03     | 4.6E+03        | 4.6E+04       | 4.6E+03         |

# ADMINISTRATIVE REGISTER - 784

|     |         |         |         |         |         |         |
|-----|---------|---------|---------|---------|---------|---------|
| 115 | 5.4E+03 | 8.6E+05 | 1.6E+03 | 5.4E+03 | 5.4E+04 | 5.4E+03 |
| 120 | 6.0E+03 | 1.0E+06 | 1.8E+03 | 6.0E+03 | 6.0E+04 | 6.0E+03 |

(2) Table 1-B. Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcenogenic Metals for Facilities in Noncomplex Terrain - Values for Rural Areas:

| Terrain adjusted<br>eff. stack ht. (m) | Antimony (g/hr) | Barium (g/hr) | Lead (g/hr) | Mercury (g/hr) | Silver (g/hr) | Thallium (g/hr) |
|--|-----------------|---------------|-------------|----------------|---------------|-----------------|
| 4                                      | 3.1E+01         | 5.2E+03       | 9.4E+00     | 3.1E+01        | 3.1E+02       | 3.1E+01         |
| 6                                      | 3.6E+01         | 6.0E+03       | 1.1E+01     | 3.6E+01        | 3.6E+02       | 3.6E+01         |
| 8                                      | 4.0E+01         | 6.8E+03       | 1.2E+01     | 4.0E+01        | 4.0E+02       | 4.0E+01         |
| 10                                     | 4.6E+01         | 7.8E+03       | 1.4E+01     | 4.6E+01        | 4.6E+02       | 4.6E+01         |
| 12                                     | 5.8E+01         | 9.6E+03       | 1.7E+01     | 5.8E+01        | 5.8E+02       | 5.8E+01         |
| 14                                     | 6.8E+01         | 1.1E+04       | 2.1E+01     | 6.8E+01        | 6.8E+02       | 6.8E+01         |
| 16                                     | 8.6E+01         | 1.4E+04       | 2.6E+01     | 8.6E+01        | 8.6E+02       | 8.6E+01         |
| 18                                     | 1.1E+02         | 1.8E+04       | 3.2E+01     | 1.1E+02        | 1.1E+03       | 1.1E+02         |
| 20                                     | 1.3E+02         | 2.2E+04       | 4.0E+01     | 1.3E+02        | 1.3E+03       | 1.3E+02         |
| 22                                     | 1.7E+02         | 2.8E+04       | 5.0E+01     | 1.7E+02        | 1.7E+03       | 1.7E+02         |
| 24                                     | 2.2E+02         | 3.6E+04       | 6.4E+01     | 2.2E+02        | 2.2E+03       | 2.2E+02         |
| 26                                     | 2.8E+02         | 4.6E+04       | 8.2E+01     | 2.8E+02        | 2.8E+03       | 2.8E+02         |
| 28                                     | 3.5E+02         | 5.8E+04       | 1.0E+02     | 3.5E+02        | 3.5E+03       | 3.5E+02         |
| 30                                     | 4.3E+02         | 7.6E+04       | 1.3E+02     | 4.3E+02        | 4.3E+03       | 4.3E+02         |
| 35                                     | 7.2E+02         | 1.2E+05       | 2.1E+02     | 7.2E+02        | 7.2E+03       | 7.2E+02         |
| 40                                     | 1.1E+03         | 1.8E+05       | 3.2E+02     | 1.1E+03        | 1.1E+04       | 1.1E+03         |
| 45                                     | 1.5E+03         | 2.5E+05       | 4.6E+02     | 1.5E+03        | 1.5E+04       | 1.5E+03         |
| 50                                     | 2.0E+03         | 3.3E+05       | 6.0E+02     | 2.0E+03        | 2.0E+04       | 2.0E+03         |
| 55                                     | 2.6E+03         | 4.4E+05       | 7.8E+02     | 2.6E+03        | 2.6E+04       | 2.6E+03         |
| 60                                     | 3.4E+03         | 5.8E+05       | 1.0E+03     | 3.4E+03        | 3.4E+04       | 3.4E+03         |
| 65                                     | 4.6E+03         | 7.6E+05       | 1.4E+03     | 4.6E+03        | 4.6E+04       | 4.6E+03         |
| 70                                     | 5.4E+03         | 9.0E+05       | 1.6E+03     | 5.4E+03        | 5.4E+04       | 5.4E+03         |
| 75                                     | 6.4E+03         | 1.1E+06       | 1.9E+03     | 6.4E+03        | 6.4E+04       | 6.4E+03         |
| 80                                     | 7.6E+03         | 1.3E+06       | 2.3E+03     | 7.6E+03        | 7.6E+04       | 7.6E+03         |
| 85                                     | 9.4E+03         | 1.5E+06       | 2.8E+03     | 9.4E+03        | 9.4E+04       | 9.4E+03         |
| 90                                     | 1.1E+04         | 1.8E+06       | 3.3E+03     | 1.1E+04        | 1.1E+05       | 1.1E+04         |
| 95                                     | 1.3E+04         | 2.2E+06       | 3.9E+03     | 1.3E+04        | 1.3E+05       | 1.3E+04         |
| 100                                    | 1.5E+04         | 2.6E+06       | 4.6E+03     | 1.5E+04        | 1.5E+05       | 1.5E+04         |
| 105                                    | 1.8E+04         | 3.0E+06       | 5.4E+03     | 1.8E+04        | 1.8E+05       | 1.8E+04         |
| 110                                    | 2.2E+04         | 3.6E+06       | 6.6E+03     | 2.2E+04        | 2.2E+05       | 2.2E+04         |
| 115                                    | 2.6E+04         | 4.4E+06       | 7.8E+03     | 2.6E+04        | 2.6E+05       | 2.6E+04         |
| 120                                    | 3.1E+04         | 5.0E+06       | 9.2E+03     | 3.1E+04        | 3.1E+05       | 3.1E+04         |

(3) Table 1-C. Tier I and Tier II Feed Rates and Emissions Screening Limits for Noncarcenogenic Metals for Facilities in Complex Terrain - Values for Urban Rural Areas:

| Terrain adjusted<br>eff. stack ht. (m) | Antimony (g/hr) | Barium (g/hr) | Lead (g/hr) | Mercury (g/hr) | Silver (g/hr) | Thallium (g/hr) |
|--|-----------------|---------------|-------------|----------------|---------------|-----------------|
| 4                                      | 1.4E+01         | 2.4E+03       | 4.3E+00     | 1.4E+01        | 1.4E+02       | 1.4E+01         |
| 6                                      | 2.1E+01         | 3.5E+03       | 6.2E+00     | 2.1E+01        | 2.1E+02       | 2.1E+01         |
| 8                                      | 3.0E+01         | 5.0E+03       | 9.2E+00     | 3.0E+01        | 3.0E+02       | 3.0E+01         |
| 10                                     | 4.3E+01         | 7.6E+03       | 1.3E+01     | 4.3E+01        | 4.3E+02       | 4.3E+01         |
| 12                                     | 5.4E+01         | 9.0E+03       | 1.7E+01     | 5.4E+01        | 5.4E+02       | 5.4E+01         |
| 14                                     | 6.8E+01         | 1.1E+04       | 2.0E+01     | 6.8E+01        | 6.8E+02       | 6.8E+01         |
| 16                                     | 7.8E+01         | 1.3E+04       | 2.4E+01     | 7.8E+01        | 7.8E+02       | 7.8E+01         |
| 18                                     | 8.6E+01         | 1.4E+04       | 2.6E+01     | 8.6E+01        | 8.6E+02       | 8.6E+01         |
| 20                                     | 9.6E+01         | 1.6E+04       | 2.9E+01     | 9.6E+01        | 9.6E+02       | 9.6E+01         |
| 22                                     | 1.0E+02         | 1.8E+04       | 3.2E+01     | 1.0E+02        | 1.0E+03       | 1.0E+02         |
| 24                                     | 1.2E+02         | 1.9E+04       | 3.5E+01     | 1.2E+02        | 1.2E+03       | 1.2E+02         |
| 26                                     | 1.3E+02         | 2.2E+04       | 3.6E+01     | 1.3E+02        | 1.3E+03       | 1.3E+02         |
| 28                                     | 1.4E+02         | 2.4E+04       | 4.3E+01     | 1.4E+02        | 1.4E+03       | 1.4E+02         |
| 30                                     | 1.6E+02         | 2.7E+04       | 4.6E+01     | 1.6E+02        | 1.6E+03       | 1.6E+02         |
| 35                                     | 2.0E+02         | 3.3E+04       | 5.8E+01     | 2.0E+02        | 2.0E+03       | 2.0E+02         |
| 40                                     | 2.4E+02         | 4.0E+04       | 7.2E+01     | 2.4E+02        | 2.4E+03       | 2.4E+02         |
| 45                                     | 3.0E+02         | 5.0E+04       | 9.0E+01     | 3.0E+02        | 3.0E+03       | 3.0E+02         |
| 50                                     | 3.6E+02         | 6.0E+04       | 1.1E+02     | 3.6E+02        | 3.6E+03       | 3.6E+02         |
| 55                                     | 4.6E+02         | 7.6E+04       | 1.4E+02     | 4.6E+02        | 4.6E+03       | 4.6E+02         |

# ADMINISTRATIVE REGISTER - 785

|     |         |         |         |         |         |         |
|-----|---------|---------|---------|---------|---------|---------|
| 60  | 5.8E+02 | 9.4E+04 | 1.7E+02 | 5.8E+02 | 5.8E+03 | 5.8E+02 |
| 65  | 6.8E+02 | 1.1E+05 | 2.1E+02 | 6.8E+02 | 6.8E+03 | 6.8E+02 |
| 70  | 7.8E+02 | 1.3E+05 | 2.4E+02 | 7.8E+02 | 7.8E+03 | 7.8E+02 |
| 75  | 8.6E+02 | 1.4E+05 | 2.6E+02 | 8.6E+02 | 8.6E+03 | 8.6E+02 |
| 80  | 9.6E+02 | 1.6E+05 | 2.9E+02 | 9.6E+02 | 9.6E+03 | 9.6E+02 |
| 85  | 1.1E+03 | 1.8E+05 | 3.3E+02 | 1.1E+03 | 1.1E+04 | 1.1E+03 |
| 90  | 1.2E+03 | 2.0E+05 | 3.6E+02 | 1.2E+03 | 1.2E+04 | 1.2E+03 |
| 95  | 1.4E+03 | 2.3E+05 | 4.0E+02 | 1.4E+03 | 1.4E+04 | 1.4E+03 |
| 100 | 1.5E+03 | 2.6E+05 | 4.6E+02 | 1.5E+03 | 1.5E+04 | 1.5E+03 |
| 105 | 1.7E+03 | 2.8E+05 | 5.0E+02 | 1.7E+03 | 1.7E+04 | 1.7E+03 |
| 110 | 1.9E+03 | 3.2E+05 | 5.8E+02 | 1.9E+03 | 1.9E+04 | 1.9E+03 |
| 115 | 2.1E+03 | 3.6E+05 | 6.4E+02 | 2.1E+03 | 2.1E+04 | 2.1E+03 |
| 120 | 2.4E+03 | 4.0E+05 | 7.2E+02 | 2.4E+03 | 2.4E+04 | 2.4E+03 |

(4) Table 1-D. Tier I and Tier II Feed Rate and Emissions Screening Limits for Carcinogenic Metals for Facilities in Noncomplex Terrain - Values for use in Urban Areas:

Values for use in urban areas

Values for use in rural areas

| Terrain<br>adjusted eff.<br>stack ht.<br>(m) | Arsenic<br>(g/hr) | Cadmium<br>(g/hr) | Chromium<br>(g/hr) | Beryllium<br>(g/hr) | Arsenic<br>(g/hr) | Cadmium<br>(g/hr) | Chromium<br>(g/hr) | Beryllium<br>(g/hr) |
|--|-------------------|-------------------|--------------------|---------------------|-------------------|-------------------|--------------------|---------------------|
| 4  | 4.6E-02           | 1.1E-01           | 1.7E-02            | 8.2E-02             | 2.4E-02           | 5.8E-02           | 8.6E-03            | 4.3E-02             |
| 6  | 5.4E-02           | 1.3E-01           | 1.9E-02            | 9.4E-02             | 2.8E-02           | 6.6E-02           | 1.0E-02            | 5.0E-02             |
| 8  | 6.0E-02           | 1.4E-01           | 2.2E-02            | 1.1E-01             | 3.2E-02           | 7.6E-02           | 1.1E-02            | 5.6E-02             |
| 10   | 6.8E-02           | 1.6E-01           | 2.4E-02            | 1.2E-01             | 3.6E-02           | 8.6E-02           | 1.3E-02            | 6.4E-02             |
| 12   | 7.6E-02           | 1.8E-01           | 2.7E-02            | 1.4E-01             | 4.3E-02           | 1.1E-01           | 1.6E-02            | 7.8E-02             |
| 14   | 8.6E-02           | 2.1E-01           | 3.1E-02            | 1.5E-01             | 5.4E-02           | 1.3E-01           | 2.0E-02            | 9.6E-02             |
| 16   | 9.6E-02           | 2.3E-01           | 3.5E-02            | 1.7E-01             | 6.8E-02           | 1.6E-01           | 2.4E-02            | 1.2E-01             |
| 18   | 1.1E-01           | 2.6E-01           | 4.0E-02            | 2.0E-01             | 8.2E-02           | 2.0E-01           | 3.0E-02            | 1.5E-01             |
| 20   | 1.2E-01           | 3.0E-01           | 4.4E-02            | 2.2E-01             | 1.0E-01           | 2.5E-01           | 3.7E-02            | 1.9E-01             |
| 22   | 1.4E-01           | 3.4E-01           | 5.0E-02            | 2.5E-01             | 1.3E-01           | 3.2E-01           | 4.8E-02            | 2.4E-01             |
| 24   | 1.6E-01           | 3.9E-01           | 5.8E-02            | 2.8E-01             | 1.7E-01           | 4.0E-01           | 6.0E-02            | 3.0E-01             |
| 26   | 1.8E-01           | 4.3E-01           | 6.4E-02            | 3.2E-01             | 2.1E-01           | 5.0E-01           | 7.6E-02            | 3.9E-01             |
| 28   | 2.0E-01           | 4.8E-01           | 7.2E-02            | 3.6E-01             | 2.7E-01           | 6.4E-01           | 9.8E-02            | 5.0E-01             |
| 30   | 2.3E-01           | 5.4E-01           | 8.2E-02            | 4.0E-01             | 3.5E-01           | 8.2E-01           | 1.2E-01            | 6.2E-01             |
| 35   | 3.0E-01           | 6.8E-01           | 1.0E-01            | 5.4E-01             | 5.4E-01           | 1.3E+00           | 1.9E-01            | 9.6E-01             |
| 40   | 3.6E-01           | 9.0E-01           | 1.3E-01            | 6.8E-01             | 8.2E-01           | 2.0E+00           | 3.0E-01            | 1.5E+00             |
| 45   | 4.6E-01           | 1.1E+00           | 1.7E-01            | 8.6E-01             | 1.1E+00           | 2.8E+00           | 4.2E-01            | 2.1E+00             |
| 50   | 6.0E-01           | 1.4E+00           | 2.2E-01            | 1.1E+00             | 1.5E+00           | 3.7E+00           | 5.4E-01            | 2.8E+00             |
| 55   | 7.6E-01           | 1.8E+00           | 2.7E-01            | 1.4E+00             | 2.0E+00           | 5.0E+00           | 7.2E-01            | 3.6E+00             |
| 60   | 9.4E-01           | 2.2E+00           | 3.4E-01            | 1.7E+00             | 2.7E+00           | 6.4E+00           | 9.6E-01            | 4.8E+00             |
| 65   | 1.1E+00           | 2.8E+00           | 4.2E-01            | 2.1E+00             | 3.6E+00           | 8.6E+00           | 1.3E+00            | 6.4E+00             |
| 70   | 1.3E+00           | 3.1E+00           | 4.6E-01            | 2.4E+00             | 4.3E+00           | 1.0E+01           | 1.5E+00            | 7.6E+00             |
| 75   | 1.5E+00           | 3.6E+00           | 5.4E-01            | 2.7E+00             | 5.0E+00           | 1.2E+01           | 1.8E+00            | 9.0E+00             |
| 80   | 1.7E+00           | 4.0E+00           | 6.0E-01            | 3.0E+00             | 6.0E+00           | 1.4E+01           | 2.2E+00            | 1.1E+01             |
| 85   | 1.9E+00           | 4.6E+00           | 6.8E-01            | 3.4E+00             | 7.2E+00           | 1.7E+01           | 2.6E+00            | 1.3E+01             |
| 90   | 2.2E+00           | 5.0E+00           | 7.8E-01            | 3.9E+00             | 8.6E+00           | 2.0E+01           | 3.0E+00            | 1.5E+01             |
| 95   | 2.5E+00           | 5.8E+00           | 9.0E-01            | 4.4E+00             | 1.0E+01           | 2.4E+01           | 3.6E+00            | 1.8E+01             |
| 100  | 2.8E+00           | 6.8E+00           | 1.0E+00            | 5.0E+00             | 1.2E+01           | 2.9E+01           | 4.3E+00            | 2.2E+01             |
| 105  | 3.2E+00           | 7.6E+00           | 1.1E+00            | 5.6E+00             | 1.4E+01           | 3.4E+01           | 5.0E+00            | 2.6E+01             |
| 110  | 3.6E+00           | 8.6E+00           | 1.3E+00            | 6.4E+00             | 1.7E+01           | 4.0E+01           | 6.0E+00            | 3.0E+01             |
| 115  | 4.0E+00           | 9.6E+00           | 1.5E+00            | 7.2E+00             | 2.0E+01           | 4.8E+01           | 7.2E+00            | 3.6E+01             |
| 120  | 4.6E+00           | 1.1E+01           | 1.7E+00            | 8.2E+00             | 2.4E+01           | 5.8E+01           | 8.6E+00            | 4.3E+01             |

(5) Table 1-E. Tier I and Tier II Feed Rate and Emissions Screening Limits for Carcinogenic Metals for Facilities in Complex Terrain - Values for use in Urban and Rural Areas:

Values for use in urban and rural areas

| Terrain<br>adjusted eff.<br>stack ht.<br>(m) | Arsenic (g/hr) | Cadmium (g/hr) | Chromium (g/hr) | Beryllium (g/hr) |
|--|----------------|----------------|-----------------|------------------|
|--|----------------|----------------|-----------------|------------------|

# ADMINISTRATIVE REGISTER - 786

|     |         |         |         |         |
|-----|---------|---------|---------|---------|
| 4   | 1.1E-02 | 2.6E-02 | 4.0E-03 | 2.0E-02 |
| 6   | 1.6E-02 | 3.9E-02 | 5.8E-03 | 2.9E-02 |
| 8   | 2.4E-02 | 5.8E-02 | 8.6E-03 | 4.3E-02 |
| 10  | 3.5E-02 | 8.2E-02 | 1.3E-02 | 6.2E-02 |
| 12  | 4.3E-02 | 1.0E-01 | 1.5E-02 | 7.6E-02 |
| 14  | 5.0E-02 | 1.3E-01 | 1.9E-02 | 9.4E-02 |
| 16  | 6.0E-02 | 1.4E-01 | 2.2E-02 | 1.1E-01 |
| 18  | 6.8E-02 | 1.6E-01 | 2.4E-02 | 1.2E-01 |
| 20  | 7.6E-02 | 1.8E-01 | 2.7E-02 | 1.3E-01 |
| 22  | 8.2E-02 | 1.9E-01 | 3.0E-02 | 1.5E-01 |
| 24  | 9.0E-02 | 2.1E-01 | 3.3E-02 | 1.6E-01 |
| 26  | 1.0E-01 | 2.4E-01 | 3.6E-02 | 1.8E-01 |
| 28  | 1.1E-01 | 2.7E-01 | 4.0E-02 | 2.0E-01 |
| 30  | 1.2E-01 | 3.0E-01 | 4.4E-02 | 2.2E-01 |
| 35  | 1.5E-01 | 3.7E-01 | 5.4E-02 | 2.7E-01 |
| 40  | 1.9E-01 | 4.6E-01 | 6.8E-02 | 3.4E-01 |
| 45  | 2.4E-01 | 5.4E-01 | 8.4E-02 | 4.2E-01 |
| 50  | 2.9E-01 | 6.8E-01 | 1.0E-01 | 5.0E-01 |
| 55  | 3.5E-01 | 8.4E-01 | 1.3E-01 | 6.4E-01 |
| 60  | 4.3E-01 | 1.0E+00 | 1.5E-01 | 7.8E-01 |
| 65  | 5.4E-01 | 1.3E+00 | 1.9E-01 | 9.6E-01 |
| 70  | 6.0E-01 | 1.4E+00 | 2.2E-01 | 1.1E+00 |
| 75  | 6.8E-01 | 1.6E+00 | 2.4E-01 | 1.2E+00 |
| 80  | 7.6E-01 | 1.8E+00 | 2.7E-01 | 1.3E+00 |
| 85  | 8.2E-01 | 2.0E+00 | 3.0E-01 | 1.5E+00 |
| 90  | 9.4E-01 | 2.3E+00 | 3.4E-01 | 1.7E+00 |
| 95  | 1.0E+00 | 2.5E+00 | 4.0E-01 | 1.9E+00 |
| 100 | 1.2E+00 | 2.8E+00 | 4.3E-01 | 2.1E+00 |
| 105 | 1.3E+00 | 3.2E+00 | 4.8E-01 | 2.4E+00 |
| 110 | 1.5E+00 | 3.5E+00 | 5.4E-01 | 2.7E+00 |
| 115 | 1.7E+00 | 4.0E+00 | 6.0E-01 | 3.0E+00 |
| 120 | 1.9E+00 | 4.4E+00 | 6.4E-01 | 3.3E+00 |

## Section 2. Tier I Feed Rate Screening Limits for Total Chlorine.

| Terrain-adjusted<br>effective stack height<br>(m) | Noncomplex Terrain |              | Complex<br>Terrain |
|---|--------------------|--------------|--------------------|
|   | Urban (g/hr)       | Rural (g/hr) | (g/hr)             |
| 4   | 8.2E + 01          | 4.2E + 01    | 1.9E + 01          |
| 6   | 9.1E + 01          | 4.8E + 01    | 2.8E + 01          |
| 8   | 1.0E + 02          | 5.3E + 01    | 4.1E + 01          |
| 10  | 1.2E + 02          | 6.2E + 01    | 5.8E + 01          |
| 12  | 1.3E + 02          | 7.7E + 01    | 7.2E + 01          |
| 14  | 1.5E + 02          | 9.1E + 01    | 9.1E + 01          |
| 16  | 1.7E + 02          | 1.2E + 02    | 1.1E + 02          |
| 18  | 1.9E + 02          | 1.4E + 02    | 1.2E + 02          |
| 20  | 2.1E + 02          | 1.8E + 02    | 1.3E + 02          |
| 22  | 2.4E + 02          | 2.3E + 02    | 1.4E + 02          |
| 24  | 2.7E + 02          | 2.9E + 02    | 1.6E + 02          |
| 26  | 3.1E + 02          | 3.7E + 02    | 1.7E + 02          |
| 28  | 3.5E + 02          | 4.7E + 02    | 1.9E + 02          |
| 30  | 3.9E + 02          | 5.8E + 02    | 2.1E + 02          |
| 35  | 5.3E + 02          | 9.6E + 02    | 2.6E + 02          |
| 40  | 6.2E + 02          | 1.4E + 03    | 3.3E + 02          |
| 45  | 8.2E + 02          | 2.0E + 03    | 4.0E + 02          |
| 50  | 1.1E + 03          | 2.6E + 03    | 4.8E + 02          |
| 55  | 1.3E + 03          | 3.5E + 03    | 6.2E + 02          |
| 60  | 1.6E + 03          | 4.6E + 03    | 7.7E + 02          |
| 65  | 2.0E + 03          | 6.2E + 03    | 9.1E + 02          |
| 70  | 2.3E + 03          | 7.2E + 03    | 1.1E + 03          |
| 75  | 2.5E + 03          | 8.6E + 03    | 1.2E + 03          |
| 80  | 2.9E + 03          | 1.0E + 04    | 1.3E + 03          |
| 85  | 3.3E + 03          | 1.2E + 04    | 1.4E + 03          |



# ADMINISTRATIVE REGISTER - 787

|     |           |           |           |
|-----|-----------|-----------|-----------|
| 90  | 3.7E + 03 | 1.4E + 04 | 1.6E + 03 |
| 95  | 4.2E + 03 | 1.7E + 04 | 1.8E + 03 |
| 100 | 4.8E + 03 | 2.1E + 04 | 2.0E + 03 |
| 105 | 5.3E + 03 | 2.4E + 04 | 2.3E + 03 |
| 110 | 6.2E + 03 | 2.9E + 04 | 2.5E + 03 |
| 115 | 7.2E + 03 | 3.5E + 04 | 2.8E + 03 |
| 120 | 8.2E + 03 | 4.1E + 03 | 3.2E + 03 |

## Section 3. Tier II Emission Rate Screening Limits for Free Chlorine and Hydrogen Chloride.

|   | Noncomplex terrain     |            |                        |            | Complex terrain                            |            |
|---|------------------------|------------|------------------------|------------|--|------------|
| Terrain-<br>areas<br>effective<br>stack height<br>(m) | Values for urban areas |            | Values for rural areas |            | Values for use in urban and adjusted rural |            |
|   | C1 <sub>2</sub> (g/hr) | HC1 (g/hr) | C1 <sub>2</sub> (g/hr) | HC1 (g/hr) | C1 <sub>2</sub> (g/hr)                     | HC1 (g/hr) |
| 4   | 8.2E + 01              | 1.4E + 03  | 4.2E + 01              | 7.3E + 02  | 1.9E + 01                                  | 3.3E + 02  |
| 6   | 9.1E + 01              | 1.6E + 03  | 4.8E + 01              | 8.3E + 02  | 2.8E + 01                                  | 4.9E + 02  |
| 8   | 1.0E + 02              | 1.8E + 03  | 5.3E + 01              | 9.2E + 02  | 4.1E + 01                                  | 7.1E + 02  |
| 10  | 1.2E + 02              | 2.0E + 03  | 6.2E + 01              | 1.1E + 03  | 5.8E + 01                                  | 1.0E + 03  |
| 12  | 1.3E + 02              | 2.3E + 03  | 7.7E + 01              | 1.3E + 03  | 7.2E + 01                                  | 1.3E + 03  |
| 14  | 1.5E + 02              | 2.6E + 03  | 9.1E + 01              | 1.6E + 03  | 9.1E + 01                                  | 1.6E + 03  |
| 16  | 1.7E + 02              | 2.9E + 03  | 1.2E + 02              | 2.0E + 03  | 1.1E + 02                                  | 1.8E + 03  |
| 18  | 1.9E + 02              | 3.3E + 03  | 1.4E + 02              | 2.5E + 03  | 1.2E + 02                                  | 2.0E + 03  |
| 20  | 2.1E + 02              | 3.7E + 03  | 1.8E + 02              | 3.1E + 03  | 1.3E + 02                                  | 2.3E + 03  |
| 22  | 2.4E + 02              | 4.2E + 03  | 2.3E + 02              | 3.9E + 03  | 1.4E + 02                                  | 2.4E + 03  |
| 24  | 2.7E + 02              | 4.8E + 03  | 2.9E + 02              | 5.0E + 03  | 1.6E + 02                                  | 2.8E + 03  |
| 26  | 3.1E + 02              | 5.4E + 03  | 3.7E + 02              | 6.5E + 03  | 1.7E + 02                                  | 3.0E + 03  |
| 28  | 3.5E + 02              | 6.0E + 03  | 4.7E + 02              | 8.1E + 03  | 1.9E + 02                                  | 3.4E + 03  |
| 30  | 3.9E + 02              | 6.9E + 03  | 5.8E + 02              | 1.0E + 04  | 2.1E + 02                                  | 3.7E + 03  |
| 35  | 5.3E + 02              | 9.2E + 03  | 9.6E + 02              | 1.7E + 04  | 2.6E + 02                                  | 4.6E + 03  |
| 40  | 6.2E + 02              | 1.1E + 04  | 1.4E + 03              | 2.5E + 04  | 3.3E + 02                                  | 5.7E + 03  |
| 45  | 8.2E + 02              | 1.4E + 04  | 2.0E + 03              | 3.5E + 04  | 4.0E + 02                                  | 7.0E + 03  |
| 50  | 1.1E + 03              | 1.8E + 04  | 2.6E + 03              | 4.6E + 04  | 4.8E + 02                                  | 8.4E + 03  |
| 55  | 1.3E + 03              | 2.3E + 04  | 3.5E + 03              | 6.1E + 04  | 6.2E + 02                                  | 1.1E + 04  |
| 60  | 1.6E + 03              | 2.9E + 04  | 4.6E + 03              | 8.1E + 04  | 7.7E + 02                                  | 1.3E + 04  |
| 65  | 2.0E + 03              | 3.4E + 04  | 6.2E + 03              | 1.1E + 05  | 9.1E + 02                                  | 1.6E + 04  |
| 70  | 2.3E + 03              | 3.9E + 04  | 7.2E + 03              | 1.3E + 05  | 1.1E + 03                                  | 1.8E + 04  |
| 75  | 2.5E + 03              | 4.5E + 04  | 8.6E + 03              | 1.5E + 05  | 1.2E + 03                                  | 2.0E + 04  |
| 80  | 2.9E + 03              | 5.0E + 04  | 1.0E + 04              | 1.8E + 05  | 1.3E + 03                                  | 2.3E + 04  |
| 85  | 3.3E + 03              | 5.8E + 04  | 1.2E + 04              | 2.2E + 05  | 1.4E + 03                                  | 2.5E + 04  |
| 90  | 3.7E + 03              | 6.6E + 04  | 1.4E + 04              | 2.5E + 05  | 1.6E + 03                                  | 2.9E + 04  |
| 95  | 4.2E + 03              | 7.4E + 04  | 1.7E + 04              | 3.0E + 05  | 1.8E + 03                                  | 3.2E + 04  |
| 100   | 4.8E + 03              | 8.4E + 04  | 2.1E + 04              | 3.6E + 05  | 2.0E + 03                                  | 3.5E + 04  |
| 105   | 5.3E + 03              | 9.2E + 04  | 2.4E + 04              | 4.3E + 05  | 2.3E + 03                                  | 3.9E + 04  |
| 110   | 6.2E + 03              | 1.1E + 05  | 2.9E + 04              | 5.1E + 05  | 2.5E + 03                                  | 4.5E + 04  |
| 115   | 7.2E + 03              | 1.3E + 05  | 3.5E + 04              | 6.1E + 05  | 2.8E + 03                                  | 5.0E + 04  |
| 120   | 8.2E + 03              | 1.4E + 05  | 4.1E + 04              | 7.2E + 05  | 3.2E + 03                                  | 5.6E + 04  |

## Section 4. Reference Air Concentrations (RAC).

Note: The RAC for other Appendix VIII of 40 CFR 261 constituents not listed in this section or in Section 5 of this administrative regulation is 0.1 vg/m<sup>3</sup>.

| Constituent        | CAS No.    | RAC (ug/m <sup>3</sup> ) |
|--------------------|------------|--------------------------|
| Acetaldehyde       | 75-07-0    | 10                       |
| Acetonitrile       | 75-05-8    | 10                       |
| Acetophenone       | 98-86-2    | 100                      |
| Acrolein           | 107-02-8   | 20                       |
| Aldicarb           | 116-06-3   | 1                        |
| Aluminum Phosphide | 20859-73-8 | 0.3                      |
| Allyl Alcohol      | 107-18-6   | 5                        |
| Antimony           | 7440-36-0  | 0.3                      |
| Barium             | 7440-39-3  | 50                       |

# ADMINISTRATIVE REGISTER - 788

|                            |            |        |
|----------------------------|------------|--------|
| Barium Cyanide             | 542-62-1   | 50     |
| Bromomethane               | 74-83-9    | 0.8    |
| Calcium Cyanide            | 592-01-8   | 30     |
| Carbon Disulfide           | 75-15-0    | 200    |
| Chloral                    | 75-87-6    | 2      |
| Chlorine (free)            |            | 0.4    |
| 2-Chloro-1,3-butadiene     | 126-99-8   | 3      |
| Chromium III               | 16065-83-1 | 1000   |
| Copper Cyanide             | 544-92-3   | 5      |
| Cresols                    | 1319-77-3  | 50     |
| Cumene                     | 98-82-8    | 1      |
| Cyanide (free)             | 57-12-15   | 20     |
| Cyanogen                   | 460-19-5   | 30     |
| Cyanogen Bromide           | 506-68-3   | 80     |
| Di-n-butyl Phthalate       | 84-74-2    | 100    |
| o-Dichlorobenzene          | 95-50-1    | 10     |
| p-Dichlorobenzene          | 106-46-7   | 10     |
| Dichlorodifluoromethane    | 75-71-8    | 200    |
| 2,4-Dichlorophenol         | 120-83-2   | 3      |
| Diethyl Phthalate          | 84-66-2    | 800    |
| Dimethoate                 | 60-51-5    | 0.8    |
| 2,4-Dinitrophenol          | 51-28-5    | 2      |
| Dinoseb                    | 88-85-7    | 0.9    |
| Diphenylamine              | 122-39-4   | 20     |
| Endosulfan                 | 115-29-1   | 0.05   |
| Endrin                     | 72-20-8    | 0.3    |
| Fluorine                   | 7782-41-4  | 50     |
| Formic Acid                | 64-18-6    | 2000   |
| Glycidyaldehyde            | 765-34-4   | 0.3    |
| Hexachlorocyclopentadiene  | 77-47-4    | 5      |
| Hexachlorophene            | 70-30-4    | 0.3    |
| Hydrocyanic Acid           | 74-90-8    | 20     |
| Hydrogen Chloride          | 7647-01-1  | 7      |
| Hydrogen Sulfide           | 7783-06-4  | 3      |
| Isobutyl Alcohol           | 78-83-1    | 300    |
| Lead                       | 7439-92-1  | 0.09   |
| Maleic Anyhride            | 108-31-6   | 100    |
| Mercury                    | 7439-97-6  | 0.3    |
| Methacrylonitrile          | 126-98-7   | 0.1    |
| Methomyl                   | 16752-77-5 | 20     |
| Methoxychlor               | 72-43-5    | 50     |
| Methyl Chlorocarbonate     | 79-22-1    | 1000   |
| Methyl Ethyl Ketone        | 78-93-3    | 80     |
| Methyl Parathion           | 298-00-0   | 0.3    |
| Nickel Cyanide             | 557-19-7   | 20     |
| Nitric Oxide               | 10102-43-9 | 100    |
| Nitrobenzene               | 98-95-3    | 0.8    |
| Pentachlorobenzene         | 608-93-5   | 0.8    |
| Pentachlorophenol          | 87-86-5    | 30     |
| Phenol                     | 108-95-2   | 30     |
| M-Phenylenediamine         | 108-45-2   | 5      |
| Phenylmercuric Acetate     | 62-38-4    | 0.075  |
| Phosphine                  | 7803-51-2  | 0.3    |
| Phthalic Anhydride         | 85-44-9    | 2000   |
| Potassium Cyanide          | 151-50-8   | 50     |
| Potassium Silver Cyanide   | 506-61-6   | 200    |
| Pyridine                   | 110-86-1   | 1      |
| Selenious Acid             | 7783-60-8  | 3      |
| Selenourea                 | 630-10-4   | 5      |
| Silver                     | 7440-22-4  | 3      |
| Silver Cyanide             | 506-64-9   | 100    |
| Sodium Cyanide             | 143-33-9   | 30     |
| Strychnine                 | 57-24-9    | 0.3    |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3    | 0.3    |
| 2,3,4,6-Tetrachlorophenol  | 58-90-2    | 30     |
| Tetraethyl Lead            | 78-00-2    | 0.0001 |
| Tetrahydrofuran            | 109-99-9   | 10     |

# ADMINISTRATIVE REGISTER - 789

|                            |            |       |
|----------------------------|------------|-------|
| Thallic Oxide              | 1314-32-5  | 0.3   |
| Thallium                   | 7440-28-0  | 0.5   |
| Thallium (I) Acetate       | 563-68-8   | 0.5   |
| Thallium (I) Carbonate     | 6533-73-9  | 0.3   |
| Thallium (I) Chloride      | 7791-12-0  | 0.3   |
| Thallium (I) Nitrate       | 10102-45-1 | 0.5   |
| Thallium Selenite          | 12039-52-0 | 0.5   |
| Thallium (I) Sulfate       | 7446-18-6  | 0.075 |
| Thiram                     | 137-26-8   | 5     |
| Toluene                    | 108-88-3   | 300   |
| 1,2,4-Trichlorobenzene     | 120-82-1   | 20    |
| Trichloromonofluoromethane | 75-69-4    | 300   |
| 2,4,5-Trichlorophenol      | 95-95-4    | 100   |
| Vanadium Pentoxide         | 1314-62-1  | 20    |
| Warfarin                   | 81-81-2    | 0.3   |
| Xylenes                    | 1330-20-7  | 80    |
| Zinc Cyanide               | 557-21-1   | 50    |
| Zinc Phosphide             | 1314-84-7  | 0.3   |

Note: The RAC for other 401 KAR 31:170 constituents not listed in this section or in Section 5 of this administrative regulation is 0.1 vg/m<sup>3</sup>.

## Section 5. Risk Specific Doses (10<sup>-6</sup>) (RSD).

| Constituent                 | CAS No.   | Unit<br>risk (m3/ug) | RsD (ug/m3) |
|-----------------------------|-----------|----------------------|-------------|
| Acrylamide                  | 79-06-1   | 1.3E-03              | 7.7E-03     |
| Acrylonitrile               | 107-13-1  | 6.8E-05              | 1.5E-01     |
| Aldrin                      | 309-00-2  | 4.9E-03              | 2.0E-03     |
| Aniline                     | 62-53-3   | 7.4E-06              | 1.4E+00     |
| Arsenic                     | 7440-38-2 | 4.3E-03              | 2.3E-03     |
| Benz(a)anthracene           | 56-55-3   | 8.9E-04              | 1.1E-02     |
| Benxene                     | 71-43-2   | 8.3E-06              | 1.2E+00     |
| Benzydine                   | 92-87-5   | 6.7E-02              | 1.5E-04     |
| Benzo(a)pyrene              | 50-32-8   | 3.3E-03              | 3.0E-03     |
| Beryllium                   | 7440-41-7 | 2.4E-03              | 4.2E-03     |
| Bis(2-chloroethyl)ether     | 111-44-4  | 3.3E-04              | 3.0E-02     |
| Bis(chloromethyl)ether      | 542-88-1  | 6.2E-02              | 1.6E-04     |
| Bis(2-ethylhexyl)-phthalate | 117-81-7  | 2.4E-07              | 4.2E+01     |
| 1,3-Butadiene               | 106-99-0  | 2.8E-04              | 3.6E-02     |
| Cadmium                     | 7440-43-9 | 1.8E-03              | 5.6E-03     |
| Carbon Tetrachloride        | 56-23-5   | 1.5E-05              | 6.7E-01     |
| Chlordane                   | 57-74-9   | 3.7E-04              | 2.7E-02     |
| Chloroform                  | 67-66-3   | 2.3E-05              | 4.3E-01     |
| Chloromethane               | 74-87-3   | 3.6E-06              | 2.8E+00     |
| Chromium VI                 | 7440-47-3 | 1.2E-02              | 8.3E-04     |
| DDT                         | 50-29-3   | 9.7E-05              | 1.0E-01     |
| Dibenz(a,h)anthracene       | 53-70-3   | 1.4E-02              | 7.1E-04     |
| 1,2-Dibromo-3-chloropropane | 96-12-8   | 6.3E-03              | 1.6E-03     |
| 1,2-Dibromoethane           | 106-93-4  | 2.2E-04              | 4.5E-02     |
| 1,1-Dichloroethane          | 75-34-3   | 2.6E-05              | 3.8E-01     |
| 1,2-Dichloroethane          | 107-06-2  | 2.6E-05              | 3.8E-01     |
| 1,1-Dichloroethylene        | 75-35-4   | 5.0E-05              | 2.0E-01     |
| 1,3-Dichloropropene         | 542-75-6  | 3.5E-01              | 2.9E-05     |
| Dieldrin                    | 60-57-1   | 4.6E-03              | 2.2E-03     |
| Diethylstilbestrol          | 56-53-1   | 1.4E-01              | 7.1E-05     |
| Dimethylnitrosamine         | 62-75-9   | 1.4E-02              | 7.1E-04     |
| 2,4-Dinitrotoluene          | 121-14-2  | 8.8E-05              | 1.1E-01     |
| 1,2-Diphenylhydrazine       | 122-66-7  | 2.2E-04              | 4.5E-02     |
| 1,4-Dioxane                 | 123-91-1  | 1.4E-06              | 7.1E+00     |
| Epichlorohydrin             | 106-89-8  | 1.2E-06              | 8.3E+00     |
| Ethylene Oxide              | 75-21-8   | 1.0E-04              | 1.0E-01     |
| Ethylene Dibromide          | 106-93-4  | 2.2E-04              | 4.5E-02     |
| Formaldehyde                | 50-00-0   | 1.3E-05              | 7.7E-01     |
| Heptachlor                  | 76-44-8   | 1.3E-03              | 7.7E-03     |
| Heptachlor Epoxide          | 1024-57-3 | 2.6E-03              | 3.8E-03     |
| Hexachlorobenzene           | 118-74-1  | 4.9E-04              | 2.0E-02     |

# ADMINISTRATIVE REGISTER - 790

|   |            |         |         |
|---|------------|---------|---------|
| Hexachlorobutadiene                     | 87-68-3    | 2.0E-05 | 5.0E-01 |
| Alpha-hexachloro-cyclohexane            | 319-84-6   | 1.8E-03 | 5.6E-03 |
| Beta-hexachloro-cyclohexane             | 319-85-7   | 5.3E-04 | 1.9E-02 |
| Gamma-hexachloro-cyclohexane            | 58-89-9    | 3.8E-04 | 2.6E-02 |
| Hexachlorocyclohexane, Technical        |            | 5.1E-04 | 2.0E-02 |
| Hexachlorodibenzo-p-dioxin(1,2 Mixture) |            | 1.3E+0  | 7.7E-06 |
| Hexachloroethane                        | 67-72-1    | 4.0E-06 | 2.5E+00 |
| Hydrazine                               | 302-01-2   | 2.9E-03 | 3.4E-03 |
| Hydrazine Sulfate                       | 302-01-2   | 2.9E-03 | 3.4E-03 |
| 3-Methylcholanthrene                    | 56-49-5    | 2.7E-03 | 3.7E-03 |
| Methyl Hydrazine                        | 60-34-4    | 3.1E-04 | 3.2E-02 |
| Methylene Chloride                      | 75-09-2    | 4.1E-06 | 2.4E+00 |
| 4,4'-Methylene-bis-2-chloroaniline      | 101-14-4   | 4.7E-05 | 2.1E-01 |
| Nickel                                  | 7440-02-0  | 2.4E-04 | 4.2E-02 |
| Nickel Refinery Dust                    | 7440-02-0  | 2.4E-04 | 4.2E-02 |
| Nickel Subsulfide                       | 12035-72-2 | 4.8E-04 | 2.1E-02 |
| 2-Nitropropane                          | 79-46-9    | 2.7E-02 | 3.7E-04 |
| N-Nitroso-n-butylamine                  | 924-16-3   | 1.6E-03 | 6.3E-03 |
| N-Nitroso-n-methylurea                  | 684-93-5   | 8.6E-02 | 1.2E-04 |
| N-Nitrosodiethylamine                   | 55-18-5    | 4.3E-02 | 2.3E-04 |
| N-Nitrosopyrrolidine                    | 930-55-2   | 6.1E-04 | 1.6E-02 |
| Pentachloronitrobenzene                 | 82-68-8    | 7.3E-05 | 1.4E-01 |
| PCBs                                    | 1336-36-3  | 1.2E-03 | 8.3E-03 |
| Pronamide                               | 23950-58-5 | 4.6E-06 | 2.2E+00 |
| Reserpine                               | 50-55-5    | 3.0E-03 | 3.3E-03 |
| 2,3,7,8-Tetrachloro-dibenzo-p-dioxin    | 1746-01-6  | 4.5E+01 | 2.2E-07 |
| 1,1,2,2-Tetrachloroethane               | 79-34-5    | 5.8E-05 | 1.7E-01 |
| Tetrachloroethylene                     | 127-18-4   | 4.8E-07 | 2.1E+01 |
| Thiourea                                | 62-56-6    | 5.5E-04 | 1.8E-02 |
| 1,1,2-Trichloroethane                   | 79-00-5    | 1.6E-05 | 6.3E-01 |
| Trichloroethylene                       | 79-01-6    | 1.3E-06 | 7.7E+00 |
| 2,4,6-Trichlorophenol                   | 88-06-2    | 5.7E-06 | 1.8E+00 |
| Toxaphene                               | 8001-35-2  | 3.2E-04 | 3.1E-02 |
| Vinyl Chloride                          | 75-01-4    | 7.1E-06 | 1.4E+00 |

## Section 6. Stack Plume Rise (SPR).

### Exhaust Temperatures (K°)

| Flowrate rate (m3/s) | <325 | 325-349 | 350-399 | 400-449 | 450-499 | 500-599 | 600-699 | 700-799 | 800-999 | 1000-1499 | >1499 |
|----------------------|------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-------|
| <0.5                 | 0    | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0         | 0     |
| 0.5-0.9              | 0    | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 1       | 1         | 1     |
| 1.0-1.9              | 0    | 0       | 0       | 0       | 1       | 1       | 2       | 3       | 3       | 3         | 4     |
| 2.0-2.9              | 0    | 0       | 1       | 3       | 4       | 4       | 6       | 6       | 7       | 8         | 9     |
| 3.0-3.9              | 0    | 1       | 2       | 5       | 6       | 7       | 9       | 10      | 11      | 12        | 13    |
| 4.0-4.9              | 1    | 2       | 4       | 6       | 8       | 10      | 12      | 13      | 14      | 15        | 17    |
| 5.0-7.4              | 2    | 3       | 5       | 8       | 10      | 12      | 14      | 16      | 17      | 19        | 21    |
| 7.5-9.9              | 3    | 5       | 8       | 12      | 15      | 17      | 20      | 22      | 22      | 23        | 24    |
| 10.0-12.4            | 4    | 6       | 10      | 15      | 19      | 21      | 23      | 24      | 25      | 26        | 27    |
| 12.5-14.9            | 4    | 7       | 12      | 18      | 22      | 23      | 25      | 26      | 27      | 28        | 29    |
| 15.0-19.9            | 5    | 8       | 13      | 20      | 23      | 24      | 26      | 27      | 28      | 29        | 31    |
| 20.0-24.9            | 6    | 10      | 17      | 23      | 25      | 27      | 29      | 30      | 31      | 32        | 34    |
| 25.0-29.9            | 7    | 12      | 20      | 25      | 27      | 29      | 31      | 32      | 33      | 35        | 36    |
| 30.0-34.9            | 8    | 14      | 22      | 26      | 29      | 31      | 33      | 35      | 36      | 37        | 39    |
| 35.0-39.9            | 9    | 16      | 23      | 28      | 30      | 32      | 35      | 36      | 37      | 39        | 41    |
| 40.0-49.9            | 10   | 17      | 24      | 29      | 32      | 34      | 36      | 38      | 39      | 41        | 42    |
| 50.0-59.9            | 12   | 21      | 26      | 31      | 34      | 36      | 39      | 41      | 42      | 44        | 46    |
| 60.0-69.9            | 14   | 22      | 27      | 33      | 36      | 39      | 42      | 43      | 45      | 47        | 49    |

# ADMINISTRATIVE REGISTER - 791

|             |    |    |    |    |    |    |    |    |    |    |    |
|-------------|----|----|----|----|----|----|----|----|----|----|----|
| 70.0-79.9   | 16 | 23 | 29 | 35 | 38 | 41 | 44 | 46 | 47 | 49 | 51 |
| 80.0-89.9   | 17 | 25 | 30 | 36 | 40 | 42 | 46 | 48 | 49 | 51 | 54 |
| 90.0-99.9   | 19 | 26 | 31 | 38 | 42 | 44 | 48 | 50 | 51 | 53 | 56 |
| 100.0-119.9 | 21 | 26 | 32 | 39 | 43 | 46 | 49 | 52 | 53 | 55 | 58 |
| 120.0-139.9 | 22 | 28 | 35 | 42 | 46 | 49 | 52 | 55 | 56 | 59 | 61 |
| 140.0-159.9 | 23 | 30 | 36 | 44 | 48 | 51 | 55 | 58 | 59 | 62 | 65 |
| 160.0-179.9 | 25 | 31 | 38 | 46 | 50 | 54 | 58 | 60 | 62 | 65 | 67 |
| 180.0-199.9 | 26 | 32 | 40 | 48 | 52 | 56 | 60 | 63 | 65 | 67 | 70 |
| >199.9      | 26 | 33 | 41 | 49 | 54 | 58 | 62 | 65 | 67 | 69 | 73 |

Section 7. Health Based Limits for Exclusion of Waste-Derived Residues.

\*NOTE: The RAC for other Appendix VIII of 40 CFR 261 constituents not listed in this section or in Section 5 of this administrative regulation is 0.1 vg/m<sup>3</sup>.

## (1) Metals - TCLP Extract Concentration Limits.

| Constituent | CAS No.   | Concentration limits (mg/L) |
|-------------|-----------|-----------------------------|
| Antimony    | 7440-36-0 | 1xE+00                      |
| Arsenic     | 7440-38-2 | 5xE+00                      |
| Barium      | 7440-39-3 | 1xE+02                      |
| Beryllium   | 7440-41-7 | 7xE-03                      |
| Cadmium     | 7440-43-9 | 1xE+00                      |
| Chromium    | 7440-47-3 | 5xE+00                      |
| Lead        | 7439-92-1 | 5xE+00                      |
| Mercury     | 7439-97-6 | 2xE-01                      |
| Nickel      | 7440-02-0 | 7xE+01                      |
| Selenium    | 7782-49-2 | 1xE+00                      |
| Silver      | 7440-22-4 | 5xE+00                      |
| Thallium    | 7440-28-0 | 7XE+00                      |

## (2) Nonmetals - Residue Concentration Limits.

| Constituent                 | CAS No.    | Concentration Limits for Residues (mg/kg) |
|-----------------------------|------------|---|
| Acetonitrile                | 75-05-8    | 2xE-01                                    |
| Acetophenone                | 98-86-2    | 4xE+00                                    |
| Acrolein                    | 107-02-8   | 5xE-01                                    |
| Acrylamide                  | 79-06-1    | 2xE-04                                    |
| Acrylonitrile               | 107-13-1   | 7xE-04                                    |
| Aldrin                      | 309-00-2   | 2xE-05                                    |
| Allyl alcohol               | 107-18-6   | 2xE-01                                    |
| Aluminum phosphide          | 20859-73-8 | 1xE-02                                    |
| Aniline                     | 62-53-3    | 6xE-02                                    |
| Barium cyanide              | 542-62-1   | 1xE+00                                    |
| Benz(a)anthracene           | 56-55-3    | 1xE-04                                    |
| Benzene                     | 71-43-2    | 5xE-03                                    |
| Benzidine                   | 92-87-5    | 1xE-06                                    |
| Bis(2-chloroethyl) ether    | 111-44-4   | 3xE-04                                    |
| Bis(chloromethyl) ether     | 542-88-1   | 2xE-06                                    |
| Bis(2-ethylhexyl) phthalate | 117-81-7   | 3xE+01                                    |
| Bromoform                   | 75-25-2    | 7xE-01                                    |
| Calcium cyanide             | 592-01-8   | 1xE-06                                    |
| Carbon disulfide            | 75-15-0    | 4xE+00                                    |
| Carbon tetrachloride        | 56-23-5    | 5xE-03                                    |
| Chlordane                   | 57-74-9    | 3xE-04                                    |
| Chlorobenzene               | 108-90-7   | 1xE+00                                    |
| Chloroform                  | 67-66-3    | 6xE-02                                    |
| Copper cyanide              | 544-92-3   | 2xE-01                                    |
| Cresols (Cresylic acid)     | 1319-77-3  | 2xE+00                                    |
| Cyanogen                    | 460-19-5   | 1xE+00                                    |
| DDT                         | 50-29-3    | 1xE-03                                    |
| Dibenz(a, h)-anthracene     | 53-70-3    | 7xE-06                                    |
| 1,2-Dibromo-3-chloropropane | 96-12-8    | 2xE-05                                    |

# ADMINISTRATIVE REGISTER - 792

|                                     |            |          |
|-------------------------------------|------------|----------|
| p-Dichlorobenzene                   | 106-46-7   | 7.5xE-02 |
| Dichlorodifluoromethane             | 75-71-8    | 7xE+00   |
| 1,1-Dichloroethylene                | 75-35-4    | 5xE-03   |
| 2,4-Dichlorophenol                  | 120-83-2   | 1xE-01   |
| 1,3-Dichloropropene                 | 542-75-6   | 1xE-03   |
| Dieldrin                            | 60-57-1    | 2xE-05   |
| Diethyl phthalate                   | 84-66-2    | 3xE+01   |
| Diethylstilbesterol                 | 56-53-1    | 7xE-07   |
| Dimethoate                          | 60-51-5    | 3xE-02   |
| 2,4-Dinitrotoluene                  | 121-14-2   | 5xE-04   |
| Diphenylamine                       | 122-39-4   | 9xE-01   |
| 1,2-Diphenylhydrazine               | 122-66-7   | 5xE-04   |
| Endosulfan                          | 115-29-7   | 2xE-03   |
| Endrin                              | 72-20-8    | 2xE-04   |
| Epichlorohydrin                     | 106-89-8   | 4xE-02   |
| Ethylene dibromide                  | 106-93-4   | 4xE-07   |
| Ethylene oxide                      | 75-21-8    | 3xE-04   |
| Fluorine                            | 7782-41-4  | 4xE+00   |
| Formic acid                         | 64-18-6    | 7xE+01   |
| Heptachlor                          | 76-44-8    | 8xE-05   |
| Heptachlor epoxide                  | 1024-57-3  | 4xE-05   |
| Hexachlorobenzene                   | 118-74-1   | 2xE-04   |
| Hexachlorobutadiene                 | 87-68-3    | 5xE-03   |
| Hexachlorocyclopentadiene           | 77-47-4    | 2xE-01   |
| Hexachlorodibenzo-p-dioxins         | 19408-74-3 | 6xE-08   |
| Hexachloroethane                    | 67-72-1    | 3xE-02   |
| Hydrazine                           | 302-01-1   | 1xE-04   |
| Hydrogen cyanide                    | 74-90-8    | 7xE-05   |
| Hydrogen sulfide                    | 7783-06-4  | 1xE-06   |
| Isobutyl alcohol                    | 78-83-1    | 1xE+01   |
| Methomyl                            | 16752-77-5 | 1xE+00   |
| Methoxychlor                        | 72-43-5    | 1xE-01   |
| 3-Methylcholanthrene                | 56-49-5    | 4xE-05   |
| 4,4'-Methylenebis (2-chloroaniline) | 101-14-4   | 2xE-03   |
| Methylene chloride                  | 75-09-2    | 5xE-02   |
| Methyl ethyl ketone (MEK)           | 78-93-3    | 2xE+00   |
| Methyl hydrazine                    | 60-34-4    | 3xE-04   |
| Methyl parathion                    | 298-00-0   | 2xE-02   |
| Naphthalene                         | 91-20-3    | 1xE+01   |
| Nickel cyanide                      | 557-19-7   | 7xE-01   |
| Nitric oxide                        | 10102-43-9 | 4xE+00   |
| Nitrobenzene                        | 98-95-3    | 2xE-02   |
| N-Nitrosodi-n-butylamine            | 924-16-3   | 6xE-05   |
| N-Nitrosodiethylamine               | 55-18-5    | 2xE-06   |
| N-Nitroso-N-methylurea              | 684-93-5   | 1xE-07   |
| N-Nitrosopyrrolidine                | 930-55-2   | 2xE-04   |
| Pentachlorobenzene                  | 608-93-5   | 3xE-02   |
| Pentachloronitrobenzene (PCNB)      | 82-68-8    | 1xE-01   |
| Pentachlorophenol                   | 87-86-5    | 1xE+00   |
| Phenol                              | 108-95-2   | 1xE+00   |
| Phenylmercury acetate               | 62-38-4    | 3xE-03   |
| Phosphine                           | 7803-51-2  | 1xE-02   |
| Polychlorinated biphenyls, N.O.S    | 1336-36-3  | 5xE-05   |
| Potassium cyanide                   | 151-50-8   | 2xE+00   |
| Potassium silver cyanide            | 506-61-6   | 7xE+00   |
| Pronamide                           | 23950-58-5 | 3xE+00   |
| Pyridine                            | 110-86-1   | 4xE-02   |
| Reserpine                           | 50-55-5    | 3xE-05   |
| Selenourea                          | 630-10-4   | 2xE-01   |
| Silver cyanide                      | 506-64-9   | 4xE+00   |
| Sodium cyanide                      | 143-33-9   | 1xE+00   |
| Strychnine                          | 57-24-9    | 1xE-02   |
| 1,2,4,5-Tetrachlorobenzene          | 95-94-3    | 1xE-02   |
| 1,1,2,2-tetrachloroethane           | 79-34-5    | 2xE-03   |
| Tetrachloroethylene                 | 127-18-4   | 7xE-01   |
| 2,3,4,6-Tetrachlorophenol           | 58-90-2    | 1xE-02   |
| Tetraethyl lead                     | 78-00-2    | 4xE-06   |



# ADMINISTRATIVE REGISTER - 793

|                            |           |        |
|----------------------------|-----------|--------|
| Thiourea                   | 62-56-6   | 2xE-04 |
| Toluene                    | 108-88-3  | 1xE+01 |
| Toxaphene                  | 8001-35-2 | 5xE-03 |
| 1,1,2-Trichloroethane      | 79-00-5   | 6xE-03 |
| Trichloroethylene          | 79-01-6   | 5xE-03 |
| Trichloromonofluoromethane | 75-69-4   | 1xE+01 |
| 2,4,5-Trichlorophenol      | 95-95-4   | 4xE+00 |
| 2,4,6-Trichlorophenol      | 88-06-2   | 4xE+00 |
| Vanadium pentoxide         | 1314-62-1 | 7xE-01 |
| Vinyl chloride             | 75-01-4   | 2xE-03 |

\*NOTE 1: The health-based concentration limits for Section 1 of 401 KAR 31:170 constituents for which a health-based concentration is not provided in this section is  $2 \times 10^{-6}$  [E-06] mg/kg.

\*NOTE 2: The levels specified in this section and the default level of 0.002 micrograms per kilogram or the level of detection for constituents as identified in Note 1 of this section shall be used except, for those constituents specified in Section 13(2)(a) of 401 KAR 36:020, the owner or operator may comply with alternative levels defined as the land disposal restriction limits specified in Section 1 of 401 KAR 37:040 for F039 nonwastewaters. See Section 13(2)(b)1 of 401 KAR 36:020.

## Section 8. Potential PICs for Determination of Exclusion of Waste-Derived Residues.

### PICs Found in Stack Effluents

| Volatiles                 | Semivolatiles              |
|---------------------------|----------------------------|
| Benzene                   | Bis(2-ethylhexyl)phthalate |
| Toluene                   | Naphthalene                |
| Carbon tetrachloride      | Phenol                     |
| Chloroform                | Diethyl phthalate          |
| Methylene chloride        | Butyl benzyl phthalate     |
| Trichloroethylene         | 2,4-Dimethylphenol         |
| Tetrachloroethylene       | o-Dichlorobenzene          |
| 1,1,1-Trichloroethane     | m-Dichlorobenzene          |
| Chlorobenzene             | p-Dichlorobenzene          |
| cis-1,4-Dichloro-2-butene | Hexachlorobenzene          |
| Bromochloromethane        | 2,4,6-Trichlorophenol      |
| Bromodichloromethane      | Fluoranthene               |
| Bromoform                 | o-Nitrophenol              |
| Bromomethane              | 1,2,4-Trichlorobenzene     |
| Methylene bromide         | o-Chlorophenol             |
| Methyl ethyl ketone       | Pentachlorophenol          |
|                           | Pyrene                     |
|                           | Dimethyl phthalate         |
|                           | Mononitrobenzene           |
| 2,6-Toluene diisocyanate  |                            |

## Section 9. Lead-bearing Materials that May be Processed in Exempt Lead Smelters. (1) Exempt lead-bearing materials when generated or originally produced by lead-associated industries:

Acid dump/fill solids  
Sump mud  
Materials from laboratory analyses  
Acid filters  
Baghouse bags  
Clothing (for example, coveralls, aprons, shoes, hats, and gloves)  
Sweepings  
Air filter bags and cartridges  
Respiratory cartridge filters  
Shop abrasives  
Stacking boards  
Waste shipping containers (for example, cartons, bags, drums, and cardboard)  
Paper hand towels  
Wiping rags and sponges  
Contaminated pallets  
Water treatment sludges, filter cakes, residues, and solids  
Emission control dusts, sludges, filter cakes, residues, and solids

from lead-associated industries (for example, K069 and D008 wastes)

Spent grids, posts, and separators  
Spent batteries  
Lead oxide and lead oxide residues  
Lead plates and groups  
Spent battery cases, covers, and vents  
Pasting belts

Water filter media  
Cheesecloth from pasting rollers  
Pasting additive bags  
Asphalt paving materials

(2) Exempt lead-bearing materials when generated or originally produced by any industry.

Charging jumpers and clips  
Platen abrasive  
Fluff from lead wire and cable casings  
Lead-based pigments and compounding pigment dust

## Section 10. Nickel or Chromium-bearing Materials that May be Processed in Exempt Nickel-chromium Recovery Furnaces. (1) Exempt nickel or chromium-bearing materials when generated by manufacturers or users of nickel, chromium, or iron.

Baghouse bags  
Raney nickel catalyst  
Floor sweeping  
Air filters  
Electroplating bath filters  
Wastewater filter media

Wood pallets  
Disposable clothing (coveralls, aprons, hats, and gloves)  
Laboratory samples and spent chemicals  
Shipping containers and plastic liners from containers or vehicles used to transport nickel or chromium-containing wastes

Respirator cartridge filters  
Paper hand towels

(2) Exempt nickel or chromium-bearing materials when generated by any industry.

Electroplating wastewater treatment sludges (F006)  
Nickel and/or chromium-containing solutions  
Nickel, chromium, and iron catalysts  
Nickel-cadmium and nickel-iron batteries  
Filter cake from wet scrubber system water treatment plants in the specialty steel industry  
Filter cake from nickel-chromium alloy pickling operations

## Section 11. Other Appendices of 40 CFR Part 266 (July 4, 1992). (1) Appendix IX Methods Manual for Compliance with the BIF Regulations [The following appendices] from 40 CFR Part 266 (July 1, 1996 [1992]) is [are] hereby adopted without change. [incorporated

## ADMINISTRATIVE REGISTER - 794

into this administrative regulation by reference:

~~(a) Appendix IX Methods Manual For Compliance with the BIF Regulations;~~

~~(b) Appendix X Guideline on Air Quality Models (Revised);~~

~~(c) Appendix XI Lead-bearing Materials That May be Processed in Exempt Lead Smelters; and~~

~~(d) Appendix XII Nickel or Chromium-bearing Materials That May be Processed in Exempt Nickel-chromium Recovery Furnaces.]~~

(2) The document referenced [Copies of the documents] specified in subsection (1) of this section is [are] available for inspection and copying, subject to copyright law, at the Hazardous Waste Branch, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502)564-6716, between 8 a.m. and 4:30 p.m., EST, Monday through Friday.

Section 12. Mercury Bearing Wastes that May be Processed in Exempt Mercury Recovery Units. These are exempt mercury-bearing materials with less than 500 ppm organic constituents listed in 401 KAR 31:170 when generated by manufacturers or users of mercury or mercury products:

Activated Carbon

Decomposer Graphite

Wood

Paper

Protective Clothing

Sweepings

Respiratory Cartridge Filters

Cleanup Articles

Plastic Bags and Other Contaminated Containers

Laboratory and Process Control Samples

K106 and Other Wastewater Treatment Plant Sludge and Filter

Cake

Mercury Cell and Sump and Tank Sludge

Mercury Cell Process Solids

Recoverable Levels of Mercury Contained in Soil.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for

reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of facilities that manage specific hazardous waste.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There are no direct or indirect costs or savings.

2. Continuing costs or savings: There will be no continuing costs or savings.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: There will be no effects on public health and the environmental welfare with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap

## ADMINISTRATIVE REGISTER - 795

this regulation.

- a. Necessity of proposed regulation if in conflict: Not applicable.
- b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of facilities which manage specific hazardous waste, consistent with federal standards, to protect human health and the environment. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes including tables and standards associated with the management of hazardous waste and the facilities. These changes are necessary to maintain consistency between state and federal programs. The additions and exclusions clarify the applicability of the standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages certain specified hazardous waste.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of

government, there will be no expenditures.

Other Explanation: None

### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

**401 KAR 36:030. Recyclable materials used in a manner constituting disposal.**

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 266 Subpart C

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish minimum standards for recyclable materials which are used in a manner constituting disposal.

Section 1. Applicability. (1) This administrative regulation applies to recyclable materials that are applied to or placed on the land:

~~[(a)]~~ without mixing with any other substance; or

~~[(b)]~~ after mixing or combination with any other substance. These materials shall be referred to throughout this administrative regulation as "materials used in a manner that constitutes disposal".

(2) Products produced for public use that are used in a manner that constitutes disposal and that contain recyclable materials are not subject to the provisions of 401 KAR Chapters 31 to 39 if the recyclable materials have undergone a chemical reaction in the course of producing the product so as to become inseparable by physical means and if the products meet the applicable treatment standards in 401 KAR 37:040 (or applicable prohibition levels in Section 3 of 401 KAR 37:030, or KRS 224.46-520, where no treatment standards have been established) for each recyclable material (i.e., hazardous waste) that they contain. However, zinc-containing fertilizers using hazardous waste K061 that are produced for public use are not presently subject to regulation. Commercial fertilizers that are produced for public use that contain recyclable materials also are not presently subject to regulation provided that they meet these same treatment standards or prohibition levels specified in 401 KAR Chapter 37 for each recyclable material that they contain.

(3) Antiskid or deicing uses of slags, which are generated from high temperature metals recovery (HTMR) processing of hazardous waste K061, K062, and F006, in a manner constituting disposal are not covered by the exemption in subsection (2) of this section and remain subject to regulation.

Section 2. Standards Applicable to Generators and Transporters of Materials Used in a Manner that Constitutes Disposal. Generators and transporters of materials that are used in a manner that constitutes disposal are subject to the applicable requirements of 401 KAR Chapters 32 and 33 and the notification requirement under KRS 224.46-510(3).

Section 3. Standards Applicable to Storers of Materials that Are to be Used in a Manner that Constitutes Disposal who are Not the Ultimate Users. Owners or operators of facilities that store recyclable materials that are to be used in a manner that constitutes disposal, but who are not the ultimate users of the materials, are regulated under all applicable provisions of 401 KAR 34:010 to 401 KAR 34:210, 401 KAR 35:010 to 401 KAR 35:210 and 401 KAR Chapter 38 and the notification requirements under Section 2 of 401 KAR 34:020 and Section 2 of 401 KAR 35:020.

Section 4. Standards Applicable to Users of Materials that are Used in a Manner that Constitutes Disposal. (1) Owners or operators

## ADMINISTRATIVE REGISTER - 796

of facilities that use recyclable materials in a manner that constitutes disposal are regulated under all applicable provisions of 401 KAR 34:010 to 401 KAR 34:230, 401 KAR 35:010 to 401 KAR 35:230, 401 KAR Chapter 37 and 401 KAR Chapter 38 and the notification requirements under Section 2 of 401 KAR 34:020 and Section 2 of 401 KAR 35:020. (These requirements do not apply to products which contain these recyclable materials under the provisions of Section 1(2) of this administrative regulation.)

(2)(a) The use of waste or used oil or other material, which is contaminated with dioxin or any other hazardous waste for dust suppression or road treatment is prohibited.

(b) In accordance with KRS 224.46-510(2), any person engaged in spreading waste or used oil or other material shall make a determination as to whether such waste is hazardous pursuant to criteria specified in 401 KAR Chapter 31. This determination shall be carried in the vehicle whenever waste or used oil or other material is being applied for dust suppression or road treatment.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect persons who apply recyclable materials to the land.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area

in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There are no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The implementation of this regulation would improve the environment and public health across the commonwealth.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt

changes that apply to recyclable materials that are placed on the land. These changes are necessary to maintain consistency between state and federal programs. Additions have been made to clarify the applicability. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that applies recyclable materials to the land.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 36:070. Spent lead-acid batteries being reclaimed.

RELATES TO: KRS 224.10, 224.40, 224.43, 224.46, 224.99

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: KRS 224.46-520 requires that persons engaging in recycling of hazardous waste obtain a permit. KRS 224.46-520 requires the cabinet to establish standards for these permits, to require adequate financial responsibility, and to establish minimum standards for closure for all hazardous waste recycling facilities. This chapter establishes minimum standards for hazardous waste recycling facilities. This administrative regulation establishes standards for persons who reclaim spent lead-acid batteries that are recyclable materials.

Section 1. Applicability. The requirements in this administrative regulation apply to persons who reclaim (including regeneration) spent lead-acid batteries that are recyclable materials ("spent batteries"). Persons who generate, transport, or collect spent batteries, who regenerate spent batteries, or who store spent batteries but do not reclaim them (other than spent batteries that are to be regenerated) are not subject to regulation under 401 KAR Chapters 32 through 38, except as provided in Section 2 of this administrative regulation, and also are not subject to the requirements of KRS 224.46-510 unless the spent battery is broken. Spent batteries broken by any method other than recycling are subject to 401 KAR Chapters 31 through 35.

Section 2. Facility Requirements. (1) Owners or operators of facilities that store spent batteries before reclaiming (other than spent batteries that are to be regenerated) them are subject to the following requirements:

(a) Notification requirements under 401 KAR 34:020, Section 2;  
(b) All applicable provisions in 401 KAR 34:010, 401 KAR 34:020 (but not Section 4 of 401 KAR 34:020 (waste analysis)), 401 KAR 34:030, 401 KAR 34:040, 401 KAR 34:050 (but not Section 2 or 3 of 401 KAR 34:050 (dealing with the use of the manifest and manifest discrepancies)), and 401 KAR 34:060 through 401 KAR 34:210.

(c) All applicable provisions in 401 KAR 35:010, 401 KAR 35:020 (but not Section 4 of 401 KAR 35:020 (waste analysis)), 401 KAR 35:030, 401 KAR 35:040, 401 KAR 35:050 (but not Section 2 or 3 of 401 KAR 35:050 (dealing with the use of the manifest and manifest discrepancies)), and 401 KAR 35:060 through 401 KAR 35:220.

(d) All applicable provisions in 401 KAR Chapter 38.

(2) Owners or operators of facilities that reclaim spent batteries, but do not store them before reclaiming them are subject to notification requirements under 401 KAR 34:020, Section 2, and 401 KAR 35:020, Section 2.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be

## ADMINISTRATIVE REGISTER - 798

submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of facilities that reclaim lead acid batteries.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There are no costs or savings.

2. Continuing costs or savings: Not applicable.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and the environmental welfare will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, detrimental effects could occur.

c. If detrimental effect would result, explain detrimental effect: Releases from lead acid batteries could harm human health and the environment.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of hazardous waste generated or managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to facilities that reclaim lead acid batteries. The changes are necessary to maintain consistency between state and federal programs. The additions clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that reclaims lead acid batteries.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None



NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)

401 KAR 37:010. General provisions for land disposal restrictions.

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 CFR 268 Subparts A, B, Appendices IV to IX  
STATUTORY AUTHORITY: KRS 224.10-100, 224.46-505, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-505, 224.46-520, relative to land disposal restrictions. Applicability dates set forth in this administrative regulation are consistent with those adopted by USEPA. This administrative regulation reflects those federal dates to assure consistency with the federal program. Enforcement of applicable provisions preceding the effective date of this administrative regulation was the responsibility of USEPA. The cabinet assumed enforcement responsibility from USEPA upon the effective date of this administrative regulation.

Section 1. Definitions Applicable to 401 KAR Chapter 37. The definitions previously found in this section have been relocated to the definition administrative regulation for this chapter, which is 401 KAR 37:005. [(1) When used in 401 KAR Chapter 37 the following terms have the meanings given below:

(a) "Halogenated organic compounds" or "HOCs" means those compounds having a carbon-halogen bond which are listed under 401 KAR 37:110.

(b) "Hazardous constituent or constituents" means those constituents listed in 401 KAR 31:170.

(c) "Land disposal", as set forth in KRS 224.01-010, means placement in or on the land and includes, but is not limited, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, underground mine or cave, or placement in a concrete vault or bunker intended for disposal purposes.

(d) "Nonwastewaters" are wastes that do not meet the criteria for wastewaters in paragraph (f) of this section.

(e) "Polychlorinated biphenyls" or "PCB" are halogenated organic compounds defined in accordance with 40 CFR 761.2 as of July 1980.

(f) "Wastewaters" are wastes that contain less than one (1) percent by weight total organic carbon (TOC) and less than one (1) percent by weight total suspended solids (TSS), with the following exceptions:

1. F001, F002, F003, F004, F005, wastewaters are solvent water mixtures that contain less than one (1) percent by weight TOC or less than one (1) percent by weight total F001, F002, F003, F004, F005 solvent constituents listed in Section 2 of 401 KAR 37:040 in Table GCWE.

2. K011, K013, K014 wastewaters contain less than five (5) percent by weight TOC and less than one (1) percent by weight TSS, as generated.

3. K103 and K104 wastewaters contain less than four (4) percent by weight TOC and less than one (1) percent by weight TSS.

(g) "Inorganic solid debris" means nonfriable inorganic solids contaminated with D004-D011 hazardous wastes that are incapable of passing through a nine and five tenths (9.5) mm standard sieve; and that require cutting, or crushing and grinding in mechanical sizing equipment prior to stabilization; and, are limited to the following inorganic or metal materials:

1. Metal sludge (either dross or scoria);
2. Glassified slag;
3. Glass;

4. Concrete (excluding cementitious or pozzolanic stabilized hazardous wastes);

5. Masonry and refractory bricks;

6. Metal cans, containers, drums, or tanks;

7. Metal nuts, bolts, pipes, pumps, valves, appliances, or industrial equipment;

8. Scrap metal as defined in Section 1(3)(f) of 401 KAR 31:010.

(2) All other terms have the meanings given under Section 1 of 401 KAR 30:010, Section 2 and 3 of 401 KAR 31:010 or Section 2 of 401 KAR 38:010.]

Section 2. Purpose, Scope and Applicability. (1) This chapter identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be land disposed.

(2) Except as specifically provided otherwise in 401 KAR Chapter 31 or 37, the requirements of 401 KAR Chapter 37 apply to persons who generate or transport hazardous waste and owners and operators of hazardous waste treatment, storage, and disposal facilities.

(3) Prohibited wastes may continue to be land disposed as follows:

(a) Where persons have been granted an extension to the effective date of a prohibition under 401 KAR 37:030 or pursuant to Section 5 of this administrative regulation, with respect to those wastes covered by the extension;

(b) Where persons have been granted an exemption from a prohibition pursuant to a petition under Section 6 of this administrative regulation, with respect to those wastes and units covered by the petition;

(c) Wastes that are hazardous only because they exhibit a hazardous characteristic, and which are otherwise prohibited from land disposal under this chapter, are not prohibited from land disposal if the wastes:

1. Are disposed into a nonhazardous or hazardous injection well as defined in 40 CFR 144.6(a); [and]

2. Do not exhibit any prohibited characteristic of [or] hazardous waste at the point of injection; and

3. If at the point of generation the injected wastes include D001 High TOC subcategory wastes or D012 through D017 pesticide wastes that are prohibited under 40 CFR 148.17(c), those wastes have been treated to meet the treatment standards of Section 1 of 401 KAR 37:040 before injection.

(4) The requirements of this chapter shall not affect the availability of a waiver under Section 121(d)(4) of CERCLA.

(5) The following hazardous wastes are not subject to any provision of 401 KAR Chapter 37:

(a) Waste generated by a conditionally exempt small quantity generator of less than 100 kilograms of nonacute hazardous waste or less than one (1) kilogram of acute hazardous waste per month as specified in Section 5 of 401 KAR 31:010;

(b) Waste pesticides that a farmer disposes of pursuant to Section 10 of 401 KAR 32:050;

(c) Wastes identified or listed as hazardous after November 8, 1984 for which EPA has not promulgated land disposal prohibitions or treatment standards.

(d) De minimis losses to wastewater treatment systems of commercial chemical product or chemical intermediates that are ignitable (D001), or corrosive (D002), or are organic constituents that exhibit the characteristic of toxicity (D012-D043), and that contain underlying hazardous constituents, are not considered to be prohibited wastes. De minimis is losses from normal material handling operations (for example, spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well-maintained pump packings and seals; sample purgings; relief device discharges;

## ADMINISTRATIVE REGISTER - 800

discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing; or

(e) Land disposal prohibitions for hazardous characteristic wastes do not apply to laboratory wastes displaying characteristic of ignitability (D001) or corrosivity (D002), or organic toxicity (D012-D043), that are mixed with other plant wastewaters at facilities whose ultimate discharge is subject to regulation under the CWA (including wastewaters at facilities which have eliminated the discharge of wastewater), provided that the annualized flow of laboratory wastewater into the facility's headwork does not exceed one (1) percent, or provided that the laboratory wastes' combined annualized average concentration does not exceed one (1) part per million in the facility's headwork.

(6) Universal waste handlers and universal waste transporters are exempt from Section 7 of this administrative regulation and 401 KAR 37:050 for the hazardous wastes listed below. These handlers are subject to regulation under 401 KAR Chapter 43.

1. Batteries as described in Section 2 of 401 KAR Chapter 43;
2. Pesticides as described in Section 3 of 401 KAR Chapter 43;
3. Thermostats as described in Section 4 of 401 KAR Chapter 43;

and

4. Spent mercury containing lamps as described in Section 5 of 401 KAR Chapter 43.

Section 3. Dilution Prohibited as a Substitute for Treatment. (1) Except as provided in subsection (2) of this section, no generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with 401 KAR 37:040, to circumvent the effective date of a prohibition in 401 KAR 37:030, to otherwise avoid a prohibition in 401 KAR 37:030, or to circumvent a land disposal prohibition imposed by KRS 224.46-520 (RCRA Section 3004).

(2) Dilution of wastes that are hazardous only because they exhibit a characteristic in a treatment system which treats wastes subsequently discharged to a water of the United States pursuant to a permit issued under Section 402 of the CWA or which treats wastes for purposes of pretreatment requirements under Section 307 of the CWA is not impermissible dilution for purposes of this section unless a method has been specified as the treatment standard in Section 4 of 401 KAR 37:040, or unless the waste is a D003 reactive cyanide wastewater or nonwastewater.

Section 4. Treatment Surface Impoundment Exemption. (1) Wastes which are otherwise prohibited from land disposal under 401 KAR Chapter 37 may be treated in a surface impoundment or series of impoundments provided that:

- (a) Treatment of such wastes occurs in the impoundments;
- (b) The following conditions are met:

1. Sampling and testing. For wastes with treatment standards in 401 KAR 37:040 or prohibition levels in 401 KAR 37:030 or KRS 224.46-520, the residues from treatment are analyzed, as specified in Section 7 of this administrative regulation or Section 4 of 401 KAR 37:030, to determine if they meet the applicable treatment standards or where no treatment standards have been established for the waste, the applicable prohibition levels. The sampling method specified in the waste analysis plan under Section 4 of 401 KAR 34:020 or Section 4 of 401 KAR 35:020 shall be designed so that representative samples of the sludge and the supernatant are tested separately rather than mixed to form homogeneous samples.

2. Removal. The following treatment residues (including any liquid waste) shall be removed at least annually: residues which do not meet the treatment standards of 401 KAR 37:040; residues which do not meet the prohibition levels established under 401 KAR 37:030 or imposed by statute (where no treatment standards have been

established); residues which are from the treatment of wastes prohibited from land disposal under 401 KAR 37:030 (where no treatment standards have been established and no prohibition levels apply); or residues from managing listed wastes which are not delisted under Section 2 of 401 KAR 31:050. However, residues which are the subject of a valid certification under Section 8 of this administrative regulation made no later than a year after placement of the wastes in an impoundment are not required to be removed annually. If the volume of liquid flowing through the impoundment or series of impoundments annually is greater than the volume of the impoundment or impoundments, this flow-through constitutes removal of the supernatant for the purpose of this requirement.

3. Subsequent management. Treatment residues shall not be placed in any other surface impoundment for subsequent management unless the residues are the subject of a valid certification under Section 8 of this administrative regulation which allows disposal in surface impoundments meeting the requirements of Section 8(1) of this administrative regulation.

4. Recordkeeping. The procedures and schedule for the sampling of impoundment contents, the analysis of test data, and the annual removal of residues which do not meet the treatment standards, or prohibition levels (where no treatment standards have been established), or which are from the treatment of wastes prohibited from land disposal under 401 KAR 37:030 (where no treatment standards have been established and no prohibition levels apply), shall be specified in the facility's waste analysis plan as required under 401 KAR 34:020, Section 4, or 401 KAR 35:020, Section 4.

(c) The impoundment meets the design requirements of Section 2(3) of 401 KAR 34:200 or Section 10(1) of 401 KAR 35:200, regardless that the unit may not be new, expanded, or a replacement, and it is in compliance with applicable groundwater monitoring requirements of 401 KAR 34:060 or 401 KAR Chapter 35 unless:

1. It is exempted pursuant to Section 2(4) or (5) of 401 KAR 34:200, or to Section 10(3) or (4) of 401 KAR 35:200; or

2. Upon application by the owner or operator, the cabinet after notice and an opportunity to comment has granted a waiver of the requirements on the basis that the surface impoundment:

a. Has at least one (1) liner, and there is no evidence that such liner is leaking;

b. Is located more than one-quarter (1/4) mile from an underground source of drinking water; and

c. Is in compliance with generally applicable groundwater monitoring requirements for facilities with permits; or

3. Upon application by the owner or operator, the cabinet, after notice and an opportunity to comment, has granted a modification to the requirements on the basis of a demonstration that the surface impoundment is located, designed, and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(d) The owner or operator submits to the cabinet a written certification that the requirements of paragraph (c) of this subsection have been met and submits a copy of the waste analysis plan required under paragraph (b) of this subsection. The following certification is required:

I certify under penalty of law that the requirements of Section 4(1)(c) of 401 KAR 37:010 have been met for all surface impoundments being used to treat restricted wastes. I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(2) Evaporation of hazardous constituents as the principal means of treatment is not considered to be treatment for purposes of an exemption under this section.

Section 5. Procedures for Case-by-case Extensions to an Effective Date. (1) Any person who generates, treats, stores, or disposes of a hazardous waste may submit an application to the

cabinet for an extension to the effective date of any applicable restriction established under 401 KAR 37:030. The applicant shall demonstrate the following:

(a) He has made a good-faith effort to locate and contract with treatment, recovery, or disposal facilities nationwide to manage his waste in accordance with the effective date of the applicable restriction established under 401 KAR 37:030;

(b) He has entered into a binding contractual commitment to construct or otherwise provide alternative treatment, recovery (recycling for example), or disposal capacity that meets the treatment standards specified in 401 KAR 37:040 or, where treatment standards have not been specified, such treatment, recovery, or disposal capacity is protective of human health and the environment;

(c) Due to circumstances beyond the applicant's control, such alternative capacity cannot reasonably be made available by the applicable effective date. This demonstration may include a showing that the technical and practical difficulties associated with providing the alternative capacity will result in the capacity not being available by the applicable effective date;

(d) The capacity being constructed or otherwise provided by the applicant will be sufficient to manage the entire quantity of waste that is the subject of the application;

(e) He provides a detailed schedule for obtaining required operating and construction permits or an outline of how and when alternative capacity will be available;

(f) He has arranged for adequate capacity to manage his waste during an extension and has documented in the application the location of all sites at which the waste will be managed; and

(g) Any waste managed in a surface impoundment or landfill during the extension period will meet the requirements of subsection (8)(b) of this section.

(2) An authorized representative signing an application described under subsection (1) of this section shall make the following certification:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(3) After receiving an application for an extension, the cabinet may request any additional information which it deems necessary to evaluate the application.

(4) An extension shall apply only to the waste generated at the individual facility covered by the application and shall not apply to restricted waste from any other facility.

(5) On the basis of the information referred to in subsection (1) of this section, after notice and opportunity for comment, and after consultation with appropriate state agencies in all affected states, the cabinet may grant an extension of up to one (1) year from the effective date. The cabinet may renew this extension for up to one (1) additional year upon the request of the applicant if the demonstration required in subsection (1) of this section can still be made. In no event shall an extension continue beyond twenty-four (24) months from the applicable effective date specified in 401 KAR 37:030. The length of any extension authorized shall be determined by the cabinet based on the time required to construct or obtain the type of capacity needed by the applicant as described in the completion schedule discussed in subsection (1)(e) of this section. The cabinet shall give public notice of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition shall be published in the Kentucky Administrative Register.

(6) Any person granted an extension under this section shall immediately notify the cabinet as soon as he has knowledge of any change in the conditions certified to in the application.

(7) Any person granted an extension under this section shall

submit written progress reports at intervals designated by the cabinet. Such reports shall describe the overall progress made toward constructing or otherwise providing alternative treatment, recovery or disposal capacity; shall identify any event which may cause or has caused a delay in the development of the capacity; and shall summarize the steps taken to mitigate the delay. The cabinet may revoke the extension at any time if the applicant does not demonstrate a good-faith effort to meet the schedule for completion, if the cabinet denies or revokes any required permit, if conditions certified in the application change, or for any violation of this chapter.

(8) Whenever the cabinet establishes an extension to an effective date under this section, during the period for which such extension is in effect:

(a) The storage restrictions under Section 2(1) of 401 KAR 37:050 do not apply; and

(b) The hazardous waste may be disposed of in a landfill or surface impoundment unit only if the unit is in compliance with the following requirements:

1. The landfill, if in interim status, is in compliance with the requirements of 401 KAR 35:060 and Section 10(1), (3) and (4) of 401 KAR 35:230;

2. The landfill, if permitted, is in compliance with the requirements of 401 KAR 34:060 and Section 10(3), (4), and (5) of 401 KAR 34:230;

3. The surface impoundment, if in interim status, is in compliance with the requirements of 401 KAR 35:060 and Section 10(1), (3) and (4) of 401 KAR 35:200; or

4. The surface impoundment, if permitted, is in compliance with the requirements of 401 KAR 34:060 and Section 10(3), (4), and (5) of 401 KAR 34:200; or

5. The surface impoundment, if newly subject to hazardous waste regulation due to the promulgation of additional listings or characteristics for the identification of hazardous waste, is in compliance with the requirements of 401 KAR 35:060 within twelve (12) months of the promulgation of additional listings or characteristics of hazardous waste, and with the requirements of Section 10(1), (3), and (4) of 401 KAR 35:200 within forty-eight (48) months after the promulgation of additional listings or characteristics of hazardous waste. If a national capacity variance is granted, during the period the variance is in effect the surface impoundment, if newly subject to hazardous waste regulation due to the promulgation of additional listings or characteristics of hazardous waste, is in compliance with the requirement of 401 KAR 35:060 within twelve (12) months of the promulgation of additional listings or characteristics of hazardous waste, and with the requirements of Section 10(1), (3), and (4) of 401 KAR 35:200 within forty-eight (48) months after the promulgation of additional listings or characteristics of hazardous waste; or

6. The landfill, if disposing of containerized liquid hazardous wastes containing PCB's at concentrations greater than or equal to fifty (50) ppm but less than 500 ppm, is also in compliance with 40 CFR 761.75 and 401 KAR Chapters 34 and 35.

(9) Pending a decision on the application the applicant is required to comply with all restrictions on land disposal under 401 KAR Chapter 37 once the effective date for the waste has been reached.

Section 6. Petitions to Allow Land Disposal of a Waste Prohibited Under 401 KAR 37:030. (1) Any person seeking an exemption from a prohibition under 401 KAR 37:030 for the disposal of a restricted hazardous waste in a particular unit or units shall submit a petition to the cabinet demonstrating, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous. The demonstration shall include the following components:

(a) An identification of the specific waste and the specific unit for which the demonstration will be made;

(b) A waste analysis to describe fully the chemical and physical characteristics of the subject waste;

(c) A comprehensive characterization of the disposal unit site including an analysis of background air, soil, and water quality;

(d) A monitoring plan that detects migration at the earliest practicable time; and

(e) Sufficient information to assure the cabinet that the owner or operator of a land disposal unit receiving restricted waste will comply with other applicable federal, state, and local laws.

(2) The demonstration referred to in subsection (1) of this section shall meet the following criteria:

(a) All waste and environmental sampling, test, and analysis data shall be accurate and reproducible to the extent that state-of-the-art techniques allow;

(b) All sampling, testing, and estimation techniques for chemical and physical properties of the waste and all environmental parameters shall have been approved by the cabinet;

(c) Simulation models shall be calibrated for the specific waste and site conditions, and verified for accuracy by comparison with actual measurements;

(d) A quality assurance and quality control plan that addresses all aspects of the demonstration shall be approved by the cabinet; and

(e) An analysis shall be performed to identify and quantify any aspects of the demonstration that contribute significantly to uncertainty. This analysis shall include an evaluation of the consequences of predictable future events, including, but not limited to, earthquakes, floods, severe storm events, droughts, or other natural phenomena.

(3) Each petition referred to in subsection (1) of this section shall include the following:

(a) A monitoring plan that describes the monitoring program installed at or around the unit to verify continued compliance with the conditions of the variance. This monitoring plan shall provide information on the monitoring of the unit or the environment around the unit. The following specific information shall be included in the plan:

1. The media monitored in the case where monitoring of the environment around the unit is required;
2. The type of monitoring conducted at the unit, in the cases where monitoring of the unit is required;
3. The location of the monitoring stations;
4. The monitoring interval (frequency of monitoring at each station);
5. The specific hazardous constituents to be monitored;
6. The implementation schedule for the monitoring program;
7. The equipment used at the monitoring stations;
8. The sampling and analytical techniques employed; and
9. The data recording and reporting procedures.

(b) Where applicable, the monitoring program described in paragraph (a) of this subsection shall be in place for a period of time specified by the cabinet, as part of the approval of the petition, prior to receipt of prohibited waste at the unit.

(c) The monitoring data collected according to the monitoring plan specified under paragraph (a) of this subsection shall be sent to the cabinet according to a format and schedule specified and approved in the monitoring plan.

(d) A copy of the monitoring data collected under the monitoring plan specified under paragraph (a) of this subsection shall be kept on site at the facility in the operating record.

(e) The monitoring program specified under paragraph (a) of this subsection shall meet the following criteria:

1. All sampling, testing, and analytical data shall be approved by the cabinet and shall provide data that is accurate and reproducible.
2. All estimation and monitoring techniques shall be approved by the cabinet.
3. A quality assurance and quality control plan addressing all aspects of the monitoring program shall be provided to and approved by the cabinet.
4. Each petition shall be submitted to the cabinet.
5. After a petition has been approved, the owner or operator

shall report any changes in conditions at the unit or the environment around the unit that significantly depart from the conditions described in the variance and affect the potential for migration of hazardous constituents from the units as follows:

(a) If the owner or operator plans to make changes to the unit design, construction, or operation, the change shall be proposed, in writing, and the owner or operator shall submit a demonstration to the cabinet at least thirty (30) days prior to making the change. The cabinet shall determine whether the proposed change invalidates the terms of the petition and shall determine the appropriate response. Any change shall be approved by the cabinet prior to being made.

(b) If the owner or operator discovers that a condition at the site which was modeled or predicted in the petition does not occur as predicted, this change shall be reported, in writing, to the cabinet within ten (10) days of discovering the change. The cabinet shall determine whether the reported change from the terms of the petition requires further action, which may include termination of waste acceptance and revocation of the petition, petition modifications, or other responses.

(6) If the owner or operator determines that there is migration of hazardous constituents from the unit, the owner or operator shall:

(a) Immediately suspend receipt of restricted waste at the unit;

(b) Notify the cabinet, in writing, within ten (10) days of the determination that the release has occurred; and

(c) Following receipt of the notification the cabinet shall determine, within sixty (60) days of receiving notification, whether the owner or operator can continue to receive prohibited waste in the unit and whether the variance is to be revoked. The cabinet shall also determine whether further examination of any migration is warranted under applicable provisions of 401 KAR Chapters 34 and 35.

(7) Each petition shall include the following statement signed by the petitioner or an authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(8) After receiving a petition, the cabinet may request any additional information that reasonably may be required to evaluate the demonstration.

(9) If approved, the petition shall apply to land disposal of the specific restricted waste at the individual disposal unit described in the demonstration and shall not apply to any other restricted waste at that disposal unit, or to that specific restricted waste at any other disposal unit.

(10) The cabinet shall give public notice in the Kentucky Administrative Register of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition shall be published in the Kentucky Administrative Register.

(11) The term of a petition granted under this section shall be no longer than the term of the hazardous waste site or facility permit if the disposal unit is operating under a hazardous waste site or facility permit, or up to a maximum of ten (10) years from the date of approval provided under subsection (7) of this section if the unit is operating under interim status. In either case, the term of the granted petition shall expire upon the termination or denial of a hazardous waste site or facility permit, or upon the termination of interim status or when the volume limit of waste to be land disposed during the term of petition is reached.

(12) Prior to the cabinet's decision, the applicant is required to comply with all restrictions on land disposal under 401 KAR Chapter 37 once the effective date for the waste has been reached.

(13) The petition granted by the cabinet does not relieve the petitioner of his responsibilities in the management of hazardous waste under the hazardous waste management administrative

regulations.

(14) Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to 500 ppm are not eligible for an exemption under this section.

Section 7. Waste Analysis. (1) Except as specified in Section 3 of 401 KAR 37:030, if a generator's waste is listed in 401 KAR 31:040, [or Section 5 of 401 KAR 37:040,] the generator shall test his waste or test an extract [developed] using the Toxicity Characteristic Leaching Procedure, Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, incorporated in 40 CFR 260.11, adopted in Section 3 of 401 KAR 30:010, [test method described in 401 KAR 37:100,] or use knowledge of the waste to determine if the waste is restricted from land disposal under 401 KAR Chapter 37. Except as specified in Section 3 of 401 KAR 37:030, if a generator's waste exhibits one (1) or more of the characteristics set out in 401 KAR 31:030, the generator shall [must] test an extract using the Toxicity Characteristic Leaching Procedure, Method 1311 [test method described in Section 10(2)(f) of this administrative regulation], or use knowledge of the waste, to determine if the waste is restricted from land disposal under this chapter. If the generator determines that this waste exhibits the characteristic of ignitability (D001) (and is not in the high TOC Ignitable Liquids Subcategory or is not treated by CMBST or RORGS of Table 1 of Section 3 of 401 KAR 37:040), or the characteristic of corrosivity (D002), and is prohibited under Section 8 of 401 KAR 37:030, the generator shall determine the underlying hazardous constituents in the D001, D002, or D012-D043 waste.

(a) If a generator determines that he is managing a restricted waste under 401 KAR Chapter 37 and the waste does not meet the applicable treatment standards set forth in 401 KAR 37:040 or exceeds the applicable prohibition levels set forth in Section 3 of 401 KAR 37:030 or KRS 224.46-520, with each shipment of waste the generator shall notify the treatment or storage facility in writing [of the appropriate treatment standards set forth in 401 KAR 37:040 and any applicable prohibition levels set forth in Section 3 of 401 KAR 37:030 or KRS 224.46-520]. The notice shall include the following information:

1. EPA hazardous waste number;
2. The waste constituents that the treater will monitor, if monitoring will not include all regulated constituents, for wastes F001-F005, F039, D001, D002, and D012-D043 and in Section 3 of 401 KAR 37:030 or KRS 224.46-520. Generators shall also include whether the waste is a nonwastewater or wastewater and indicate the subcategory of the waste (such as "D003 reactive cyanide"), if applicable; [The corresponding treatment standards for wastes F001-F005, F039, and wastes prohibited pursuant to Section 3 of 401 KAR 37:030 or Section 3004(d) of RCRA. Treatment standards for all other restricted wastes shall either be included, or be referenced by including on the notification the applicable wastewater, as defined in Section 2(6) of this administrative regulation or nonwastewater, as defined in Section 2(4) of this administrative regulation, category, the applicable subdivisions made within a waste code based on waste specific criteria (such as D003 reactive cyanides), and the applicable treatment standards of this chapter. Where the applicable treatment standards are expressed as specified technologies in Section 3 of 401 KAR 37:040, the applicable five (5) letter treatment code found in Table 1 of Section 3 of 401 KAR 37:040 also shall be listed on the notification;]
3. The manifest number associated with the shipment of waste; [and]
4. For hazardous debris, the contaminants subject to treatment as provided by Section 5(b) of 401 KAR 37:040 and the following statement: "This hazardous debris is subject to the alternative treatment standards of Section 5 of 401 KAR 37:040";
5. The waste analysis data, where available; and
6. The date the waste is subject to the prohibitions.

(b) If a generator determines that he is managing a restricted waste under 401 KAR Chapter 37, and determines that the waste can be land disposed without further treatment, with each shipment of waste he shall submit, to the treatment, storage, or land disposal facility, a notice and a certification stating that the waste meets applicable treatment standards set forth in 401 KAR 37:040 and the applicable prohibition levels set forth in Section 3 of 401 KAR 37:030 or KRS 224.46-520. Generators of hazardous debris that is excluded from the definition of hazardous waste under Section 3(6)(b) of 401 KAR 31:030 (that is, debris that the cabinet has determined does not contain hazardous waste) however, are not subject to these notification and certification requirements.

1. The notice shall include the following information:

a. EPA hazardous waste number;

b. The waste constituents that the treater will monitor, if monitoring will not include all regulated constituents, for wastes F001-F005, F039, D001, D002, and D012-D043 and Section 3 of 401 KAR 37:030 or KRS 224.46-520. Generators shall also include whether the waste is a nonwastewater or wastewater and indicate the subcategory of the waste (such as "D003 reactive cyanide"), if applicable; [The corresponding treatment standards for wastes F001-F005, F039, and wastes prohibited pursuant to Section 3 of 401 KAR 37:030 or Section 3004(d) of RCRA. Treatment standards for all other restricted wastes shall either be included, or be referenced by including on the notification the applicable wastewater (as defined in Section 2(6) of this administrative regulation) or nonwastewater (as defined in Section 2(4) of this administrative regulation) category, the applicable subdivisions made within a waste code based on waste specific criteria (such as D003 reactive cyanides), and the administrative regulation or administrative regulations in which the applicable treatment standard appear. Where the applicable treatment standards are expressed as specified technologies in Section 3 of 401 KAR 37:040, the applicable five (5) letter treatment code found in Table 1 of Section 3 of 401 KAR 37:040 also shall be listed on the notification;]

c. The manifest number associated with the shipment of waste; and

d. Waste analysis data, where available.

2. The certification shall be signed by an authorized representative and shall state the following:

I certify under penalty of law that I have personally examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with treatment standards specified in 401 KAR 37:040 and all applicable prohibitions set forth in Section 4 of 401 KAR 37:030 [Section 4.] or KRS 224.46-520. I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

(c) If a generator's waste is subject to an exemption from a prohibition on the type of land disposal method utilized for the waste (such as, but not limited to, a case-by-case extension under Section 5 of this administrative regulation, an exemption under Section 6 of this administrative regulation, or nationwide capacity variance under 401 KAR 37:030), with each shipment of waste he shall submit a notice to the facility receiving his waste stating that the waste is not prohibited from land disposal. The notice shall include the following information:

1. EPA hazardous waste number;

2. The waste constituents that the treater will monitor, if monitoring will not include all regulated constituents, for wastes F001-F005, F039, D001, D002, and D012-D043. Generators shall also include whether the waste is a nonwastewater or wastewater and indicate the subcategory of the waste (such as "D003 reactive cyanide"), if applicable; [The corresponding treatment standards for wastes F001-F005, F039, and wastes prohibited pursuant to Section 3 of 401 KAR 37:030 or Section 3004(d) of RCRA. Treatment standards for all other



~~restricted wastes shall either be included, or be referenced by including on the notification the applicable wastewater (as defined in Section 3(6) of this administrative regulation) or nonwastewater (as defined in Section 2(4) of this administrative regulation) category, the applicable subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanides), and the applicable treatment standards of this chapter. Where the applicable treatment standards are expressed as specified technologies in Section 3 of 401 KAR 37:040, the applicable five (5) letter treatment code found in Table 1 of Section 3 of 401 KAR 37:040 also shall be listed on the notification;~~

3. The manifest number associated with the shipment of waste;
4. Waste analysis data, where available; ~~and~~

5. For hazardous debris when using the alternative treatment technologies provided by Section 5 of 401 KAR 37:040:

a. The contaminants subject to treatment, as described in Section 1 of 401 KAR 37:040; and

b. An indication that these contaminants are being treated to comply with Section 5 of 401 KAR 37:040.

6. For hazardous debris when using the treatment standards for the contaminating wastes in Section 1 of 401 KAR 37:040: the requirements described in paragraph (c)1, 2, 3, 4, and 7 of this subsection.

7. The date the waste is subject to the prohibitions.

(d) If a generator is managing a prohibited waste in tanks, ~~or~~ containers, or containment buildings regulated under Section 5 of 401 KAR 32:030, and is treating such waste in the tanks, ~~or~~ containers, or containment buildings to meet applicable treatment standards under 401 KAR 37:040, the generator shall develop and follow a written waste analysis plan that describes the procedures the generator shall carry out to comply with the treatment standards. (Generators treating hazardous debris under the alternative treatment standards of Table 1 of Section 6 of 401 KAR 37:040, however, are not subject to these waste analysis requirements.) The plan shall be kept on site in the generator's records, and the following requirements shall be met:

1. The waste analysis plan shall be based on a detailed chemical and physical analysis of a representative sample of the prohibited waste(s) being treated, and contain all information necessary to treat the waste(s) in accordance with the requirements of this chapter ~~part~~, including the selected testing frequency.

2. The plan shall be filed with the cabinet ~~[to implement 401 KAR Chapter 37 requirements]~~ a minimum of thirty (30) days prior to the treatment activity, with delivery verified.

3. Wastes shipped off site pursuant to this paragraph shall comply with the notification requirements of paragraph (b) of this subsection.

(e) If the generator determines whether the waste is restricted based solely on his knowledge of the waste, all supporting data used to make this determination shall be retained on-site in the generator's files. If a generator determines whether the waste is restricted based on testing this waste or an extract developed using the test method described in Section 1 of 401 KAR 37:100 all waste analysis data shall be retained on site in the generator's files.

(f) If a generator determines that he is managing a restricted waste that is excluded from the definition of hazardous or solid waste or exempt from 401 KAR 37:030, under Sections 2 to 6 of 401 KAR 31:010 subsequent to the point of generation, he shall place a one (1) time notice stating such generation, subsequent exclusion from the definition of hazardous or solid waste or exemption from 401 KAR 37:030, and the disposition of the waste, in the facility's file.

(g) Generators shall retain on site a copy of all notices, certifications, demonstrations, waste analysis data, and other documentation produced pursuant to this section for at least five (5) years from the date that the waste that is the subject of the documentation was last sent to on-site or off-site treatment, storage, or disposal. The five (5) year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated

activity or as requested by the cabinet. The requirements of this paragraph apply to solid wastes even when the hazardous characteristic is removed prior to disposal, or when the waste is excluded from the definition of hazardous or solid waste under Sections 2 to 6 of 401 KAR 31:010, or exempted from 401 KAR 37:030, subsequent to the point of generation.

(h) If a generator is managing a lab pack that contains none of the wastes specified in Appendix IV of 40 CFR Part 268, adopted [identified] in Section 10(2)(a) of this administrative regulation, and wishes to use the alternative treatment standard under Section 3(2) [4] of 401 KAR 37:040 [37:040], with each shipment of waste the generator shall submit a notice to the treatment facility in accordance with paragraph (a) of this subsection, except that underlying hazardous constituents need not be determined. The generator shall also comply with the requirements in paragraphs (e) and (f) of this subsection, and shall submit the following certification, which shall be signed by an authorized representative:

I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack does not contain[e] only the any wastes adopted [specified] in Section 10(2)(a) of this administrative regulation [or solid wastes not subject to administrative regulation under 401 KAR Chapter 31]. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment.

(i) Small quantity generators with tolling agreements pursuant to Section 1(5) of 401 KAR 32:020 shall comply with the applicable notification and certification requirements of this subsection for the initial shipment of the waste subject to the agreement. Such generators shall retain on site a copy of the notification and certification, together with the tolling agreement, for at least three (3) years after termination or expiration of the agreement. The three (3) year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the cabinet. [If a generator is managing a lab pack that contains organic wastes specified in Section 10(2)(b) of this administrative regulation and wishes to use the alternate treatment standards under Section 3 of 401 KAR 37:040, with each shipment of waste the generator shall submit a notice to the treatment facility in accordance with paragraph (a) of this subsection. The generator also shall comply with the requirements in paragraphs (e) and (f) of this subsection, and shall submit the following certification which shall be signed by an authorized representative:

~~I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste and that the lab pack contains only organic waste specified in Section 10(2)(b) of this administrative regulation or solid wastes not subject to regulation under 401 KAR Chapter 31. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment.]~~

(j) Small quantity generators with tolling agreements pursuant to Section 1(5) of 401 KAR 32:020 shall comply with the applicable notification and certification requirements of this subsection for the initial shipment of the waste subject to the agreement. Such generators shall retain on site a copy of the notification and certification, together with the tolling agreement, for at least three (3) years after termination or expiration of the agreement. The three (3) year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the cabinet.

(2) Treatment facilities shall test their wastes according to the frequency specified in their waste analysis plans as required by Section 4 of 401 KAR 30:020 or Section 4 of 401 KAR 35:020. The testing shall be performed as provided in paragraphs (a), (b), and (c) of this subsection.

(a) For wastes with treatment standards expressed as concentrations in the waste extract (Section 3 of 401 KAR 37:040), the owner or operator of the treatment facility shall test the treatment residues



or an extract of such residues developed using the test method described in 401 KAR 37:100 to assure that the treatment residues or extract meet the applicable treatment standards.

(b) For wastes prohibited under Section 3 of 401 KAR 37:030 or KRS 224.46-520 which are not subject to any treatment standards under 401 KAR 37:040, the owner or operator of the treatment facility shall test the treatment residues according to the generator testing requirements specified in Section 3 of 401 KAR 37:030 to assure that the treatment residues comply with the applicable prohibitions.

(c) For wastes with treatment standards expressed as concentrations in the waste (Section 5 of 401 KAR 37:040) the owner or operator of the treatment facility shall test the treatment residues (not an extract of the residues) to assure that the treatment residues meet the applicable treatment standards.

(d) A notice shall be sent with each waste shipment to the land disposal facility which includes the following information except that debris excluded from the definition of hazardous waste under Section 3(5) of 401 KAR 31:010 (that is, debris treated by an extraction or destruction technology provided by Table 1 of Section 6 of 401 KAR 37:040, or debris that the cabinet has determined does not contain hazardous waste) is subject to the notification and certification requirements of subsection (4) of this section rather than these notification requirements:

1. EPA hazardous waste number;
2. The waste constituents to be monitored, if the monitoring will not include all regulated constituents, for wastes F001-F005, F039, D001, D002, and D012-D043 and in Section 3 of 401 KAR 37:030 or KRS 224.46-520. Generators shall also include whether the waste is a nonwastewater or wastewater, and indicate the subcategory of the waste (such as "D003 reactive cyanide"), if applicable. ~~The corresponding treatment standards for wastes F001 to F005, F039, and all applicable prohibitions set forth in Section 3 of 401 KAR 37:030 or KRS 224.46-520. Treatment standards for all other restricted wastes shall either be included, or referenced by including on the notification the applicable wastewater (as defined in Section 1(6) of this administrative regulation) or nonwastewater (as defined in Section 1(4) of this administrative regulation) category, the applicable subdivisions made within a waste code based on waste specific criteria (such as D003 reactive cyanides), and the applicable treatment standards of this chapter. Where the applicable treatment standards are expressed as specified technologies in Section 3 of 401 KAR 37:040, the applicable five (5) letter treatment code found in Table 1 of Section 3 of 401 KAR 37:040 also shall be included on the notification;~~

3. The manifest number associated with the shipment of waste; and

4. Waste analysis data, where available.

(e) The treatment facility shall submit a certification with each shipment of waste or treatment residue of a restricted waste to the land disposal facility stating that the waste or treatment residue has been treated in compliance with the applicable performance standards specified in 401 KAR 37:040 and applicable prohibitions set forth in Section 3 of 401 KAR 37:030 or KRS 224.46-520. Debris excluded from the definition of hazardous waste under Section 3(5) of 401 KAR 31:010 (that is, debris treated by an extraction or destruction technology provided by Table 1 of Section 6 of 401 KAR 37:040, or debris that the cabinet has determined does not contain hazardous waste) is subject to the notification and certification requirements of subsection (4) of this administrative regulation rather than the certification requirements of this paragraph.

1. For wastes with treatment standards expressed as concentrations in the waste extract or in the waste (Section 2 of 401 KAR 37:040), or for wastes prohibited under Section 3 of 401 KAR 37:030 or KRS 224.46-520 which are not subject to any treatment standards under 401 KAR 37:040, the certification shall be signed by an authorized representative and shall state the following:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the

treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the performance levels specified in 401 KAR 37:040 and all applicable prohibitions set forth in 401 KAR 37:030, Section 3, and KRS 224.46-520 without dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

2. For wastes with treatment standards expressed as technologies (Section 3 of 401 KAR 37:040), the certification shall be signed by an authorized representative and shall state the following:

I certify under penalty of law that the waste has been treated in accordance with the requirements of Section 3 of 401 KAR 37:040. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

3. For wastes with treatment standards expressed as concentrations in the waste pursuant to Section 5 of 401 KAR 37:040, if compliance with the treatment standards in this administrative regulation is based in part or whole on the analytical detection limit alternative specified in Section 5(3) of 401 KAR 37:040, the certification also shall state the following:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by incineration in units operated in accordance with 401 KAR 34:240 or 401 KAR 35:240, or by combustion in fuel substitution units operating in accordance with applicable technical requirements, and I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

4. For characteristic wastes D001, D002, and D012-D043 that are: subject to the treatment standards in Section 1 of 401 KAR 37:040 (other than those expressed as a required method of treatment); that are reasonably expected to contain underlying hazardous constituents; are treated on site to remove the hazardous characteristic; and are then sent off site for treatment of underlying hazardous constituents, the certification shall state the following:

I certify under penalty of law that the waste has been treated in accordance with the requirements of Section 1 of 401 KAR 37:040 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(f) If the waste or treatment residue will be further managed at a different treatment or storage facility, the treatment, storage, or disposal facility sending the waste or treatment residue off site shall comply with the notice and certification requirements applicable to generators under this section.

(g) Where the wastes are recyclable materials used in a manner constituting disposal subject to the provisions of Section 1 of 401 KAR 36:030 regarding treatment standards and prohibition levels, the owner or operator of a treatment facility (the recycler) is not required to notify the receiving facility, pursuant to paragraph (d) of this section. With each shipment of the wastes, the owner or operator of the recycling facility shall submit a certification described in paragraph (e) of this section, and a notice which includes the information listed in paragraph (d) of this section (except the manifest number) to the cabinet. The recycling facility also shall keep records of the name and location of each entity receiving the hazardous waste-derived product.

(3) Except where the owner or operator is disposing of any waste that is a recyclable material used in a manner constituting disposal

pursuant to 401 KAR 36:030, the owner or operator of any land disposal facility disposing of any waste subject to restrictions under 401 KAR Chapter 37 shall:

(a) Have copies of the notice and certifications specified in subsection (1) or (2) of this section, and the certification specified in Section 8 of 401 KAR 37:010 if applicable.

(b) Test the waste, or an extract of the waste or treatment residue developed using the test method described in Section 1 of 401 KAR 37:100 or using any methods required by generators under Section 3 of 401 KAR 37:030, to assure that the wastes or treatment residues are in compliance with the applicable treatment standards set forth in Section 3 of 401 KAR 38:040 and all applicable prohibitions set forth in Section 3 of 401 KAR 37:030 or in KRS 224.46-520. The testing shall be performed according to the frequency specified in the facility's waste analysis plan as required by Section 4 of 401 KAR 34:020 or Section 4 of 401 KAR 37:020.

(4) Generators or treaters who first claim that hazardous debris is excluded from the definition of hazardous waste under Section 3(6) of 401 KAR 31:010 (that is, debris treated by an extraction or destruction technology provided by Table 1 of Section 7 of 401 KAR 37:040, and debris that the cabinet has determined does not contain hazardous waste) are subject to the following notification and certification requirements:

(a) A one (1) time notification shall be submitted to the cabinet including the following information:

1. The name and address of the solid waste site or facility receiving the treated debris;

2. A description of the hazardous debris as initially generated, including the applicable EPA Hazardous Waste Number(s); and

3. For debris excluded under Section 3(5) of 401 KAR 31:010, the technology from Table 1 of Section 7 of 37:040 used to treat the debris.

(b) The notification shall be updated if the debris is shipped to a different facility, and, for debris excluded under Section 3(5) of 401 KAR 31:010, if a different type of debris is treated or if a different technology is used to treat the debris.

(c) For debris excluded under Section 3(5) of 401 KAR 31:010, the owner or operator of the treatment facility shall document and certify compliance with the treatment standards of Table 1 of Section 7 of 37:040 as follows:

1. Records shall be kept of all inspections, evaluations, and analyses of treated debris that are made to determine compliance with the treatment standards;

2. Records shall be kept of any data or information the treater obtains during treatment of the debris that identifies key operating parameters of the treatment unit; and

3. For each shipment of treated debris, a certification of compliance with the treatment standards shall be signed by an authorized representative and placed in the facility's files. The certification shall state the following: "I certify under penalty of law that the debris has been treated in accordance with the requirements of Section 6 of 37:040. I am aware that there are significant penalties for making a false certification, including the possibility of fine and imprisonment."

Section 8. Landfill and Surface Impoundment Disposal Restrictions. (1) Prior to May 8, 1990, wastes which are otherwise prohibited from land disposal under Section 5(6) of 401 KAR 37:030 may be disposed in a landfill or surface impoundment which is in compliance with the requirements of Section 5(8)(b) of this administrative regulation provided that the requirements of this section are met. As of May 8, 1990, this subsection, including paragraph (a), is no longer in effect.

(a) Prior to the disposal, the generator has made a good faith effort to locate and contract with treatment and recovery facilities practically available which provide the greatest environmental benefit.

(b) If a generator determines that there is no practically available treatment for his waste, he shall fulfill the following requirements:

1. Prior to the initial shipment of waste, the generator shall submit a demonstration to the cabinet that includes: a list of facilities and facility officials contacted, addresses, telephone numbers, and contact dates, as well as written discussion of why he was not able to obtain treatment or recovery for that waste. The generator shall also provide to the cabinet the following certification:

I certify under penalty of law that the requirements of Section 8(1)(a) of 401 KAR 37:010 have been met and that disposal in a landfill or surface impoundment is the only practical alternative to treatment currently available. I believe that the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

The generator does not need to wait for the cabinet's approval of the demonstration or certification before shipment of the waste. However, if the cabinet invalidates the demonstration or certification for the reasons outlined in Section 8(2)(b) of this administrative regulation the generator shall immediately cease further shipments of the waste, and immediately inform all facilities that received the waste of such invalidation, and keep records of such communication on-site in his files.

2. With the initial shipment of waste, the generator shall submit a copy of the demonstration and the certification discussed above in subparagraph 1 of this paragraph to the receiving facility. With each subsequent waste shipment, only the certification is required to be submitted provided that the conditions being certified remain unchanged. Such a generator shall retain on site a copy of the demonstration (if applicable) and certification required for each waste shipment for at least five years from the date that the waste that is subject of such documentation was last sent to on-site or off-site disposal. The five (5) year record retention requirement is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the cabinet.

(c) If a generator determines that there are practically available treatments for his waste, he shall contract to use the practically available technology that yields the greatest environmental benefit. He shall also fulfill the following specific requirements:

1. The generator shall submit to the cabinet, prior to the initial shipment of waste, a demonstration that includes: a list of facilities and facility officials contacted, addresses, telephone numbers, and contact dates, as well as a written discussion explaining why the treatment or recovery technology chosen provides the greatest environmental benefit. The generator shall also provide to the cabinet the following certification:

I certify under penalty of law that the requirements of Section 8(1)(a) of 401 KAR 37:010 have been met and that I have contracted to treat my waste (or otherwise provide treatment) by the practically available technology which yields the greatest environmental benefit, as indicated in my demonstration. I believe that the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

The generator does not need to wait for cabinet approval of the demonstration or certification before shipment of the waste.

2. With the initial shipment of waste, the generator shall submit to the receiving facility a copy of the demonstration and the certification discussed above in subparagraph 1 of this paragraph. With each subsequent waste shipment, only the certification is required to be submitted provided that the conditions being certified remain unchanged. Such a generator shall retain on site a copy of the demonstration (if applicable) and certification required for each waste shipment for at least five (5) years from the date that the waste that is the subject of such documentation was last sent to on-site or off-site disposal. The five (5) year record retention requirement is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the cabinet.

(d) Where the generator has determined that there is practically available treatment for his waste prior to disposal, with the initial shipment of waste, the generator shall submit a copy of the demonstration and certification required in paragraph (b)2 of this section to the receiving facility. With each subsequent waste shipment, only the certification is required to be submitted provided that the conditions being certified remain unchanged. The generator shall retain on site a copy of the demonstration (if applicable) and certification required for each waste shipment for at least five (5) years from the date that the waste that is the subject of the documentation was last sent to on-site or off-site disposal. The five (5) year record retention requirement is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the cabinet.

(2) After receiving the demonstration and certification, the cabinet may request any additional information deemed necessary to evaluate the certification, and submit a new demonstration and certification as provided in this section to the receiving facility.

(a) A generator who has submitted a certification under this section shall immediately notify the cabinet when he has knowledge of any change in the conditions which formed the basis of his certification.

(b) If, after review of the certification, the cabinet determines that practically available treatment exists where the generator has certified otherwise, or that there exists some other method of practically available treatment yielding greater environmental benefit than that which the generator has certified, the cabinet may invalidate the certification.

(c) If the cabinet invalidates a certification, the generator shall immediately cease further shipments of the waste, and inform all facilities that received the waste of the invalidation and keep records of the communication on site in his files.

(3) A treatment, recovery, or storage facility receiving wastes subject to a valid certification shall keep copies of the generator's demonstration (if applicable) and certification in his operating record.

(a) The owner or operator of a treatment or recovery facility shall certify that he has treated the waste in accordance with the generator's demonstration. The following certification is required:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment as specified in the generator's demonstration. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(b) The owner or operator of a treatment, recovery, or storage facility shall, for each initial shipment of waste, send a copy of the generator's demonstration (if applicable) and certification under subsection (1)(b)1 or (c)1 of this section and certification under paragraph (a) of this subsection (if applicable) to the facility receiving the waste or treatment residues. With each subsequent waste shipment, only the certification shall be required to be submitted provided that the conditions being certified remain unchanged.

(4) The owner or operator of a disposal facility shall ensure that those wastes prohibited under Section 4(6) of 401 KAR 37:030 are subject to a certification according to the requirements of this section prior to disposal in a landfill or surface impoundment, and that the units receiving the wastes will meet the minimum technological requirements of Section 5(8)(b) of this administrative regulation.

(5) Once the certification is received by the cabinet, and provided that the wastes have been treated by the treatment (if any), determined by the generator to yield the greatest environmental benefit practically available, the wastes or treatment residuals may be disposed in a landfill or surface impoundment unit meeting the requirements of Section 5(8)(b) of this administrative regulation,

unless otherwise prohibited by the cabinet.

Section 9. Special Rules Regarding Wastes that Exhibit a Characteristic. (1) The initial generator of a solid waste shall determine each EPA hazardous waste number (waste code) applicable to the waste in order to determine the applicable treatment standards under 401 KAR 37:040. For purposes of this chapter, the waste shall carry the waste code for any applicable listing under 401 KAR 31:040. In addition, the waste shall carry one (1) or more of the waste codes under 401 KAR 31:030, where the waste exhibits a characteristic, except in the case when the treatment standard for the waste ~~[see]~~ listed in 401 KAR 31:040 operates in lieu of the treatment standard for the waste identified ~~[see]~~ under 401 KAR 31:010 as specified in subsection (2) of this section. If the generator determines that his waste displays the characteristic of ignitability (D001) (and is not in the High TOC Ignitable Liquids Subcategory or is not treated by CMBST, or RORGS), or the characteristic of corrosivity (D002), and is prohibited under Section 8 of 401 KAR 37:040; or that his waste displays the characteristic of toxicity (D012-D043), and is prohibited under Section 9 of 401 KAR 37:030, the generator shall determine the underlying hazardous constituents, in the D001, D002, or D012-D043 wastes.

(2) Where a prohibited waste is both listed under 401 KAR 31:040 and exhibits a characteristic under 401 KAR 31:010, the treatment standard for the waste code listed in 401 KAR 31:040 shall operate in lieu of the standard for the waste identified ~~[see]~~ under 401 KAR 31:010, provided that the treatment standard for the listed waste includes a treatment standard for the constituent that causes the waste to exhibit the characteristic. Otherwise the waste shall meet the treatment standards for all applicable listed and characteristic waste codes.

(3) In addition to any applicable standards determined from the initial point of generation, no prohibited waste which exhibits a characteristic under 401 KAR 31:010 may be land disposed unless the waste complies with the treatment standards under 401 KAR 37:040.

(4) Wastes that exhibit a characteristic are also subject to Section 7 requirements of this administrative regulation, except that once the waste is no longer hazardous, a one (1) time notification and certification shall be placed in the generator's or treater's file and a copy sent to the cabinet. The notification and certification that is placed in the generator's or treater's file shall be updated if the process or operation generating the waste changes or if the solid waste site or facility receiving the waste changes. However, the generator or treater need only notify the cabinet on an annual basis if such changes occur. Such notification and certification shall be sent to the cabinet by the end of the calendar year in which the change occurs. [for each shipment of such wastes to a 401 KAR 37:040 facility the initial generator or the treatment facility need not send a notification to such facility in accordance with Section 7 of this administrative regulation. In such circumstances, a notification and certification shall be sent to the cabinet to implement the requirements of this chapter.]

(a) The notification shall include the following information:

1. The name and address of the ~~[401 KAR 37:040]~~ facility receiving the waste shipment;

2. A description of the waste as initially generated, including the applicable EPA hazardous waste number(s), treatability group(s), and underlying hazardous constituents in D001 and D002 wastes prohibited under Section 8 of 401 KAR 37:030, or D012-D043 wastes under Section 9 of 401 KAR 37:030. (the applicable wastewater (as defined in Section 2(6) of this administrative regulation) or nonwastewater (as defined in Section 2(4) of this administrative regulation) category, and the subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanides).

3. ~~The treatment standards applicable to the waste at the initial point of generation.]~~

(b) The certification shall be signed by an authorized representative and shall state the language found in Section 7(2)(e)1 of this administrative regulation. If treatment removes the characteristic but does not treat underlying hazardous constituents, then the certification found in Section 7(2)(e)4 applies.

Section 10. Identification of Wastes to be Evaluated by EPA. (1) 40 CFR 268.10 to 268.12 July 1, 1995 ~~{(1994)}~~, which identify wastes that are to be evaluated to determine land disposal prohibitions and treatment standards ~~[and] are hereby adopted [incorporated]~~ into this administrative regulation without change. ~~[by reference.]~~

(2) The following appendices to 40 CFR Part 268 (July 1, 1996 ~~[1992]~~) are adopted [incorporated] into this administrative regulation without change: ~~[by reference:]~~

- (a) Appendix IV;
- (b) ~~[Appendix V;~~
- ~~{e}]~~ Appendix VI;
- (c) ~~{d}]~~ Appendix VII;
- ~~{e}]~~ Appendix VIII; and
- (e) Appendix X.
- ~~{f}]~~ ~~Appendix IX.]~~

(3) The appendices specified in subsections (1) and (2) of this section are available for inspection and copying, subject to copyright law, at [from] the Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502)564-6716 between 8 a.m. and 4:30 p.m., local time, Monday through Friday.

Section 11. Surface Impoundment Exemptions. (1) This section defines additional circumstances under which an otherwise prohibited waste may continue to be placed in a surface impoundment.

(2) Wastes that are newly identified or listed under KRS 224.46-510(3) and 401 KAR 31:030 and 31:040 after November 8, 1984, and stored in a surface impoundment that is newly subject to 401 KAR Chapters 31 through 39 as a result of the additional identification or listing, may continue to be stored in the surface impoundment for forty-eight (48) months after the promulgation of the additional listing or characteristic provided that the surface impoundment is in compliance with the requirements of 401 KAR 35:090 within twelve (12) months after promulgation of the new listing or characteristic.

(3) Wastes that are newly identified or listed under KRS 224.46-510(3) and 401 KAR 31:030 and 31:040 after November 8, 1984, and treated in a surface impoundment that is newly subject to 401 KAR Chapters 31 through 39 as a result of the additional identification or listing, may continue to be treated in that surface impoundment provided that surface impoundment is in compliance with the requirements of 401 KAR 35:060 within twelve (12) months after the promulgation of the new listing or characteristic. In addition, if the surface impoundment continues to treat hazardous waste after forty-eight (48) months from promulgation of the additional listing or characteristic, it shall then be in compliance with Section 4 of this administrative regulation.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such

is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

## REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments apply to persons who generate or transport hazardous waste and owners and operators of hazardous waste treatment, storage, and disposal facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff will have an increased workload in order to process the newly regulated entities. The increase in workload will also increase costs.

2. Continuing costs or savings: Once the new entities are processed, there should not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be

implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and environmental welfare will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, detrimental effects could occur without the implementation of this regulation.

c. If detrimental effect would result, explain detrimental effect: Improper disposal of hazardous waste could pose a threat to human health and the environment.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, regulations, or policies that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes to the land disposal restrictions. The changes are necessary to maintain consistency between state and federal programs. A variety of additions and exclusions have been made to clarify the applicability of these changes. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that generate or transport of hazardous waste, and that treats, stores, or disposes of hazardous waste.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies applicable to this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 37:030. Prohibitions on land disposal.

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 CFR 268 Subpart C

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 relative to land disposal restrictions.

Section 1. Waste Specific Prohibitions - Solvent Wastes. (1) Effective November 8, 1986, the spent solvent wastes specified in Section 2 of 401 KAR 31:040 as EPA Hazardous Waste Numbers F001, F002, F003, F004, and F005, are prohibited from land disposal (except in an injection well) unless one (1) or more of the following conditions apply:

(a) The generator of the solvent waste is a small quantity generator of 100-1000 kilograms of hazardous waste per month; or

(b) The solvent waste is generated from any response action taken under CERCLA or any corrective action taken under KRS Chapter 224 except where the waste is contaminated soil or debris; or

(c) The initial generator's solvent waste is a solvent-water mixture, solvent-containing sludge or solid, or solvent- contaminated soil (non-CERCLA or KRS Chapter 224 corrective action) containing less than one (1) percent total F001-F005 solvent constituents listed in Table 1 of Section 3 of 401 KAR 37:040; or

(d) The solvent waste is a residue from treating a waste described in paragraphs (a), (b), or (c) of this subsection; or the solvent waste is a residue from treating a waste not described in paragraphs (a), (b), or (c) of this subsection provided such residue belongs to a different treatability group than the waste as initially generated and wastes belonging to such a treatability group are described in paragraph (c) of this subsection.

(2) Effective November 8, 1988, the F001-F005 solvent wastes listed in subsection (1)(a), (b), (c), and (d) of this section are prohibited from land disposal.

(3) Effective November 8, 1990, the F001-F005 solvent wastes which are contaminated soil and debris resulting from a response action taken under Section 104 or 106 of CERCLA or a corrective

action required under KRS Chapter 224 and the residues from treating these wastes are prohibited from land disposal. Between November 8, 1988, and November 8, 1990, these wastes may be disposed in a landfill or surface impoundment only if the unit is in compliance with the requirements specified in Section 5(8)(b) of 401 KAR 37:010.

(4) The requirements of subsections (1), (2), and (3) of this section do not apply if:

- (a) The wastes meet the standards of 401 KAR 37:040; or
- (b) Persons have been granted an exemption from a prohibition pursuant to a petition under Section 6 of 401 KAR 37:010, with respect to those wastes and units covered by the petition; or
- (c) Persons have been granted an extension to the effective date of a prohibition pursuant to Section 5 of 401 KAR 37:010, with respect to those wastes and units covered by the extension.

#### Section 2. Waste Specific Prohibitions - Dioxin-containing Wastes.

(1) Effective November 8, 1988, the dioxin-containing wastes specified in Section 2 of 401 KAR 31:040 as EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, F027, and F028, are prohibited from land disposal unless the F020-F023 and F026-F028 dioxin-containing waste is contaminated soil and debris resulting from a response action taken under Section 104 and 106 of CERCLA or a corrective action taken under KRS Chapter 224.

(2) Effective November 8, 1990, the F020-F023 and F026-F028 dioxin-containing wastes which are contaminated soil and debris as addressed in subsection (1) of this section are prohibited from land disposal.

(3) Between November 8, 1988, and November 8, 1990, wastes which are contaminated soil and debris as addressed in subsection (1) of this section may be disposed in a landfill or surface impoundment only if the unit is in compliance with the requirements specified in 401 KAR 37:010, Section 5(8)(b) and all other applicable requirements of 401 KAR Chapters 34 and 35.

(4) The requirements of subsections (2) and (3) of this section do not apply if:

- (a) The wastes meet the standards of 401 KAR 37:040; or
- (b) Persons have been granted an exemption from a prohibition pursuant to a petition under Section 6 of 401 KAR 37:010 with respect to those wastes and units covered by the petition; or
- (c) Persons have been granted an extension to the effective date of a prohibition pursuant to Section 5 of 401 KAR 37:010 with respect to those wastes covered by the extension.

Section 3. Waste Specific Prohibitions - California List Wastes. (1) Effective July 8, 1987, the following hazardous wastes are prohibited from land disposal (except in injection wells):

- (a) Liquid hazardous wastes having a pH less than or equal to two (2);
- (b) Liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to fifty (50) ppm;
- (c) Liquid hazardous wastes that are primarily water and contain halogenated organic compounds (HOCs) in total concentration greater than or equal to 1,000 mg/l and less than 10,000 mg/l HOCs.

(2) The requirements of subsections (1) and (3) of this section do not apply until:

(a) July 8, 1989, where the wastes are contaminated soil or debris not resulting from a response action taken under section 104 or 106 of CERCLA or a corrective action taken under KRS Chapter 224. Between July 8, 1987, and July 8, 1989, the wastes may be disposed of in a landfill or surface impoundment only if the disposal is in compliance with the requirements specified in Section 5(8)(b) of 401 KAR 37:010.

(b) November 8, 1990, where the wastes are contaminated soil or debris resulting from a response action taken under Section 104 or 106 of CERCLA or a corrective action taken under KRS Chapter 224 [PCRA]. Between November 8, 1988, and November 8, 1990, the

wastes may be disposed in a landfill or surface impoundment only if the unit is in compliance with the requirements specified in Section 5(8)(b) of 401 KAR 37:010.

(3) Effective November 8, 1988, the following hazardous wastes are prohibited from land disposal (subject to any administrative regulations that may be promulgated with respect to disposal in injection wells):

(a) Liquid hazardous wastes that contain HOCs in total concentration greater than or equal to 1,000 mg/l and are not prohibited under subsection (1)(c) of this section; and

(b) Nonliquid hazardous wastes containing HOCs in total concentration greater than or equal to 1,000 mg/kg and are not wastes described in subsection (2) of this section.

(4) Between July 8, 1987 and November 8, 1988, the wastes included in subsection (3)(a) and (b) of this section may be disposed in a landfill or surface impoundment only if the unit is in compliance with the requirements specified in Section 5(8)(b) of 401 KAR 37:010.

(5) The requirements of subsections (1), (2), and (3) of this section do not apply if:

(a) Persons have been granted an exemption from a prohibition pursuant to a petition under Section 6 of 401 KAR 37:010, with respect to those wastes and units covered by the petition (except for liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to 500 ppm which are not eligible for such exemptions); or

(b) Persons have been granted an extension to the effective date of a prohibition pursuant to Section 5 of 401 KAR 37:010, with respect to those wastes covered by the extension; or

(c) The wastes meet the applicable standards specified in 401 KAR 37:040 or, where treatment standards are not specified, the wastes are in compliance with the applicable prohibitions set forth in this section or KRS 224.46-520.

(6) The prohibitions and effective dates specified in subsections (1)(c), (2), and (3) of this section do not apply where the waste is subject to 401 KAR 37:030 prohibition and effective date for a specified HOC (such as a hazardous waste chlorinated solvent, for example Section 2(1) of this administrative regulation).

(7)(a) To determine whether or not a waste is a liquid under subsections (1) and (3) of this section and under KRS 224.46-520 the following test shall be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846, incorporated in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010.

~~[(b) The paint filter liquids test, Method 9095 in the EPA publication SW-846, is being incorporated by reference into this section. Publication SW-846 is available from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161, (703) 487-4600. This material is also available from the Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-6716, between 8 a.m. and 4:30 p.m., local time, Monday through Friday.]~~

(8) Except as otherwise provided in this paragraph, the waste analysis and recordkeeping requirements of Section 7 of 401 KAR 37:010 are applicable to wastes prohibited under this chapter or KRS 224.46-520.

(a) The initial generator of a liquid hazardous waste shall test his waste (not an extract or filtrate) in accordance with the procedures specified in Section 3(1)(a) of 401 KAR 31:030, or use knowledge of the waste, to determine if the waste has a pH less than or equal to two (2). If the liquid waste has a pH less than or equal to two (2), it is restricted from land disposal and all requirements of 401 KAR Chapter 37 are applicable, except as otherwise specified in this section.

(b) The initial generator of either a liquid hazardous waste containing PCBs or a liquid or nonliquid hazardous waste containing halogenated organic compounds (HOCs) shall test his waste (not an extract or filtrate), or use knowledge of the waste, to determine



whether the concentration levels in the waste equal or exceed the prohibition levels specified in this section. If the concentration of PCBs or HOCs in the waste is greater than or equal to the prohibition levels specified in this section, the waste is restricted from land disposal and all requirements of 401 KAR Chapter 37 are applicable, except as otherwise specified in this section.

Section 4. Waste Specific Prohibitions - First Third Wastes. (1) Effective August 8, 1988, the wastes specified in Section 3 of 401 KAR 31:040 as EPA Hazardous Waste Nos. F006 (nonwastewater), K001, K004 wastes specified in Section 2 of 401 KAR 37:040, K008 wastes specified in Section 2 of 401 KAR 37:040, K016, K018, K019, K020, K021 wastes specified in Section 2 of 401 KAR 37:040, K022 (nonwastewater), K024, K025 nonwastewaters specified in Section 3 of 401 KAR 37:040, K030, K036 (nonwastewater), K037, K044, K045, nonexplosive K046 (nonwastewater), K047, K060 (nonwastewater), K061 (nonwastewaters containing less than fifteen (15) percent zinc), K062, non  $\text{CaSO}_4$ , K069 (nonwastewaters), K086 (solvent washes), K087, K099, K100 nonwastewaters specified in Section 2 of 401 KAR 37:040, K101 (wastewater), K101 (nonwastewater, low arsenic subcategory - less than one (1) percent total arsenic), K102 (wastewater), K102 (nonwastewater, low arsenic subcategory - less than one (1) percent total arsenic), K103, and K104 are prohibited from land disposal (except in an injection well). Effective August 8, 1988, and continuing until August 7, 1990, K061 wastes containing fifteen (15) percent zinc or greater are prohibited from land disposal pursuant to the treatment standards specified in Section 2 of 401 KAR 37:040 applicable to K061 wastes that contain less than fifteen (15) percent zinc.

(2) Effective August 8, 1990, the wastes specified in Section 3 of 401 KAR 31:040 as EPA Hazardous Waste No. K071 is prohibited from land disposal.

(3) Effective August 8, 1990, the wastes specified in Section 10(1) of 401 KAR 37:010 having a treatment standard in 401 KAR 37:040 based on incineration and which are contaminated soil and debris are prohibited from land disposal.

(4) Between November 8, 1988, and August 8, 1990, wastes included in subsections (2) and (3) of this section may be disposed of in a landfill or surface impoundment only if the unit is in compliance with the requirements specified in Section 5(8)(b) of 401 KAR 37:010.

(5) The requirements of subsections (1), (2), (3), and (4) of this section do not apply if:

(a) The wastes meet the applicable standards specified in 401 KAR 37:040; or

(b) Persons have been granted an exemption from a prohibition pursuant to a petition under Section 6 of 401 KAR 37:010, with respect to those wastes and units covered by the petition; or

(c) Persons have been granted an extension to the effective date of a prohibition pursuant to Section 5 of 401 KAR 37:010, with respect to those wastes covered by the extension.

(6) Between August 8, 1988, and May 8, 1990, the wastes specified in Section 10(1) of 401 KAR 37:010 for which treatment standards under 401 KAR 37:040 are not promulgated, including those wastes which are subject to the statutory prohibitions of KRS 224.46-520 or prohibitions under Section 3 of 401 KAR 37:030, but not including wastes subject to a treatment standard under Section 3 of 401 KAR 37:040 or codified prohibitions under Section 3 of this administrative regulation, or wastes subject to a treatment standard under Section 3 of 401 KAR 37:040, are prohibited from disposal in a landfill or surface impoundment unless a demonstration and certification have been submitted pursuant to Section 8 of 401 KAR 37:010.

(7) To determine whether a hazardous waste listed in Section 10(1) of 401 KAR 37:010 exceeds the applicable treatment standards specified in Sections 2 and 3 of 401 KAR 37:040, the initial generator shall test a representative sample of the waste extract or the entire waste depending on whether the treatment standards are expressed

as concentrations in the waste extract or the waste or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable sections of 401 KAR 37:040 levels, the waste is prohibited from land disposal and all requirements of 401 KAR Chapter 37 are applicable, except as otherwise specified.

Section 5. Waste Specific Prohibitions - Second Third Wastes. (1) Effective June 8, 1989, the wastes specified in Section 2 of 401 KAR 31:040 as EPA Hazardous Waste Nos. F010, F024, the wastes specified in Section 3 of 401 KAR 31:040 as EPA Hazardous Waste Nos. K005, K007, K009 (nonwastewaters), K010, K023, K027, K028, K029 (nonwastewaters), K036 (wastewaters), K038, K039, K040, K043, K093, K094, K095 (nonwastewaters), K096 (nonwastewaters), K113, K114, K115, K116, and the wastes specified in 401 KAR 31:040, Section 4 as EPA Hazardous Waste Nos. P013, P021, P029, P030, P039, P040, P041, P043, P044, P062, P063, P071, P074, P085, P089, P094, P097, P098, P099, P104, P106, P109, P111, P121, U028, U058, U069, U087, U088, U102, U107, U221, U223, and U235 are prohibited from land disposal.

(2) Effective June 8, 1989, the wastes specified in Section 3 of 401 KAR 31:040 as EPA Hazardous Waste Nos. K009 (wastewaters), K011 (nonwastewaters), K013 (nonwastewaters), and K014 (nonwastewaters) are prohibited from land disposal except when they are underground injected pursuant to 40 CFR 148.14(f) and 148.15(d).

(3) Effective July 8, 1989, the wastes specified in Section 2 of 401 KAR 31:040 as EPA Hazardous Waste Nos. F006-cyanide (nonwastewater), F008, F009, F011 (wastewaters) are prohibited from land disposal.

(a) Effective July 8, 1989, the waste specified in Section 2 of 401 KAR 31:040 as EPA Hazardous Waste No. F007 is prohibited from land disposal except when it is underground injected pursuant to 40 CFR 148.14(f).

(b) Effective July 8, 1989, and continuing until December 8, 1989, F011 (nonwastewaters) and F012 (nonwastewaters) are prohibited from land disposal pursuant to the treatment standards specified in Sections 2 and 5 of 401 KAR 37:040 applicable to F007, F008, and F009 (nonwastewaters). Effective December 8, 1989, F011 (nonwastewaters) and F012 (nonwastewaters) are prohibited from land disposal pursuant to the treatment standards specified in Sections 2 and 5 of 401 KAR 37:040 applicable to F011 (nonwastewaters), and F012 (nonwastewaters).

(4) Effective June 8, 1991, the wastes specified in this section having a treatment standard in 401 KAR 37:040 based on incineration, and which are contaminated soil and debris are prohibited from land disposal.

(5) Between June 8, 1989, and June 8, 1991 (for wastes F007, F008, F009, F011, and F012 between June 8, 1989, and July 8, 1989) wastes included in subsections (3) and (4) of this section may be disposed in a landfill or surface impoundment, regardless of whether the unit is a new, replacement, or lateral expansion unit, only if the unit is in compliance with the technical requirements specified in Section 5(8)(b) of 401 KAR 37:010.

(6) The requirements of subsections (1), (2), (3), and (4) of this section do not apply if:

(a) The wastes meet the applicable standards specified in 401 KAR 37:040; or

(b) Persons have been granted an exemption from a prohibition pursuant to a petition under Section 6 of 401 KAR 37:010, with respect to those wastes and units covered by the petition.

(7) The requirements of subsections (1), (2), and (3) of this section do not apply if persons have been granted an extension to the effective date of a prohibition pursuant to Section 5 of 401 KAR 37:010 with respect to those wastes covered by the extension.

(8) Between June 8, 1989, and May 8, 1990, the wastes specified in Section 10(1) of 401 KAR 37:010 for which treatment standards under 401 KAR 37:040 are not applicable, including California list wastes subject to the sanctuary prohibitions of Section 4 of this

administrative regulation, are prohibited from disposal in a landfill or surface impoundment unless the wastes are the subject of a valid demonstration and certification pursuant to Section 8 of 401 KAR 37:010.

(9) To determine whether a hazardous waste listed in Section 10 of 401 KAR 37:010 exceeds the applicable treatment standards specified in Sections 2 and 5 of 401 KAR 37:040, the initial generator shall test a representative sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable 401 KAR 37:040 levels, the waste is prohibited from land disposal and all requirements of 401 KAR Chapter 37 are applicable, except as otherwise specified.

Section 6. Waste Specific Prohibitions - Third Wastes. (1) Effective August 8, 1990, the following wastes are prohibited from land disposal: wastes specified in Section 2 of 401 KAR 31:040 as EPA Hazardous Waste Numbers F002 (1,1,2-trichloroethane), F005 (benzene), F005 (2-ethoxy ethanol), F005 (2-nitropropane), F006 (wastewaters), F019, F025, and F039 (wastewaters); the wastes specified in Section 3 of 401 KAR 31:040 as EPA Hazardous Waste Numbers K002, K003, K004 (wastewaters), K005 (wastewaters), K006, K008 (wastewaters), K011 (wastewaters), K013 (wastewaters), K014 (wastewaters), K015 (nonwastewaters), K017, K021 (wastewaters), K022 (wastewaters), K025 (wastewaters), K026, K029 (wastewaters), K031 (wastewaters), K032, K033, K034, K035, K041, K042, K046 (wastewaters, reactive nonwastewaters), K048 (wastewaters), K049 (wastewaters), K050 (wastewaters), K051 (wastewaters), K052 (wastewaters), K060 (wastewaters), K061 (wastewaters) and (high zinc subcategory > 15% zinc), K069 (wastewaters, calcium sulfate nonwastewaters), K073, K083, K084 (wastewaters), K085, K095 (wastewaters), K096 (wastewaters), K097, K098, K100 (wastewaters), K101 (wastewaters), K102 (wastewaters), K105, and K106 (wastewaters); the wastes specified in Section 4 of 401 KAR 31:040 as EPA Hazardous Waste Numbers P001, P002, P003, P004, P005, P006, P007, P008, P009, P010 (wastewaters), P011 (wastewaters), P012 (wastewaters), P014, P015, P016, P017, P018, P020, P022, P023, P024, P026, P027, P028, P031, P033, P034, P036 (wastewaters), P037, P038 (wastewaters), P042, P045, P046, P047, P048, P049, P050, P051, P054, P056, P057, P058, P059, P060, P064, P065 (wastewaters), P066, P067, P068, P069, P070, P072, P073, P075, P076, P077, P078, P081, P082, P084, P088, P092 (wastewaters), P093, P095, P096, P101, P102, P103, P105, P108, P110, P112, P113, P114, P115, P116, P118, P119, P120, P122, and P123; and the wastes specified in Section 4(6) of 401 KAR 31:040 as EPA Hazardous Waste Numbers U001, U002, U003, U004, U005, U006, U007, U008, U009, U010, U011, U012, U014, U015, U016, U017, U018, U019, U020, U021, U022, U023, U024, U025, U026, U027, U029, U030, U031, U032, U033, U034, U035, U036, U037, U038, U039, U041, U042, U043, U044, U045, U046, U047, U048, U049, U050, U051, U052, U053, U055, U056, U057, U059, U060, U061, U062, U063, U064, U066, U067, U068, U070, U071, U072, U073, U074, U075, U076, U077, U078, U079, U080, U081, U082, U083, U084, U085, U086, U089, U090, U091, U092, U093, U094, U095, U096, U097, U098, U099, U101, U103, U105, U106, U108, U109, U110, U111, U112, U113, U114, U115, U116, U117, U118, U119, U120, U121, U122, U123, U124, U125, U126, U127, U128, U129, U130, U131, U132, U133, U134, U135, U136 (wastewaters), U137, U138, U140, U141, U142, U143, U144, U145, U146, U147, U148, U149, U150, U151 (wastewaters), U152, U153, U154, U155, U156, U157, U158, U159, U160, U161, U162, U163, U164, U165, U166, U167, U168, U169, U170, U171, U172, U173, U174, U176, U177, U178, U179, U180, U181, U182, U183, U184, U185, U186, U187, U188, U189, U191, U192, U193, U194, U196, U197, U200, U201, U202, U203, U204, U205, U206, U207, U208, U209, U210, U211, U213, U214, U215, U216, U217, U218, U219, U220, U222,

U225, U226, U227, U228, U234, U236, U237, U238, U239, U240, U243, U244, U246, U247, U248, U249; and the following wastes identified as hazardous based on a characteristic alone: D001, D002, D003, D004 (wastewaters), D005, D006, D007, D008 (except for lead materials stored before secondary smelting), D009 (wastewaters), D010, D011, D012, D013, D014, D015, D016, and D017.

(2) Effective November 8, 1990, the wastes specified in Section 3 of 401 KAR 31:040 as EPA Hazardous Waste Numbers K048 (nonwastewaters), K049 (nonwastewaters), K050 (nonwastewaters), K051 (nonwastewaters), and K052 (nonwastewaters) are prohibited from land disposal.

(3) Effective May 8, 1992, the following wastes are prohibited from land disposal: wastes specified in Section 2 of 401 KAR 31:040 as EPA Hazardous Waste Numbers F039 (nonwastewaters); the wastes specified in Section 3 of 401 KAR 31:040 as EPA Hazardous Waste Numbers K031 (nonwastewaters); K084 (nonwastewaters); K101 (nonwastewaters); K102 (nonwastewaters); K106 (nonwastewaters); the wastes specified in Section 5(5) of this administrative regulation as EPA Hazardous Waste Numbers P010 (nonwastewaters); P011 (nonwastewaters); P012 (nonwastewaters); P036 (nonwastewaters); P038 (nonwastewaters); P065 (nonwastewaters); P087; and P092 (nonwastewaters); the wastes specified in Section 5(6) of this administrative regulation as EPA Hazardous Waste Numbers U136 (nonwastewaters); and U151 (nonwastewaters); the following wastes identified as hazardous based on a characteristic alone: D004 (nonwastewaters); and D009 (nonwastewaters); ~~inorganic solid debris as defined in Section 2(7) of 401 KAR 37:010 which also applies to chromium refractory bricks carrying the EPA Hazardous Waste Numbers K048-K052;~~ and RCRA hazardous wastes that contain naturally occurring radioactive materials.

(4) Effective May 8, 1992, hazardous wastes listed in Section 10 of 401 KAR 37:010 that are mixed radioactive and hazardous wastes ~~and soil or debris contaminated with hazardous wastes listed in Section 10 of 401 KAR 37:010 that are mixed radioactive and hazardous wastes;~~ are prohibited from land disposal except as provided in subsection (5) of this section.

(5) Subject to applicable prohibitions in Sections 1 through 3 of this administrative regulation, contaminated soil and debris are prohibited from land disposal as follows:

(a) Effective May 8, 1994 debris that is contaminated with wastes listed in 40 CFR 268.12, adopted in Section 10 of 401 KAR 37:010, and debris that is contaminated with any characteristic waste for which treatment standards are established in 401 KAR 37:040, are prohibited from land disposal.

(b) Effective May 8, 1994, mixed radioactive hazardous debris that is contaminated with wastes listed in 40 CFR 268.12, adopted in Section 10 of 401 KAR 37:010, and mixed radioactive hazardous debris that is contaminated with any characteristic waste for which treatment standards are established in 401 KAR 37:040, are prohibited from land disposal.

(c) Paragraphs (a) and (b) of this subsection do not apply where the generator has failed to make a good-faith effort to locate treatment capacity suitable for its waste, has not utilized such capacity as it has found to be available, or has failed to file a report as required by Section 5(7) of 401 KAR 37:010 by August 12, 1993, or within ninety (90) days after the hazardous waste is generated (whichever is later) describing the generator's efforts to locate treatment capacity. Where paragraphs (a) and (b) of this subsection do not apply, all wastes described in these paragraphs are prohibited from land disposal effective May 8, 1993.

(d) Effective May 8, 1993, hazardous soil contaminated with wastes specified in this section having treatment standards in 401 KAR 37:040 based on incineration, mercury retorting or vitrification, and soils contaminated with hazardous wastes listed in Section 10 of 401 KAR 37:010 that are mixed radioactive hazardous wastes, are prohibited from land disposal.

(e) When used in Subsection (5)(a) and (b) of this section, debris

is defined as follows:

1. Debris as defined in Section 1 of 401 KAR 37:010; or
2. Nonfriable inorganic solids that are incapable of passing through a nine and five-tenths (9.5) mm standard sieve that require cutting, or crushing and grinding in mechanical sizing equipment prior to stabilization, limited to the following inorganic or metal materials:
  - a. Metal slags (either dross or scoria);
  - b. Glassified slag;
  - c. Glass;
  - d. Concrete (excluding cementitious or pozzolanic stabilized hazardous wastes);
  - e. Masonry and refractory bricks;
  - f. Metal cans, containers, drums, or tanks;
  - g. Metal nuts, bolts, pipes, pumps, valves, appliances, or industrial equipment; and

h. Scrap metal. [Effective May 8, 1993, debris that is contaminated with wastes listed in Section 10 of 401 KAR 37:010, and debris that is contaminated with any characteristic waste for which treatment standards are established in 401 KAR 37:040, are prohibited from land disposal.]

(6) Between May 8, 1990 and August 8, 1990, the wastes included in subsection (1) of this section may be disposed of in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in Section 5(8)(b) of 401 KAR 37:010.

(7) Between May 8, 1990 and November 8, 1990, wastes included in subsection (2) of this section may be disposed of in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in Section 5(8)(b) of 401 KAR 37:010.

(8) Between May 8, 1990, and May 8, 1992, wastes included in subsections (3), (4), and (5) of this section may be disposed of in a landfill or surface impoundment only if the unit is in compliance with the requirements specified in Section 5(8)(b) of 401 KAR 37:010.

(9) The requirements of subsections (1) to (5) of this section do not apply if:

(a) The wastes meet the applicable alternate standards specified in 401 KAR 37:040;

(b) Persons have been granted an exemption from a prohibition pursuant to a petition under Section 6 of 401 KAR 37:010 with respect to those wastes and units covered by the petition;

(c) The wastes meet the applicable alternate standards established pursuant to a petition granted under Section 4 of 401 KAR 37:040; or

(d) Persons have been granted an extension to the effective date of a prohibition pursuant to Section 5 of 401 KAR 37:010 with respect to these wastes covered by the extension.

(10) To determine whether a hazardous waste listed in Section 10 of 401 KAR 37:010 exceeds the applicable treatment standards specified in Section 2 of 401 KAR 37:040 and Section 6 of 401 KAR 37:010 the initial generator shall test a representative sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentration in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable 401 KAR 37:040 levels, the waste is prohibited from land disposal, and all requirements of 401 KAR Chapter 37 are applicable, except as otherwise specified.

(11) Effective May 8, 1993, D008 lead materials stored before secondary smelting are prohibited from land disposal. On or before March 1, 1993, the owner or operator of each secondary lead smelting facility shall submit the following to the cabinet: A binding contractual commitment to construct or otherwise provide capacity for storing such D008 wastes prior to smelting which complies with all applicable storage standards; documentation that the capacity to be provided will be sufficient to manage the entire quantity of such D008 wastes; and a detailed schedule for providing such capacity. Failure by a facility to submit such documentation shall render such D008 wastes managed by that facility prohibited from land disposal effective

March 1, 1993. In addition, no later than July 27, 1992 the owner or operator of each facility shall place in the facility record documentation of the manner and location in which such wastes will be managed pending completion of such capacity, demonstrating that such management capacity will be adequate and complies with all applicable requirements in 401 KAR Chapters 30-39.

Section 7. Waste Specific Prohibitions - Newly Listed Wastes. (1) Effective November 9, 1992, the wastes specified in Section 3 of 401 KAR 31:040 as EPA Hazardous Waste Numbers K107, K108, K109, K110, K111, K112, K117, K118, K123, K124, K125, K126, K131, K132, and K136; and the wastes specified in Section 4(6) of 401 KAR 31:040 as EPA Hazardous Waste numbers U328, U353, and U359 are prohibited from land disposal.

(2) Effective June 30, 1993, the wastes specified in Section 2 of 401 KAR 31:040 as EPA Hazardous Waste Numbers F037 and F038 that are not generated from surface impoundment cleanouts or closures are prohibited from land disposal.

(3) Effective June 30, 1994, the wastes specified in Section 2 of 401 KAR 31:040 as EPA Hazardous Waste Numbers F037 and F038 that are generated from surface impoundment cleanouts or closures are prohibited from land disposal.

(4) Effective June 30, 1994, radioactive wastes that are mixed with hazardous wastes specified in Section 2 of 401 KAR 31:040 as EPA Hazardous Waste Numbers F037 and F038; the wastes specified in Section 3 of 401 KAR 31:040 as EPA Hazardous Waste Numbers K107, K108, K109, K110, K111, K112, K117, K118, K123, K124, K125, K126 K131, K132, and K136; or the wastes specified in Section 4(6) of 401 KAR 31:040 as EPA Hazardous Waste Numbers U328, U353, and U359 are prohibited from land disposal.

(5) Effective June 30, 1994, debris contaminated with hazardous wastes specified in Section 2 of 401 KAR 31:040 as EPA Hazardous Waste Numbers F037 and F038; the wastes specified in Section 3 of 401 KAR 31:040 as EPA Hazardous Waste Numbers K107, K108, K109, K110, K111, K112, K117, K118, K123, K124, K125, K126 K131, K132, and K136; or the wastes specified in Section 4(6) of 401 KAR 31:040 as EPA Hazardous Waste Numbers U328, U353, and U359; and which is not contaminated with any other waste already subject to a prohibition are prohibited from land disposal.

(6) Between June 30, 1992 and June 30, 1993, the wastes included in subsection (2) of this section may be disposed of in a landfill, only if such unit is in compliance with the requirements specified in Section 5(8)(b) of 401 KAR 37:010, and may be generated in and disposed of in a surface impoundment only if such unit is in compliance with either Section 5(8)(b) of 401 KAR 37:010 or Section 11 of 401 KAR 37:010.

(7) Between June 30, 1992 and June 30, 1994, the wastes included in subsections (4) and (5) of this section may be disposed of in a landfill only if such unit is in compliance with the requirements specified in Section 5(8)(b) of 401 KAR 37:010, and may be generated in and disposed of in a surface impoundment only if such unit is in compliance with either Section 5(8)(b) of 401 KAR 37:010 or Section 11 of 401 KAR 37:010.

(8) The requirements of subsections (1) through (5) of this section do not apply if:

(a) The wastes meet the applicable standards specified in 401 KAR 37:040;

(b) Persons have been granted an exemption from a prohibition pursuant to a petition under Section 6 of 401 KAR 37:010, with respect to those wastes and units covered by the petition;

(c) The wastes meet the applicable alternate standards established pursuant to a petition granted under Section 4 of 401 KAR 37:040; or

(d) Persons have been granted an extension to the effective date of a prohibition pursuant to Section 5 of 401 KAR 37:010, with respect to the wastes covered by the extension.

(9) To determine whether a hazardous waste identified in this

section exceeds the applicable treatment standards specified in Sections 2 and 5 of 401 KAR 37:010, the initial generator shall test a representative sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable levels in 401 KAR 37:040, the waste is prohibited from land disposal, and all requirements of 401 KAR Chapter 37 are applicable, except as otherwise specified.

Section 8. Waste Specific Prohibitions - Ignitable and Corrosive Characteristic Wastes Whose Treatment Standards Were Vacated.

(1) Effective August 9, 1993, the wastes specified in Section 2 of 401 KAR 31:030 as D001 ( and not in the High TOC Ignitable Liquids Subcategory), and specified in Section 3 of 401 KAR 31:030 as D002, that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that inject in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for cyanide, precipitation or sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies.

(2) Effective February 10, 1994, the wastes specified in Section 2 of 401 KAR 31:030 as D001 ( and not in the High TOC Ignitable Liquids Subcategory), and specified in Section 3 of 401 KAR 31:030 as D002, that are managed in systems defined in 40 CFR 144.6(e) and 146(e) as Class V injection wells, that do not engage in CWA-equivalent treatment before injection, are prohibited from land disposal.

Section 9. Waste Specific Prohibitions - Newly Identified Organic Toxicity Characteristic Wastes and Newly Listed Coke By-Product and Chlorotoluene Production Wastes.

(1) Effective December 19, 1994, the wastes specified in Section 3 of 401 KAR 31:040 as EPA Hazardous Waste numbers K141, K142, K143, K144, K145, K147, K148, K149, K150, and K151 are prohibited from land disposal. In addition, debris contaminated with EPA Hazardous Waste numbers F037, F038, K107-K112, K117, K118, K123-K126, K131, K132, K136, U328, U353, U359, and soil and debris contaminated with D012-D043, K141-K145, and K147-K151 are prohibited from land disposal. The following wastes that are specified in Section 5 of 401 KAR 31:030, Table 1 as EPA Hazardous Waste numbers: D012, D013, D014, D015, D016, D017, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D031, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043 that are not radioactive, or that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that are zero dischargers that do not engage in CWA-equivalent treatment before ultimate land disposal, or that are injected in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), are prohibited from land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for cyanide, precipitation/ sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or better than these technologies.

(2) On September 19, 1996, radioactive wastes that are mixed with D018-D043 that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that inject in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for

cyanide, precipitation/ sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies. Radioactive wastes mixed with K141-K145, and K147-K151 are also prohibited from land disposal. In addition, soil and debris contaminated with these radioactive mixed wastes are prohibited from land disposal.

(3) Between December 19, 1994 and September 19, 1996, the wastes included in subsection (2) of this section may be disposed in a landfill or surface impoundment, only if such unit is in compliance with the requirements specified in Section 5(8)(b) of 401 KAR 37:010.

(4) The requirements of subsections (1), (2), and (3) of this section do not apply if:

(a) The wastes meet the applicable treatment standards specified in 401 KAR 37:040;

(b) Persons have been granted an exemption from a prohibition pursuant to a petition under Section 6 of 401 KAR 37:010, with respect to those wastes and units covered by the petition;

(c) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under Section 4 of 401 KAR 37:040; or

(d) Persons have been granted an extension to the effective date of a prohibition pursuant to Section 5 of 401 KAR 37:010, with respect to these wastes covered by the extension.

(5) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in Section 1 of 401 KAR 37:040, the initial generator shall test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable 401 KAR 37:040 levels, the waste is prohibited from land disposal, and all requirements of this chapter are applicable, except as otherwise specified.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be

## ADMINISTRATIVE REGISTER - 815

submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect persons who land dispose specific hazardous wastes.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff will have an increased workload in order to process the newly regulated entities. The increase in workload will also increase costs.

2. Continuing costs or savings: Once the new entities are processed, there should not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and environmental welfare will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, detrimental effects could occur without the implementation of this regulation.

c. If detrimental effect would result, explain detrimental effect: This administrative regulation identifies wastes that should not be disposed on the land. Harmful wastes could be disposed of on land without the implementation of this regulation.

10. Identify any statute, administrative regulation, or government

policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Tiering is applied to all of Kentucky's waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes to the prohibitions on land disposal. The changes are necessary to maintain consistency between state and federal programs. Additions and exclusions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that land disposes certain specified wastes.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies applicable to this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None



**NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET**  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)

**401 KAR 37:040. Treatment standards.**

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 CFR 268 Subpart D

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-505, 224.46-520, 224.46-530

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-505, 224.46-520, and 224.46-530, relative to hazardous waste standards. This administrative regulation supersedes and replaces 401 KAR 37:100.

Section 1. Applicability of Treatment Standards. (1) A waste identified in the table "Treatment Standards for Hazardous Wastes" may be land disposed only if it meets the requirements found in the table. For each waste, the table identifies one (1) of three (3) types of treatment standard requirements:

(a) All hazardous constituents in the waste or in the treatment residue must be at or below the values found in the table for that waste ("total waste standards"); or

(b) The hazardous constituents in the extract of the waste or in the extract of the treatment residue must be at or below the values found in the table ("waste extract standards"); or

(c) The waste must be treated using the technology specified in the table ("technology standard"), which are described in detail in Section 3 of this administrative regulation, Table 1-Technology Codes and Description of Technology-Based Standards.

(2) For wastewaters, compliance with concentration level standards is based on maximums for any one day, except for D004 through D011 wastes for which the previously promulgated treatment standards based on grab samples remain in effect. For all nonwastewaters, compliance with concentration level standards is based on grab sampling. For wastes covered by the waste extract standards, the test Method 1311, the Toxicity Characteristic Leaching Procedure found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, incorporated in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010, must be used to measure compliance. An exception is made for D004 and D008, for which either of two (2) test methods may be used: Method 1311, or Method 1310, the Extraction Procedure Toxicity Test. For wastes covered by a technology standard, the wastes may be land disposed after being treated using that specified technology or an equivalent treatment technology approved by the cabinet under the procedures set forth in Section 3(2) of this administrative regulation.

(3) When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue must meet the lowest treatment standard for the constituent of concern.

(4) Notwithstanding the prohibitions specified in subsection (1) of this section, treatment and disposal facilities may demonstrate (and certify pursuant to Section 7(2)(e) of 401 KAR 37:010) compliance with the treatment standards for organic constituents specified by a footnote in the table "Treatment Standards for Hazardous Wastes" in this section, provided the following conditions are satisfied:

(a) The treatment standards for the organic constituents were established based on incineration in units operated in accordance with the technical requirements of 401 KAR 34:240, or based on combustion in fuel substitution units operating in accordance with applicable technical requirements;

(b) The treatment or disposal facility has used the methods referenced in paragraph (a) of this subsection to treat the organic constituents; and

(c) The treatment or disposal facility may demonstrate compliance with organic constituents if good-faith analytical efforts achieve detection limits for the regulated organic constituents that do not exceed the treatment standards specified in this section by an order of magnitude.

(5) For characteristic wastes D001, D002, and D012-D043 that are subject to treatment standards in the following table "Treatment Standards for Hazardous Wastes," all underlying hazardous constituents (included in 40 CFR 260.11, adopted in Section 3 of 30:010) must meet Universal Treatment Standards, found in Section 8 of this administrative regulation, Table UTS, prior to land disposal.

(6) The treatment standards for F001-F005 nonwastewater constituents carbon disulfide, cyclohexanone, and/or methanol apply to wastes which contain only one (1), two (2), or three (3) of these constituents. Compliance is measured for these constituents in the waste extract from test Method 1311, the Toxicity Characteristic Leaching Procedure found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, incorporated in 40 CFR 260.11, which is adopted in Section 3 of 30:010. If the waste contains any of these three (3) constituents along with any of the other twenty-five (25) constituents found in F001-F005, then compliance with treatment standards for carbon disulfide, cyclohexanone, and/or methanol are not required.

Treatment Standards for Hazardous Wastes

Note: The treatment standards that appeared in tables in Section 2, 5, and 7, and Tables 2 and 3 of Section 3 of this administrative regulation have been consolidated into the table "Treatment Standards for Hazardous Wastes" in this section.

TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>  | REGULATED HAZARDOUS CONSTITUENT |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|--|---------------------------------|-------------------------|---|---|
|            |  | Common Name                     | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| D001       | Ignitable Characteristic Wastes, except for the Section 2(1)(a) of 401 KAR 31:030 High TOC Subcategory, that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems. | NA                              | NA                      | DEACT and meet Section 8 standards; or RORGS; or CMBST            | DEACT and meet Section 8 standards; or RORGS; or CMBST                              |
|            | Ignitable Characteristic Wastes, except for the Section 2(1)(a) of 401 KAR 31:030 High TOC Subcategory, that are managed in CWA/CWA-equivalent/Class I SDWA systems              | NA                              | NA                      | DEACT   | DEACT   |



# ADMINISTRATIVE REGISTER - 817

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code   | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>   | REGULATED HAZARDOUS CONSTITUENT                                    |                         | WASTEWATERS   | NONWASTEWATERS  |
|--|---|--|-------------------------|---|---|
|  |   | Common Name  | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|  | High TOC Ignitable Characteristic Liquids Subcategory based on Section 2(1)(a) of 401 KAR 31:030 - Greater than or equal to 10% total organic carbon. (Note: This subcategory consists of nonwastewaters only.) | NA   | NA                      | NA  | RORGS; or CMBST   |
| D002   | Corrosive Characteristic Wastes that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems.  | NA   | NA                      | DEACT and meet Section 8 standards                                | DEACT and meet Section 8 standards  |
|  | Corrosive Characteristic Wastes that are managed in CWA, CWA equivalent, or Class I SDWA systems.   | NA   | NA                      | DEACT   | DEACT   |
| D002, D004, D005, D006, D007, D008, D009, D010, D011 | Radioactive high level wastes generated during the reprocessing of fuel rods. (Note: This subcategory consists of nonwastewaters only.)   | Corrosivity (pH)   | NA                      | NA  | HLVIT   |
|  |   | Arsenic  | 7440-38-2               | NA  | HLVIT   |
|  |   | Barium   | 7440-39-3               | NA  | HLVIT   |
|  |   | Cadmium  | 7440-43-9               | NA  | HLVIT   |
|  |   | Chromium (Total)   | 7440-47-3               | NA  | HLVIT   |
|  |   | Lead   | 7439-92-1               | NA  | HLVIT   |
|  |   | Mercury  | 7439-87-6               | NA  | HLVIT   |
|  |   | Selenium   | 7782-49-2               | NA  | HLVIT   |
|  |   | Silver   | 7440-22-4               | NA  | HLVIT   |
| D003   | Reactive Sulfides Subcategory based on Section 4(1)(e) of 401 KAR 31:030.   | NA   | NA                      | DEACT   | DEACT   |
|  | Explosive subcategory based on Section 4(1)(f) through (h) of 401 KAR 31:030.   | NA   | NA                      | DEACT   | DEACT   |
|  | Other Reactives Subcategory based on Section 4(1)(a) of 401 KAR 31:030.   | NA   | NA                      | DEACT   | DEACT   |
|  | Water Reactive Subcategory based on Section 4(1)(b) through (d) of 401 KAR 31:030. (Note: This subcategory consists of nonwastewaters only.)  | NA   | NA                      | NA  | DEACT   |
|  | Reactive Cyanides Subcategory based on Section 4(1)(c) of 401 KAR 31:030.   | Cyanides (Total) <sup>7</sup>                                      | 57-12-5                 | Reserved  | 590   |
|  |   | Cyanides (Amenable) <sup>7</sup>                                   | 57-12-5                 | 0.86  | 30  |
| D004   | Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for arsenic based on the extraction procedure (EP) in SW846 Method 1310.  | Arsenic  | 7440-38-2               | 5.0   | 5.0 mg/l EP   |
|  |   | Arsenic; alternate <sup>6</sup> standard for non-wastewaters only. | 7440-38-2               | NA  | 5.0 mg/l TCLP   |
| D005   | Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for barium based on the extraction procedure (EP) in SW846 Method 1310.   | Barium   | 7440-39-3               | 100   | 100 mg/l TCLP   |
| D006   | Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for cadmium based on the extraction procedure (EP) in SW846 Method 1310.  | Cadmium  | 7440-43-9               | 1.0   | 1.0 mg/l TCLP   |
|  | Cadmium Containing Batteries Subcategory (Note: This subcategory consists of nonwastewaters only.)  | Cadmium  | 7440-43-9               | NA  | RTHRM   |
| D007   | Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for chromium based on the extraction procedure (EP) in SW846 Method 1310.   | Chromium (Total)   | 7440-47-3               | 5.0   | 5.0 mg/l TCLP   |

# ADMINISTRATIVE REGISTER - 818

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>  | REGULATED HAZARDOUS CONSTITUENT                               |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|--|---|-------------------------|---|---|
|            |  | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| D008       | Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for lead based on the extraction procedure (EP) in SW846 Method 1310.  | Lead  | 7439-92-1               | 5.0   | 5.0 mg/l EP   |
|            |  | Lead; alternate <sup>5</sup> standard for nonwastewaters only | 7439-92-1               | NA  | 5.0 mg/l TCLP   |
|            | Lead Acid Batteries Subcategory (Note: This standard only applies to lead acid batteries that are identified as RCRA hazardous wastes and that are not excluded elsewhere from regulation under the land disposal restrictions of 401 KAR Chapter 37 or exempted under other Kentucky regulations (401 KAR 36:070). (Note: This subcategory consists of nonwastewaters only.)  | Lead  | 7439-92-1               | NA  | RLEAD   |
|            | Radioactive Lead Solids Subcategory (Note: These lead solids include, but are not limited to, all forms of lead shielding and other elemental forms of lead. These lead solids do not include treatment residuals such as hydroxide sludges, other wastewater treatment residuals, or incinerator ashes that can undergo conventional pozzolanic stabilization, nor do they include organo-lead materials that can be incinerated and stabilized as ash.). (Note: This subcategory consists of nonwastewaters only.) | Lead  | 7439-92-1               | NA  | MACRO   |
| D009       | Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the extraction procedure (EP) in SW846 Method 1310; and contain greater than or equal to 260 mg/kg total mercury that also contain organics and are not incinerator residues. (High Mercury-Organic Subcategory)  | Mercury   | 7439-97-6               | NA  | IMERC; OR RMERC   |
|            | Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the extraction procedure (EP) in SW846 Method 1310; and contain greater than or equal to 260 mg/kg total mercury that are inorganic, including incinerator residues and residues from RMERC. (High Mercury-Inorganic Subcategory)   | Mercury   | 7439-97-6               | NA  | RMERC   |
|            | Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the extraction procedure (EP) in SW846 Method 1310; and contain less than 260 mg/kg total mercury. (Low Mercury Subcategory)  | Mercury   | 7439-97-6               | NA  | 0.20 mg/l TCLP  |
|            | All D009 wastewaters.  | Mercury   | 7439-97-6               | 0.20  | NA  |
|            | Elemental mercury contaminated with radioactive materials. (Note: This subcategory consists of nonwastewaters only.)   | Mercury   | 7439-97-6               | NA  | AMLGM   |
|            | Hydraulic oil contaminated with Mercury Radioactive Materials Subcategory. (Note: This subcategory consists of nonwastewaters only.)   | Mercury   | 7439-97-6               | NA  | IMERC   |
| D010       | Wastes that exhibit, or are expected to exhibit, the characteristic or toxicity for selenium based on the extraction procedure (EP) in SW846 Method 1310.  | Selenium  | 7782-49-2               | 1.0   | 5.7 mg/l TCLP   |
| D011       | Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for silver based on the extraction procedure (EP) in SW846 Method 1310.  | Silver  | 7440-22-4               | 5.0   | 5.0 mg/l TCLP   |

# ADMINISTRATIVE REGISTER - 819

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| <u>Waste Code</u> | <u>Waste Description and Treatment/Regulatory Subcategory<sup>1</sup></u>   | <u>REGULATED HAZARDOUS CONSTITUENT</u>        |                               | <u>WASTEWATERS</u>  | <u>NONWASTEWATERS</u>   |
|-------------------|---|---|-------------------------------|---|---|
|                   |   | <u>Common Name</u>                            | <u>CAS<sup>2</sup> Number</u> | <u>Concentration mg/l<sup>3</sup>; or Technology Code<sup>4</sup></u> | <u>Concentration in mg/kg<sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code</u> |
| <u>D012</u>       | <u>Wastes that are TC for Endrin based on the TCLP in SW846 Method 1311.</u>  | <u>Endrin</u>                                 | <u>72-20-8</u>                | <u>BIODG; or INCIN</u>  | <u>0.13 and meet Section 8 standards</u>  |
|                   |   | <u>Endrin aldehyde</u>                        | <u>7421-93-4</u>              | <u>BIODG; or INCIN</u>  | <u>0.13 and meet Section 8 standards</u>  |
| <u>D013</u>       | <u>Wastes that are TC for Lindane based on the TCLP in SW846 Method 1311.</u>   | <u>alpha-BHC</u>                              | <u>319-84-6</u>               | <u>CARB; or INCIN</u>   | <u>0.066 and meet Section 8 standards</u>   |
|                   |   | <u>beta-BHC</u>                               | <u>319-85-7</u>               | <u>CARB; or INCIN</u>   | <u>0.066 and meet Section 8 standards</u>   |
|                   |   | <u>delta-BHC</u>                              | <u>319-86-8</u>               | <u>CARB; or INCIN</u>   | <u>0.066 and meet Section 8 standards</u>   |
|                   |   | <u>gamma-BHC (Lindane)</u>                    | <u>58-89-9</u>                | <u>CARB; or INCIN</u>   | <u>0.066 and meet Section 8 standards</u>   |
| <u>D014</u>       | <u>Wastes that are TC for Methoxychlor based on the TCLP in SW846 Method 1311.</u>  | <u>Methoxychlor</u>                           | <u>72-43-5</u>                | <u>WETOX or INCIN</u>   | <u>0.18 and meet Section 8 standards</u>  |
| <u>D015</u>       | <u>Wastes that are TC for Toxaphene based on the TCLP in SW846 Method 1311.</u>   | <u>Toxaphene</u>                              | <u>8001-35-2</u>              | <u>BIODG or INCIN</u>   | <u>2.6 and meet Section 8 standards</u>   |
| <u>D016</u>       | <u>Wastes that are TC for 2,4-D (2,4-Dichlorophenoxyacetic acid) based on the TCLP in SW846 Method 1311.</u>  | <u>2,4-D (2,4-Dichlorophenoxyacetic acid)</u> | <u>94-75-7</u>                | <u>CHOXD, BIODG, or INCIN</u>   | <u>10 and meet Section 8 standards</u>  |
| <u>D017</u>       | <u>Wastes that are TC for 2,4,5-TP (Silvex) based on the TCLP in SW846 Method 1311.</u>   | <u>2,4,5-TP (Silvex)</u>                      | <u>93-72-1</u>                | <u>CHOXD or INCIN</u>   | <u>7.9 and meet Section 8 standards</u>   |
| <u>D018</u>       | <u>Wastes that are TC for Benzene based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.</u>              | <u>Benzene</u>                                | <u>71-43-2</u>                | <u>0.14 and meet Section 8 standards</u>                              | <u>10 and meet Section 8 standards</u>  |
| <u>D019</u>       | <u>Wastes that are TC for Carbon tetrachloride based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.</u> | <u>Carbon tetrachloride</u>                   | <u>56-23-5</u>                | <u>0.057 and meet Section 8 standards</u>                             | <u>6.0 and meet Section 8 standards</u>   |
| <u>D020</u>       | <u>Wastes that are TC for Chlordane based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.</u>            | <u>Chlordane (alpha and gamma isomers)</u>    | <u>57-74-9</u>                | <u>0.0033 and meet Section 8 standards</u>                            | <u>0.26 and meet Section 8 standards</u>  |
| <u>D021</u>       | <u>Wastes that are TC for Chlorobenzene based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.</u>        | <u>Chlorobenzene</u>                          | <u>108-90-7</u>               | <u>0.057 and meet Section 8 standards</u>                             | <u>6.0 and meet Section 8 standards</u>   |
| <u>D022</u>       | <u>Wastes that are TC for Chloroform based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.</u>           | <u>Chloroform</u>                             | <u>67-66-3</u>                | <u>0.046 and meet Section 8 standards</u>                             | <u>6.0 and meet Section 8 standards</u>   |
| <u>D023</u>       | <u>Wastes that are TC for o-Cresol based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.</u>             | <u>o-Cresol</u>                               | <u>95-48-7</u>                | <u>0.11 and meet Section 8 standards</u>                              | <u>5.6 and meet Section 8 standards</u>   |

# ADMINISTRATIVE REGISTER - 820

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>  | REGULATED HAZARDOUS CONSTITUENT   |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|--|---|-------------------------|---|---|
|            |  | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as 'mg/l TCLP'; or Technology Code |
| D024       | Wastes that are TC for m-Cresol based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.             | m-Cresol (difficult to distinguish from p-cresol)                                 | 108-39-4                | 0.77 and meet Section 8 standards                                 | 5.6 and meet Section 8 standards  |
| D025       | Wastes that are TC for p-Cresol based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.             | p-Cresol (difficult to distinguish from m-cresol)                                 | 106-44-5                | 0.77 and meet Section 8 standards                                 | 5.6 and meet Section 8 standards  |
| D026       | Wastes that are TC for Cresols (Total) based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.      | Cresol-mixed isomers (Cresylic acid) (sum of o-, m-, and p-cresol concentrations) | 1319-77-3               | 0.88 and meet Section 8 standards                                 | 11.2 and meet Section 8 standards   |
| D027       | Wastes that are TC for p-Dichlorobenzene based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.    | p-Dichlorobenzene (1,4-Dichlorobenzene)   | 106-46-7                | 0.090 and meet Section 8 standards                                | 6.0 and meet Section 8 standards  |
| D028       | Wastes that are TC for 1,2-Dichloroethane based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.   | 1,2-Dichloroethane  | 107-06-2                | 0.21 and meet Section 8 standards                                 | 6.0 and meet Section 8 standards  |
| D029       | Wastes that are TC for 1,1-Dichloroethylene based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only. | 1,1-Dichloroethylene  | 75-35-4                 | 0.025 and meet Section 8 standards                                | 6.0 and meet Section 8 standards  |
| D030       | Wastes that are TC for 2,4-Dinitrotoluene based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.   | 2,4-Dinitrotoluene  | 121-14-2                | 0.32 and meet Section 8 standards                                 | 140 and meet Section 8 standards  |
| D031       | Wastes that are TC for Heptachlor based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.           | Heptachlor  | 76-44-8                 | 0.0012 and meet Section 8 standards                               | 0.066 and meet Section 8 standards  |
|            |  | Heptachlor epoxide  | 1024-57-3               | 0.016 and meet Section 8 standards                                | 0.066 and meet Section 8 standards  |
| D032       | Wastes that are TC for Hexachlorobenzene based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.    | Hexachlorobenzene   | 118-74-1                | 0.055 and meet Section 8 standards                                | 10 and meet Section 8 standards   |
| D033       | Wastes that are TC for Hexachlorobutadiene based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.  | Hexachlorobutadiene   | 67-68-3                 | 0.055 and meet Section 8 standards                                | 5.6 and meet Section 8 standards  |
| D034       | Wastes that are TC for Hexachloroethane based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.     | Hexachloroethane  | 67-72-1                 | 0.055 and meet Section 8 standards                                | 30 and meet Section 8 standards   |
| D035       | Wastes that are TC for Methyl ethyl ketone based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.  | Methyl ethyl ketone   | 78-93-3                 | 0.28 and meet Section 8 standards                                 | 36 and meet Section 8 standards   |
| D036       | Wastes that are TC for Nitrobenzene based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.         | Nitrobenzene  | 98-95-3                 | 0.068 and meet Section 8 standards                                | 14 and meet Section 8 standards   |
| D037       | Wastes that are TC for Pentachlorophenol based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.    | Pentachlorophenol   | 87-86-5                 | 0.089 and meet Section 8 standards                                | 7.4 and meet Section 8 standards  |

# ADMINISTRATIVE REGISTER - 821

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| <u>Waste Code</u>                         | <u>Waste Description and Treatment/Regulatory Subcategory<sup>1</sup></u>  | <u>REGULATED HAZARDOUS CONSTITUENT</u>   |                               | <u>WASTEWATERS</u>  | <u>NONWASTEWATERS</u>   |
|---|--|--|-------------------------------|---|---|
|   |  | <u>Common Name</u>   | <u>CAS<sup>2</sup> Number</u> | <u>Concentration mg/l<sup>3</sup>, or Technology Code<sup>4</sup></u> | <u>Concentration in mg/kg<sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code</u> |
| <u>D038</u>                               | Wastes that are TC for Pyridine based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.   | <u>Pyridine</u>  | <u>110-86-1</u>               | <u>0.014 and meet Section 8 standards</u>                             | <u>16 and meet Section 8 standards</u>  |
| <u>D039</u>                               | Wastes that are TC for Tetrachloroethylene based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.  | <u>Tetrachloroethylene</u>   | <u>127-18-4</u>               | <u>0.056 and meet Section 8 standards</u>                             | <u>6.0 and meet Section 8 standards</u>   |
| <u>D040</u>                               | Wastes that are TC for Trichloroethylene based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.  | <u>Trichloroethylene</u>   | <u>79-01-6</u>                | <u>0.054 and meet Section 8 standards</u>                             | <u>6.0 and meet Section 8 standards</u>   |
| <u>D041</u>                               | Wastes that are TC for 2,4,5-Trichlorophenol based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.  | <u>2,4,5-Trichlorophenol</u>   | <u>95-95-4</u>                | <u>0.18 and meet Section 8 standards</u>                              | <u>7.4 and meet Section 8 standards</u>   |
| <u>D042</u>                               | Wastes that are TC for 2,4,6-Trichlorophenol based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.  | <u>2,4,6-Trichlorophenol</u>   | <u>88-06-2</u>                | <u>0.035 and meet Section 8 standards</u>                             | <u>7.4 and meet Section 8 standards</u>   |
| <u>D043</u>                               | Wastes that are TC for Vinyl chloride based on the TCLP in SW846 Method 1311 and that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems only.   | <u>Vinyl chloride</u>  | <u>75-01-4</u>                | <u>0.27 and meet Section 8 standards</u>                              | <u>6.0 and meet Section 8 standards</u>   |
| <u>F001, F002, F003, F004, &amp; F005</u> | F001, F002, F003, F004 and/or F005 solvent wastes that contain any combination of one or more of the following spent solvents: acetone, benzene, n-butyl alcohol, carbon disulfide, carbon tetrachloride, chlorinated fluorocarbons, chlorobenzene, o-cresol, m-cresol, p-cresol, cyclohexanone, o-dichlorobenzene, 2-ethoxyethanol, ethyl acetate, ethyl benzene, ethyl ether, isobutyl alcohol, methanol, methylene chloride, methyl ethyl ketone, methyl isobutyl ketone, nitrobenzene, 2-nitropropane, pyridine, tetrachloroethylene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethylene, trichloromethane, and/or xylenes (except as specifically noted in other subcategories). See further details of these listings in Section 3 of 401 KAR 31:040. | <u>Acetone</u>   | <u>67-64-1</u>                | <u>0.28</u>   | <u>160</u>  |
|   |  | <u>n-Butyl alcohol</u>   | <u>71-36-3</u>                | <u>5.6</u>  | <u>2.6</u>  |
|   |  | <u>Carbon disulfide</u>  | <u>75-15-0</u>                | <u>3.8</u>  | <u>NA</u>   |
|   |  | <u>Carbon tetrachloride</u>  | <u>56-23-5</u>                | <u>0.057</u>  | <u>6.0</u>  |
|   |  | <u>Chlorobenzene</u>   | <u>108-90-7</u>               | <u>0.057</u>  | <u>6.0</u>  |
|   |  | <u>o-Cresol</u>  | <u>95-48-7</u>                | <u>0.11</u>   | <u>5.6</u>  |
|   |  | <u>m-Cresol (difficult to distinguish from p-cresol)</u>                                 | <u>108-39-4</u>               | <u>0.77</u>   | <u>5.6</u>  |
|   |  | <u>p-Cresol (difficult to distinguish from m-cresol)</u>                                 | <u>106-44-5</u>               | <u>0.77</u>   | <u>5.6</u>  |
|   |  | <u>Cresol-mixed isomers (Cresylic acid) (sum of o-, m-, and p-cresol concentrations)</u> | <u>1319-77-3</u>              | <u>0.88</u>   | <u>11.2</u>   |
|   |  | <u>Cyclohexanone</u>   | <u>108-94-1</u>               | <u>0.36</u>   | <u>NA</u>   |
|   |  | <u>o-Dichlorobenzene</u>   | <u>95-50-1</u>                | <u>0.088</u>  | <u>6.0</u>  |
|   |  | <u>Ethyl acetate</u>   | <u>141-78-6</u>               | <u>0.34</u>   | <u>33</u>   |
|   |  | <u>Ethyl benzene</u>   | <u>100-41-4</u>               | <u>0.057</u>  | <u>10</u>   |
|   |  | <u>Ethyl ether</u>   | <u>60-29-7</u>                | <u>0.12</u>   | <u>160</u>  |
|   |  | <u>Isobutyl alcohol</u>  | <u>78-83-1</u>                | <u>5.6</u>  | <u>170</u>  |
|   |  | <u>Methanol</u>  | <u>67-56-1</u>                | <u>5.6</u>  | <u>NA</u>   |
|   |  | <u>Methylene chloride</u>  | <u>75-9-2</u>                 | <u>0.089</u>  | <u>30</u>   |
|   |  | <u>Methyl ethyl ketone</u>   | <u>78-93-3</u>                | <u>0.28</u>   | <u>36</u>   |

# ADMINISTRATIVE REGISTER - 822

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>   | REGULATED HAZARDOUS CONSTITUENT                                    |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|--|-------------------------|---|---|
|            |   | Common Name  | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|            |   | Methyl isobutyl ketone   | 108-10-1                | 0.14  | 33  |
|            |   | Nitrobenzene   | 98-95-3                 | 0.068   | 14  |
|            |   | Pyridine   | 110-86-1                | 0.014   | 16  |
|            |   | Tetrachloroethylene  | 127-18-4                | 0.056   | 6.0   |
|            |   | Toluene  | 108-88-3                | 0.080   | 10  |
|            |   | 1,1,1-Trichloroethane  | 71-55-6                 | 0.054   | 6.0   |
|            |   | 1,1,2-Trichloroethane  | 79-00-5                 | 0.054   | 6.0   |
|            |   | 1,1,2-Trichloro-1,2,2-trifluoroethane                              | 76-13-1                 | 0.057   | 30  |
|            |   | Trichloroethylene  | 79-01-6                 | 0.054   | 6.0   |
|            |   | Trichloromonofluoromethane   | 75-69-4                 | 0.020   | 30  |
|            |   | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7               | 0.32  | 30  |
|            | F003 and/or F005 solvent wastes that contain any combination of one or more of the following three solvents as the only listed F001-5 solvents: carbon disulfide, cyclohexanone, and methanol.  | Carbon disulfide   | 75-15-0                 | 3.8   | 4.8 mg/l TCLP   |
|            |   | Cyclohexanone  | 108-94-1                | 0.36  | 0.75 mg/l TCLP  |
|            |   | Methanol   | 67-56-1                 | 5.6   | 0.75 mg/l TCLP  |
|            | F005 solvent waste containing 2-Nitropropane as the only listed F001-5 solvent.   | 2-Nitropropane   | 79-46-9                 | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
|            | F005 solvent waste containing 2-Ethoxyethanol as the only listed F001-5 solvent.  | 2-Ethoxyethanol  | 110-80-5                | BIODG; or INCIN   | INCIN   |
| F006       | Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. | Cadmium  | 7440-43-9               | 0.69  | 0.19 mg/l TCLP  |
|            |   | Chromium (Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Cyanides (Total) <sup>7</sup>                                      | 57-12-5                 | 1.2   | 590   |
|            |   | Cyanides (Amenable) <sup>7</sup>                                   | 57-12-5                 | 0.86  | 30  |
|            |   | Lead   | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
|            |   | Nickel   | 7440-02-0               | 3.98  | 5.0 mg/l TCLP   |
|            |   | Silver   | 7440-22-4               | NA  | 0.30 mg/l TCLP  |
|            |   |  |                         |   |   |
| F007       | Spent cyanide plating bath solutions from electroplating operations.  | Cadmium  | 7440-43-9               | NA  | 0.19 mg/l TCLP  |
|            |   | Chromium (Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Cyanides (Total) <sup>7</sup>                                      | 57-12-5                 | 1.2   | 590   |
|            |   | Cyanides (Amenable) <sup>7</sup>                                   | 57-12-5                 | 0.86  | 30  |
|            |   | Lead   | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
|            |   | Nickel   | 7440-02-0               | 3.98  | 5.0 mg/l TCLP   |
|            |   | Silver   | 7440-22-4               | NA  | 0.30 mg/l TCLP  |
|            |   |  |                         |   |   |



# ADMINISTRATIVE REGISTER - 823

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>   | REGULATED HAZARDOUS CONSTITUENT  |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|----------------------------------|-------------------------|---|---|
|            |   | Common Name                      | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| F008       | Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.   | Cadmium                          | 7440-43-9               | NA  | 0.19 mg/l TCLP  |
|            |   | Chromium (Total)                 | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Cyanides (Total) <sup>7</sup>    | 57-12-5                 | 1.2   | 590   |
|            |   | Cyanides (Amenable) <sup>7</sup> | 57-12-5                 | 0.86  | 30  |
|            |   | Lead                             | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
|            |   | Nickel                           | 7440-02-0               | 3.98  | 5.0 mg/l TCLP   |
|            |   | Silver                           | 7440-22-4               | NA  | 0.30 mg/l TCLP  |
| F009       | Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.  | Cadmium                          | 7440-43-9               | NA  | 0.19 mg/l TCLP  |
|            |   | Chromium (Total)                 | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Cyanides (Total) <sup>7</sup>    | 57-12-5                 | 1.2   | 590   |
|            |   | Cyanides (Amenable) <sup>7</sup> | 57-12-5                 | 0.86  | 30  |
|            |   | Lead                             | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
|            |   | Nickel                           | 7440-02-0               | 3.98  | 5.0 mg/l TCLP   |
|            |   | Silver                           | 7440-22-4               | NA  | 0.30 mg/l TCLP  |
| F010       | Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.  | Cyanides (Total) <sup>7</sup>    | 57-12-5                 | 1.2   | 590   |
|            |   | Cyanides (Amenable) <sup>7</sup> | 57-12-5                 | 0.86  | NA  |
| F011       | Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.  | Cadmium                          | 7440-43-9               | NA  | 0.19 mg/l TCLP  |
|            |   | Chromium (Total)                 | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Cyanides (Total) <sup>7</sup>    | 57-12-5                 | 1.2   | 590   |
|            |   | Cyanides (Amenable) <sup>7</sup> | 57-12-5                 | 0.86  | 30  |
|            |   | Lead                             | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
|            |   | Nickel                           | 7440-02-0               | 3.98  | 5.0 mg/l TCLP   |
|            |   | Silver                           | 7440-22-4               | NA  | 0.30 mg/l TCLP  |
| F012       | Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.  | Cadmium                          | 7440-43-9               | NA  | 0.19 mg/l TCLP  |
|            |   | Chromium (Total)                 | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Cyanides (Total) <sup>7</sup>    | 57-12-5                 | 1.2   | 590   |
|            |   | Cyanides (Amenable) <sup>7</sup> | 57-12-5                 | 0.86  | 30  |
|            |   | Lead                             | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
|            |   | Nickel                           | 7440-02-0               | 3.98  | 5.0 mg/l TCLP   |
|            |   | Silver                           | 7440-22-4               | NA  | 0.30 mg/l TCLP  |
| F019       | Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process. | Chromium (Total)                 | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Cyanides (Total) <sup>7</sup>    | 57-12-5                 | 1.2   | 590   |
|            |   | Cyanides (Amenable) <sup>7</sup> | 57-12-5                 | 0.86  | 30  |

# ADMINISTRATIVE REGISTER - 824

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code                   | Waste Description and Treatment/Regulatory Subcategory  | REGULATED HAZARDOUS CONSTITUENT           |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------------------------|---|---|-------------------------|---|---|
|                              |   | Common Name                               | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| F020, F021, F022, F023, F026 | Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of: (1) tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives, excluding wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol (F020); (2) pentachlorophenol, or of intermediates used to produce its derivatives (that is, F021); (3) tetra-, penta-, or hexachlorobenzenes under alkaline conditions (that is, F022).<br>Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of: (1) tri- or tetrachlorophenols, excluding wastes from equipment used only for the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol (F023); (2) tetra-, penta-, or hexachlorobenzenes under alkaline conditions (that is, F026). | HxCDDs (All Hexachlorodibenzo-p-dioxins)  | NA                      | 0.000063  | 0.001   |
|                              |   | HxCDFs (All Hexachlorodibenzofurans)      | NA                      | 0.000063  | 0.001   |
|                              |   | PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA                      | 0.000063  | 0.001   |
|                              |   | PeCDFs (All Pentachlorodibenzofurans)     | NA                      | 0.000035  | 0.001   |
|                              |   | TCDDs (All Tetrachlorodibenzo-p-dioxins)  | NA                      | 0.000063  | 0.001   |
|                              |   | TCDFs (All Tetrachlorodibenzofurans)      | NA                      | 0.000063  | 0.001   |
|                              |   | 2,4,5-Trichlorophenol                     | 95-95-4                 | 0.18  | 7.4   |
|                              |   | 2,4,6-Trichlorophenol                     | 88-06-2                 | 0.035   | 7.4   |
|                              |   | 2,3,4,6-Tetrachlorophenol                 | 58-90-2                 | 0.030   | 7.4   |
|                              |   | Pentachlorophenol                         | 87-86-5                 | 0.089   | 7.4   |
| F027                         | Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.)   | HxCDDs (All Hexachlorodibenzo-p-dioxins)  | NA                      | 0.000063  | 0.001   |
|                              |   | HxCDFs (All Hexachlorodibenzofurans)      | NA                      | 0.000063  | 0.001   |
|                              |   | PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA                      | 0.000063  | 0.001   |
|                              |   | PeCDFs (All Pentachlorodibenzofurans)     | NA                      | 0.000035  | 0.001   |
|                              |   | TCDDs (All Tetrachlorodibenzo-p-dioxins)  | NA                      | 0.000063  | 0.001   |
|                              |   | TCDFs (All Tetrachlorodibenzofurans)      | NA                      | 0.000063  | 0.001   |
|                              |   | 2,4,5-Trichlorophenol                     | 95-95-4                 | 0.18  | 7.4   |
|                              |   | 2,4,6-Trichlorophenol                     | 88-06-2                 | 0.035   | 7.4   |
|                              |   | 2,3,4,6-Tetrachlorophenol                 | 58-90-2                 | 0.030   | 7.4   |
|                              |   | Pentachlorophenol                         | 87-86-5                 | 0.089   | 7.4   |
| F028                         | Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Wastes Nos. F020, F021, F023, F026, and F027.   | HxCDDs (All Hexachlorodibenzo-p-dioxins)  | NA                      | 0.000063  | 0.001   |
|                              |   | HxCDFs (All Hexachlorodibenzofurans)      | NA                      | 0.000063  | 0.001   |
|                              |   | PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA                      | 0.000063  | 0.001   |

# ADMINISTRATIVE REGISTER - 825

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>   | REGULATED HAZARDOUS CONSTITUENT            |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|--|-------------------------|---|---|
|            |   | Common Name                                | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|            |   | PeCDFs (All Penta-chlorodibenzofurans)     | NA                      | 0.000035  | 0.001   |
|            |   | TCDDs (All Tetra-chlorodibenzo-p-diox-ins) | NA                      | 0.000063  | 0.001   |
|            |   | TCDFs (All Tetra-chlorodibenzofurans)      | NA                      | 0.000063  | 0.001   |
|            |   | 2,4,5-Trichlorophenol                      | 95-95-4                 | 0.18  | 7.4   |
|            |   | 2,4,6-Trichlorophenol                      | 88-06-2                 | 0.035   | 7.4   |
|            |   | 2,3,4,6-Tetrachloro-phenol                 | 58-90-2                 | 0.030   | 7.4   |
|            |   | Pentachlorophenol                          | 87-86-5                 | 0.089   | 7.4   |
| F024       | Process wastes, including but not limited to, distilla-tion residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinat-ed aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocar-bons are those having carbon chain lengths rang-ing from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, waste-water treatment sludges, spent catalysts, and wastes listed in Sections 2 and 3 of 401 KAR 31:040). | All F024 wastes                            | NA                      | INCIN   | INCIN   |
|            |   | 2-Chloro-1,3-buta-diene                    | 126-99-8                | 0.057   | 0.28  |
|            |   | 3-Chloropropylene                          | 107-05-1                | 0.036   | 30  |
|            |   | 1,1-Dichloroethane                         | 75-34-3                 | 0.059   | 6.0   |
|            |   | 1,2-Dichloroethane                         | 107-06-2                | 0.21  | 6.0   |
|            |   | 1,2-Dichloropropane                        | 78-87-5                 | 0.85  | 18  |
|            |   | cis-1,3-Dichloropropy-lene                 | 10061-01-5              | 0.036   | 18  |
|            |   | trans-1,3-Dichloro-propylene               | 10061-02-6              | 0.036   | 18  |
|            |   | bis(2-Ethylhexyl) phthalate                | 117-81-7                | 0.28  | 28  |
|            |   | Hexachloroethane                           | 67-72-1                 | 0.055   | 30  |
|            |   | Chromium (Total)                           | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Nickel                                     | 7440-02-0               | 3.98  | 5.0 mg/l TCLP   |
| F025       | Condensed light ends from the production of cer-tain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.<br>F025 - Light Ends Subcategory  | Carbon tetrachloride                       | 56-23-5                 | 0.057   | 6.0   |
|            |   | Chloroform                                 | 67-66-3                 | 0.046   | 6.0   |
|            |   | 1,2-Dichloroethane                         | 107-06-2                | 0.21  | 6.0   |
|            |   | 1,1-Dichloroethylene                       | 75-35-4                 | 0.025   | 6.0   |
|            |   | Methylene chloride                         | 75-9-2                  | 0.089   | 30  |
|            |   | 1,1,2-Trichloroethane                      | 79-00-5                 | 0.054   | 6.0   |
|            |   | Trichloroethylene                          | 79-01-6                 | 0.054   | 6.0   |
|            |   | Vinyl chloride                             | 75-01-4                 | 0.27  | 6.0   |
|            | Spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocar-bons are those having carbon chain lengths rang-ing from one to and including five, with varying amounts and positions of chlorine substitution.<br>F026 - Spent Filters/Aids and Desiccants Subcate-gory  | Carbon tetrachloride                       | 56-23-5                 | 0.057   | 6.0   |
|            |   | Chloroform                                 | 67-66-3                 | 0.046   | 6.0   |
|            |   | Hexachlorobenzene                          | 118-74-1                | 0.055   | 10  |
|            |   | Hexachlorobutadiene                        | 87-68-3                 | 0.055   | 5.6   |
|            |   | Hexachloroethane                           | 67-72-1                 | 0.055   | 30  |

# ADMINISTRATIVE REGISTER - 826

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>   | REGULATED HAZARDOUS CONSTITUENT                                    |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|--|-------------------------|---|---|
|            |   | Common Name  | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|            |   | Methylene chloride   | 75-9-2                  | 0.089   | 30  |
|            |   | 1,1,2-Trichloroethane  | 79-00-5                 | 0.054   | 6.0   |
|            |   | Trichloroethylene  | 79-01-6                 | 0.054   | 6.0   |
|            |   | Vinyl chloride   | 75-01-4                 | 0.27  | 6.0   |
| F037       | Petroleum refinery primary oil/water/solids separation sludge-Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in Section 2(2)(b) of 301 KAR 31:040 (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. | Acenaphthene   | 83-32-9                 | 0.059   | NA  |
|            |   | Anthracene   | 120-12-7                | 0.059   | 3.4   |
|            |   | Benzene  | 71-43-2                 | 0.14  | 10  |
|            |   | Benz(a)anthracene  | 56-55-3                 | 0.059   | 3.4   |
|            |   | Benzo(a)pyrene   | 50-32-8                 | 0.061   | 3.4   |
|            |   | bis(2-Ethylhexyl) phthalate  | 117-81-7                | 0.28  | 28  |
|            |   | Chrysene   | 218-01-9                | 0.059   | 3.4   |
|            |   | Di-n-butyl phthalate   | 84-74-2                 | 0.057   | 28  |
|            |   | Ethylbenzene   | 100-41-4                | 0.057   | 10  |
|            |   | Fluorene   | 86-73-7                 | 0.059   | NA  |
|            |   | Naphthalene  | 91-20-3                 | 0.059   | 5.6   |
|            |   | Phenanthrene   | 85-01-8                 | 0.059   | 5.6   |
|            |   | Phenol   | 108-95-2                | 0.039   | 6.2   |
|            |   | Pyrene   | 129-00-0                | 0.067   | 8.2   |
|            |   | Toluene  | 108-88-3                | 0.080   | 10  |
|            |   | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7               | 0.032   | 30  |
|            |   | Chromium (Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Cyanides (Total) <sup>7</sup>                                      | 57-12-5                 | 1.2   | 590   |
|            |   | Lead   | 7439-92-1               | 0.69  | NA  |
|            |   | Nickel   | 7440-02-0               | NA  | 5.0 mg/l TCLP   |
| F038       | Petroleum refinery secondary (emulsified) oil/water/solids separation sludge and float generated from the physical and chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in Section 2(2)(b) of 401 KAR 31:040 (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological units) and F037, K048, and K051 are not included in this listing.              | Benzene  | 71-43-2                 | 0.14  | 10  |
|            |   | Benzo(a)pyrene   | 50-32-8                 | 0.061   | 3.4   |
|            |   | bis(2-Ethylhexyl) phthalate  | 117-81-7                | 0.28  | 28  |
|            |   | Chrysene   | 218-01-9                | 0.059   | 3.4   |
|            |   | Di-n-butyl phthalate   | 84-74-2                 | 0.057   | 28  |
|            |   | Ethylbenzene   | 100-41-4                | 0.057   | 10  |
|            |   | Fluorene   | 86-73-7                 | 0.059   | NA  |
|            |   | Naphthalene  | 91-20-3                 | 0.059   | 5.6   |
|            |   | Phenanthrene   | 85-01-8                 | 0.059   | 5.6   |
|            |   | Phenol   | 108-95-2                | 0.039   | 6.2   |
|            |   |  |                         |   |   |
|            |   |  |                         |   |   |

# ADMINISTRATIVE REGISTER - 827

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| <u>Waste Code</u> | <u>Waste Description and Treatment/Regulatory Subcategory<sup>1</sup></u>   | <u>REGULATED HAZARDOUS CONSTITUENT</u>  |                               | <u>WASTEWATERS</u>  | <u>NONWASTEWATERS</u>   |
|-------------------|---|---|-------------------------------|---|---|
|                   |   | <u>Common Name</u>  | <u>CAS<sup>2</sup> Number</u> | <u>Concentration mg/l<sup>3</sup>; or Technology Code<sup>4</sup></u> | <u>Concentration in mg/kg<sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code</u> |
|                   |   | <u>Pyrene</u>   | <u>129-00-0</u>               | <u>0.067</u>  | <u>8.2</u>  |
|                   |   | <u>Toluene</u>  | <u>108-88-3</u>               | <u>0.080</u>  | <u>10</u>   |
|                   |   | <u>Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)</u>         | <u>1330-20-7</u>              | <u>0.32</u>   | <u>30</u>   |
|                   |   | <u>Chromium (Total)</u>   | <u>7440-47-3</u>              | <u>2.77</u>   | <u>0.86 mg/l TCLP</u>   |
|                   |   | <u>Cyanides (Total)<sup>7</sup></u>   | <u>57-12-5</u>                | <u>1.2</u>  | <u>590</u>  |
|                   |   | <u>Lead</u>   | <u>7439-92-1</u>              | <u>0.69</u>   | <u>NA</u>   |
|                   |   | <u>Nickel</u>   | <u>7440-02-0</u>              | <u>NA</u>   | <u>5.0 mg/l TCLP</u>  |
| <u>F039</u>       | <u>Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under this administrative regulation. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F026, F027, and F028.).</u> | <u>Acenaphthylene</u>   | <u>208-96-8</u>               | <u>0.059</u>  | <u>3.4</u>  |
|                   |   | <u>Acenaphthene</u>   | <u>83-32-9</u>                | <u>0.059</u>  | <u>3.4</u>  |
|                   |   | <u>Acetone</u>  | <u>67-64-1</u>                | <u>0.28</u>   | <u>160</u>  |
|                   |   | <u>Acetonitrile</u>   | <u>75-05-8</u>                | <u>5.6</u>  | <u>NA</u>   |
|                   |   | <u>Acetophenone</u>   | <u>96-86-2</u>                | <u>0.010</u>  | <u>9.7</u>  |
|                   |   | <u>2-Acetylaminofluorene</u>  | <u>53-96-3</u>                | <u>0.059</u>  | <u>140</u>  |
|                   |   | <u>Acrolein</u>   | <u>107-02-8</u>               | <u>0.29</u>   | <u>NA</u>   |
|                   |   | <u>Acrylonitrile</u>  | <u>107-13-1</u>               | <u>0.24</u>   | <u>84</u>   |
|                   |   | <u>Aldrin</u>   | <u>309-00-2</u>               | <u>0.021</u>  | <u>0.066</u>  |
|                   |   | <u>4-Aminobiphenyl</u>  | <u>92-67-1</u>                | <u>0.13</u>   | <u>NA</u>   |
|                   |   | <u>Aniline</u>  | <u>62-53-3</u>                | <u>0.81</u>   | <u>14</u>   |
|                   |   | <u>Anthracene</u>   | <u>120-12-7</u>               | <u>0.059</u>  | <u>3.4</u>  |
|                   |   | <u>Aramite</u>  | <u>140-57-8</u>               | <u>0.36</u>   | <u>NA</u>   |
|                   |   | <u>alpha-BHC</u>  | <u>319-84-6</u>               | <u>0.00014</u>  | <u>0.066</u>  |
|                   |   | <u>beta-BHC</u>   | <u>319-85-7</u>               | <u>0.00014</u>  | <u>0.066</u>  |
|                   |   | <u>delta-BHC</u>  | <u>319-86-8</u>               | <u>0.023</u>  | <u>0.066</u>  |
|                   |   | <u>gamma-BHC</u>  | <u>58-89-9</u>                | <u>0.0017</u>   | <u>0.066</u>  |
|                   |   | <u>Benzene</u>  | <u>71-43-2</u>                | <u>0.14</u>   | <u>10</u>   |
|                   |   | <u>Benz(a)anthracene</u>  | <u>56-55-3</u>                | <u>0.059</u>  | <u>3.4</u>  |
|                   |   | <u>Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)</u>  | <u>205-99-2</u>               | <u>0.11</u>   | <u>6.8</u>  |
|                   |   | <u>Benzo (k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)</u> | <u>207-08-9</u>               | <u>0.11</u>   | <u>6.8</u>  |
|                   |   | <u>Benzo(g,h,i)perylene</u>   | <u>191-24-2</u>               | <u>0.0055</u>   | <u>1.8</u>  |
|                   |   | <u>Benzo(a)pyrene</u>   | <u>50-32-8</u>                | <u>0.061</u>  | <u>3.4</u>  |
|                   |   | <u>Bromodichloromethane</u>   | <u>75-27-4</u>                | <u>0.35</u>   | <u>15</u>   |

# ADMINISTRATIVE REGISTER - 828

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup> | REGULATED HAZARDOUS CONSTITUENT                   |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|---|-------------------------|---|---|
|            |   | Common Name                                       | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|            |   | Methyl bromide (Bromomethane)                     | 74-83-9                 | 0.11  | 15  |
|            |   | 4-Bromophenyl phenyl ether                        | 101-55-3                | 0.055   | 15  |
|            |   | n-Butyl alcohol                                   | 71-36-3                 | 5.6   | 2.6   |
|            |   | Butyl benzyl phthalate                            | 85-68-7                 | 0.017   | 28  |
|            |   | 2-sec-Butyl-4,6-dinitrophenol (Dinoseb)           | 88-85-7                 | 0.066   | 2.5   |
|            |   | Carbon disulfide                                  | 75-15-0                 | 3.8   | NA  |
|            |   | Carbon tetrachloride                              | 56-23-5                 | 0.057   | 6.0   |
|            |   | Chlordane (alpha and gamma isomers)               | 57-74-9                 | 0.0033  | 0.26  |
|            |   | p-Chloroaniline                                   | 106-47-8                | 0.46  | 16  |
|            |   | Chlorobenzene                                     | 108-90-7                | 0.057   | 6.0   |
|            |   | Chlorobenzilate                                   | 510-15-6                | 0.10  | NA  |
|            |   | 2-Chloro-1,3-butadiene                            | 126-99-8                | 0.057   | NA  |
|            |   | Chlorodibromomethane                              | 124-48-1                | 0.057   | 15  |
|            |   | Chloroethane                                      | 75-00-3                 | 0.27  | 6.0   |
|            |   | bis(2-Chloroethoxy)methane                        | 111-91-1                | 0.036   | 7.2   |
|            |   | bis(2-Chloroethyl) ether                          | 111-44-4                | 0.033   | 6.0   |
|            |   | Chloroform  | 67-66-3                 | 0.046   | 6.0   |
|            |   | bis(2-Chloroisopropyl) ether                      | 108-60-1                | 0.055   | 7.2   |
|            |   | p-Chloro-m-cresol                                 | 59-50-7                 | 0.018   | 14  |
|            |   | Chloromethane (Methyl chloride)                   | 74-87-3                 | 0.19  | 30  |
|            |   | 2-Chloronaphthalene                               | 91-58-7                 | 0.055   | 5.6   |
|            |   | 2-Chlorophenol                                    | 95-57-8                 | 0.044   | 5.7   |
|            |   | 3-Chloropropylene                                 | 107-05-1                | 0.036   | 30  |
|            |   | Chrysene  | 218-01-9                | 0.059   | 3.4   |
|            |   | o-Cresol  | 95-48-7                 | 0.11  | 5.6   |
|            |   | m-Cresol (difficult to distinguish from p-cresol) | 108-39-4                | 0.77  | 5.6   |
|            |   | p-Cresol (difficult to distinguish from m-cresol) | 106-44-5                | 0.77  | 5.6   |
|            |   | Cyclohexanone                                     | 108-94-1                | 0.36  | NA  |
|            |   | 1,2-Dibromo-3-chloropropane                       | 96-12-8                 | 0.11  | 15  |



# ADMINISTRATIVE REGISTER - 829

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| <u>Waste Code</u> | <u>Waste Description and Treatment/Regulatory Subcategory<sup>1</sup></u> | <u>REGULATED HAZARDOUS CONSTITUENT</u> |                               | <u>WASTEWATERS</u>  | <u>NONWASTEWATERS</u>   |
|-------------------|---|--|-------------------------------|---|---|
|                   |   | <u>Common Name</u>                     | <u>CAS<sup>2</sup> Number</u> | <u>Concentration mg/l<sup>3</sup>, or Technology Code<sup>4</sup></u> | <u>Concentration in mg/kg<sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code</u> |
|                   |   | Ethylene dibromide (1,2-Dibromoethane) | 106-93-4                      | 0.028   | 15  |
|                   |   | Dibromomethane                         | 74-95-3                       | 0.11  | 15  |
|                   |   | 2,4-D (2,4-Dichlorophenoxyacetic acid) | 94-75-7                       | 0.72  | 10  |
|                   |   | o,p'-DDD                               | 53-19-0                       | 0.023   | 0.087   |
|                   |   | p,p'-DDD                               | 72-54-8                       | 0.023   | 0.087   |
|                   |   | o,p'-DDE                               | 3424-82-6                     | 0.031   | 0.087   |
|                   |   | p,p'-DDE                               | 72-55-9                       | 0.031   | 0.087   |
|                   |   | o,p'-DDT                               | 789-02-6                      | 0.0039  | 0.087   |
|                   |   | p,p'-DDT                               | 50-29-3                       | 0.0039  | 0.087   |
|                   |   | Dibenz(a,h)anthracene                  | 53-70-3                       | 0.055   | 8.2   |
|                   |   | Dibenz(a,e)pyrene                      | 192-65-4                      | 0.061   | NA  |
|                   |   | m-Dichlorobenzene                      | 541-73-1                      | 0.036   | 6.0   |
|                   |   | o-Dichlorobenzene                      | 95-50-1                       | 0.088   | 6.0   |
|                   |   | p-Dichlorobenzene                      | 106-46-7                      | 0.090   | 6.0   |
|                   |   | Dichlorodifluoromethane                | 75-71-8                       | 0.23  | 7.2   |
|                   |   | 1,1-Dichloroethane                     | 75-34-3                       | 0.059   | 6.0   |
|                   |   | 1,2-Dichloroethane                     | 107-06-2                      | 0.21  | 6.0   |
|                   |   | 1,1-Dichloroethylene                   | 75-35-4                       | 0.025   | 6.0   |
|                   |   | trans-1,2-Dichloroethylene             | 156-60-5                      | 0.054   | 30  |
|                   |   | 2,4-Dichlorophenol                     | 120-83-2                      | 0.044   | 14  |
|                   |   | 2,6-Dichlorophenol                     | 87-65-0                       | 0.044   | 14  |
|                   |   | 1,2-Dichloropropane                    | 78-87-5                       | 0.85  | 18  |
|                   |   | cis-1,3-Dichloropropylene              | 10061-01-5                    | 0.036   | 18  |
|                   |   | trans-1,3-Dichloropropylene            | 10061-02-6                    | 0.036   | 18  |
|                   |   | Dieldrin                               | 60-57-1                       | 0.017   | 0.13  |
|                   |   | Diethyl phthalate                      | 84-66-2                       | 0.20  | 28  |
|                   |   | 2,4-Dimethyl phenol                    | 105-67-9                      | 0.036   | 14  |
|                   |   | Dimethyl phthalate                     | 131-11-3                      | 0.047   | 28  |
|                   |   | Di-n-butyl phthalate                   | 84-74-2                       | 0.057   | 28  |
|                   |   | 1,4-Dinitrobenzene                     | 100-25-4                      | 0.32  | 2.3   |
|                   |   | 4,6-Dinitro-o-cresol                   | 534-52-1                      | 0.28  | 160   |
|                   |   | 2,4-Dinitrophenol                      | 51-28-5                       | 0.12  | 160   |
|                   |   | 2,4-Dinitrotoluene                     | 121-14-2                      | 0.32  | 140   |

# ADMINISTRATIVE REGISTER - 830

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup> | REGULATED HAZARDOUS CONSTITUENT  |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|--|-------------------------|---|---|
|            |   | Common Name  | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|            |   | <u>2,6-Dinitrotoluene</u>  | <u>606-20-2</u>         | <u>0.55</u>   | <u>28</u>   |
|            |   | <u>Di-n-octyl phthalate</u>  | <u>117-84-0</u>         | <u>0.017</u>  | <u>28</u>   |
|            |   | <u>Di-n-propylnitrosamine</u>  | <u>621-64-7</u>         | <u>0.40</u>   | <u>14</u>   |
|            |   | <u>1,4-Dioxane</u>   | <u>123-91-1</u>         | <u>NA</u>   | <u>170</u>  |
|            |   | <u>Diphenylamine (difficult to distinguish from diphenylnitrosamine)</u> | <u>122-39-4</u>         | <u>0.92</u>   | <u>13</u>   |
|            |   | <u>Diphenylnitrosamine (difficult to distinguish from diphenylamine)</u> | <u>86-30-6</u>          | <u>0.92</u>   | <u>NA</u>   |
|            |   | <u>1,2-Diphenylhydrazine</u>   | <u>122-66-7</u>         | <u>0.087</u>  | <u>NA</u>   |
|            |   | <u>Disulfoton</u>  | <u>298-04-4</u>         | <u>0.017</u>  | <u>6.2</u>  |
|            |   | <u>Endosulfan I</u>  | <u>939-98-8</u>         | <u>0.023</u>  | <u>0.066</u>  |
|            |   | <u>Endosulfan II</u>   | <u>33213-6-5</u>        | <u>0.029</u>  | <u>0.13</u>   |
|            |   | <u>Endosulfan sulfate</u>  | <u>1-31-07-8</u>        | <u>0.029</u>  | <u>0.13</u>   |
|            |   | <u>Endrin</u>  | <u>72-20-8</u>          | <u>0.0028</u>   | <u>0.13</u>   |
|            |   | <u>Endrin aldehyde</u>   | <u>7421-93-4</u>        | <u>0.025</u>  | <u>0.13</u>   |
|            |   | <u>Ethyl acetate</u>   | <u>141-78-6</u>         | <u>0.34</u>   | <u>33</u>   |
|            |   | <u>Ethyl cyanide (Propenenitrile)</u>                                    | <u>107-12-0</u>         | <u>0.24</u>   | <u>360</u>  |
|            |   | <u>Ethyl benzene</u>   | <u>100-41-4</u>         | <u>0.057</u>  | <u>10</u>   |
|            |   | <u>Ethyl ether</u>   | <u>60-29-7</u>          | <u>0.12</u>   | <u>160</u>  |
|            |   | <u>bis(2-Ethylhexyl) phthalate</u>                                       | <u>117-81-7</u>         | <u>0.28</u>   | <u>28</u>   |
|            |   | <u>Ethyl methacrylate</u>  | <u>97-63-2</u>          | <u>0.14</u>   | <u>160</u>  |
|            |   | <u>Ethylene oxide</u>  | <u>75-21-8</u>          | <u>0.12</u>   | <u>NA</u>   |
|            |   | <u>Famphur</u>   | <u>52-85-7</u>          | <u>0.017</u>  | <u>15</u>   |
|            |   | <u>Fluoranthene</u>  | <u>206-44-0</u>         | <u>0.068</u>  | <u>3.4</u>  |
|            |   | <u>Fluorene</u>  | <u>86-73-7</u>          | <u>0.059</u>  | <u>3.4</u>  |
|            |   | <u>Heptachlor</u>  | <u>76-44-8</u>          | <u>0.0012</u>   | <u>0.066</u>  |
|            |   | <u>Heptachlor epoxide</u>  | <u>1024-57-3</u>        | <u>0.016</u>  | <u>0.066</u>  |
|            |   | <u>Hexachlorobenzene</u>   | <u>118-74-1</u>         | <u>0.055</u>  | <u>10</u>   |
|            |   | <u>Hexachlorobutadiene</u>   | <u>87-68-3</u>          | <u>0.055</u>  | <u>5.6</u>  |
|            |   | <u>Hexachlorocyclopentadiene</u>   | <u>77-47-4</u>          | <u>0.057</u>  | <u>2.4</u>  |
|            |   | <u>HxCDDs (All Hexachlorodibenzo-p-dioxins)</u>                          | <u>NA</u>               | <u>0.000063</u>   | <u>0.001</u>  |
|            |   | <u>HxCDFs (All Hexachlorodibenzofurans)</u>                              | <u>NA</u>               | <u>0.000063</u>   | <u>0.001</u>  |

# ADMINISTRATIVE REGISTER - 831

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup> | REGULATED HAZARDOUS CONSTITUENT    |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|------------------------------------|-------------------------|---|---|
|            |   | Common Name                        | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|            |   | Hexachloroethane                   | 67-72-1                 | 0.055   | 30  |
|            |   | Hexachloropropylene                | 1888-71-7               | 0.035   | 30  |
|            |   | Indeno (1,2,3-c,d) pyrene          | 193-39-5                | 0.0055  | 3.4   |
|            |   | Iodomethane                        | 74-88-4                 | 0.19  | 65  |
|            |   | Isobutyl alcohol                   | 78-83-1                 | 5.6   | 170   |
|            |   | Isodrin                            | 465-73-6                | 0.021   | 0.066   |
|            |   | Isosafrole                         | 120-58-1                | 0.081   | 2.6   |
|            |   | Kepone                             | 143-50-8                | 0.0011  | 0.13  |
|            |   | Methacrylonitrile                  | 126-98-7                | 0.24  | 84  |
|            |   | Methanol                           | 67-56-1                 | 5.6   | NA  |
|            |   | Methapyrilene                      | 91-80-5                 | 0.081   | 1.5   |
|            |   | Methoxychlor                       | 72-43-5                 | 0.25  | 0.18  |
|            |   | 3-Methylcholanthrene               | 56-49-5                 | 0.0055  | 15  |
|            |   | 4,4-Methylene bis(2-chloroaniline) | 101-14-4                | 0.50  | 30  |
|            |   | Methylene chloride                 | 75-09-2                 | 0.089   | 30  |
|            |   | Methyl ethyl ketone                | 78-93-3                 | 0.28  | 36  |
|            |   | Methyl isobutyl ketone             | 108-10-1                | 0.14  | 33  |
|            |   | Methyl methacrylate                | 80-62-6                 | 0.14  | 160   |
|            |   | Methyl methanesulfonate            | 66-27-3                 | 0.018   | NA  |
|            |   | Methyl parathion                   | 298-00-0                | 0.014   | 4.6   |
|            |   | Naphthalene                        | 91-20-3                 | 0.059   | 5.6   |
|            |   | 2-Naphthylamine                    | 91-59-8                 | 0.52  | NA  |
|            |   | p-Nitroaniline                     | 100-01-6                | 0.028   | 28  |
|            |   | Nitrobenzene                       | 98-95-3                 | 0.088   | 14  |
|            |   | 5-Nitro-o-toluidine                | 99-55-8                 | 0.32  | 28  |
|            |   | p-Nitrophenol                      | 100-02-7                | 0.12  | 29  |
|            |   | N-Nitrosodiethylamine              | 55-18-5                 | 0.40  | 28  |
|            |   | N-Nitrosodimethylamine             | 62-75-9                 | 0.40  | NA  |
|            |   | N-Nitroso-di-n-butylamine          | 924-16-3                | 0.40  | 17  |
|            |   | N-Nitrosomethylethylamine          | 10595-95-6              | 0.40  | 2.3   |
|            |   | N-Nitrosomorpholine                | 59-89-2                 | 0.40  | 2.3   |
|            |   | N-Nitrosopiperidine                | 100-75-4                | 0.013   | 35  |
|            |   | N-Nitrosopyrrolidine               | 930-55-2                | 0.013   | 35  |

# ADMINISTRATIVE REGISTER - 832

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| <u>Waste Code</u> | <u>Waste Description and Treatment/Regulatory Subcategory<sup>1</sup></u> | <u>REGULATED HAZARDOUS CONSTITUENT</u>                      |                               | <u>WASTEWATERS</u>  | <u>NONWASTEWATERS</u>   |
|-------------------|---|---|-------------------------------|---|---|
|                   |   | <u>Common Name</u>  | <u>CAS<sup>2</sup> Number</u> | <u>Concentration mg/l<sup>3</sup>, or Technology Code<sup>4</sup></u> | <u>Concentration in mg/kg<sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code</u> |
|                   |   | <u>Parathion</u>  | <u>56-38-2</u>                | <u>0.014</u>  | <u>4.6</u>  |
|                   |   | <u>Total PCBs (sum of all PCB isomers, or all Aroclors)</u> | <u>1336-36-3</u>              | <u>0.10</u>   | <u>10</u>   |
|                   |   | <u>Pentachlorobenzene</u>                                   | <u>608-93-5</u>               | <u>0.055</u>  | <u>10</u>   |
|                   |   | <u>PeCDDs (All Pentachlorodibenzo-p-dioxins)</u>            | <u>NA</u>                     | <u>0.000063</u>   | <u>0.001</u>  |
|                   |   | <u>PcCDFs (All Pentachlorodibenzofurans)</u>                | <u>NA</u>                     | <u>0.000035</u>   | <u>0.001</u>  |
|                   |   | <u>Pentachloronitrobenzene</u>                              | <u>82-68-8</u>                | <u>0.055</u>  | <u>4.8</u>  |
|                   |   | <u>Pentachlorophenol</u>                                    | <u>87-86-5</u>                | <u>0.089</u>  | <u>7.4</u>  |
|                   |   | <u>Phenacetin</u>   | <u>62-44-2</u>                | <u>0.081</u>  | <u>16</u>   |
|                   |   | <u>Phenanthrene</u>   | <u>85-01-8</u>                | <u>0.059</u>  | <u>5.6</u>  |
|                   |   | <u>Phenol</u>   | <u>108-95-2</u>               | <u>0.039</u>  | <u>6.2</u>  |
|                   |   | <u>Phorate</u>  | <u>298-02-2</u>               | <u>0.021</u>  | <u>4.6</u>  |
|                   |   | <u>Phthalic anhydride</u>                                   | <u>85-44-9</u>                | <u>0.055</u>  | <u>NA</u>   |
|                   |   | <u>Pronamide</u>  | <u>23950-58-5</u>             | <u>0.093</u>  | <u>1.5</u>  |
|                   |   | <u>Pyrene</u>   | <u>129-00-0</u>               | <u>0.067</u>  | <u>8.2</u>  |
|                   |   | <u>Pyridine</u>   | <u>110-86-1</u>               | <u>0.014</u>  | <u>16</u>   |
|                   |   | <u>Safrole</u>  | <u>94-59-7</u>                | <u>0.081</u>  | <u>22</u>   |
|                   |   | <u>Silvex (2,4,5-TP)</u>                                    | <u>93-72-1</u>                | <u>0.72</u>   | <u>7.9</u>  |
|                   |   | <u>2,4,5-T</u>  | <u>93-76-5</u>                | <u>0.72</u>   | <u>7.9</u>  |
|                   |   | <u>1,2,4,5-Tetrachlorobenzene</u>                           | <u>95-94-3</u>                | <u>0.055</u>  | <u>14</u>   |
|                   |   | <u>TCDDs (All Tetrachlorodibenzo-p-dioxins)</u>             | <u>NA</u>                     | <u>0.000063</u>   | <u>0.001</u>  |
|                   |   | <u>TCDFs (All Tetrachlorodibenzofurans)</u>                 | <u>NA</u>                     | <u>0.000063</u>   | <u>0.001</u>  |
|                   |   | <u>1,1,1,2-Tetrachloroethane</u>                            | <u>630-20-6</u>               | <u>0.057</u>  | <u>6.0</u>  |
|                   |   | <u>1,1,2,2-Tetrachloroethane</u>                            | <u>79-34-6</u>                | <u>0.057</u>  | <u>6.0</u>  |
|                   |   | <u>Tetrachloroethylene</u>                                  | <u>127-18-4</u>               | <u>0.056</u>  | <u>6.0</u>  |
|                   |   | <u>2,3,4,6-Tetrachlorophenol</u>                            | <u>58-90-2</u>                | <u>0.030</u>  | <u>7.4</u>  |
|                   |   | <u>Toluene</u>  | <u>108-88-3</u>               | <u>0.080</u>  | <u>10</u>   |
|                   |   | <u>Toxaphene</u>  | <u>8001-35-2</u>              | <u>0.0095</u>   | <u>2.6</u>  |
|                   |   | <u>Bromoform (Tribromomethane)</u>                          | <u>75-25-2</u>                | <u>0.63</u>   | <u>15</u>   |
|                   |   | <u>1,2,4-Trichlorobenzene</u>                               | <u>120-82-1</u>               | <u>0.055</u>  | <u>19</u>   |

# ADMINISTRATIVE REGISTER - 833

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code  | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>   | REGULATED HAZARDOUS CONSTITUENT   |                         | WASTEWATERS   | NONWASTEWATERS  |
|-------------|---|---|-------------------------|---|---|
|             |   | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|             |   | <u>1,1,1-Trichloroethane</u>  | <u>71-55-6</u>          | <u>0.054</u>  | <u>6.0</u>  |
|             |   | <u>1,1,2-Trichloroethane</u>  | <u>79-00-5</u>          | <u>0.054</u>  | <u>6.0</u>  |
|             |   | <u>Trichloroethylene</u>  | <u>79-01-6</u>          | <u>0.054</u>  | <u>6.0</u>  |
|             |   | <u>Trichloromonofluoromethane</u>   | <u>75-69-4</u>          | <u>0.020</u>  | <u>30</u>   |
|             |   | <u>2,4,5-Trichlorophenol</u>  | <u>95-95-4</u>          | <u>0.18</u>   | <u>7.4</u>  |
|             |   | <u>2,4,6-Trichlorophenol</u>  | <u>88-06-2</u>          | <u>0.035</u>  | <u>7.4</u>  |
|             |   | <u>1,2,3-Trichloropropane</u>   | <u>96-18-4</u>          | <u>0.85</u>   | <u>30</u>   |
|             |   | <u>1,1,2-Trichloro-1,2,2-trifluoroethane</u>                              | <u>76-13-1</u>          | <u>0.057</u>  | <u>30</u>   |
|             |   | <u>tris(2,3-Dibromopropyl) phosphate</u>                                  | <u>126-72-7</u>         | <u>0.11</u>   | <u>NA</u>   |
|             |   | <u>Vinyl chloride</u>   | <u>75-01-4</u>          | <u>0.27</u>   | <u>6.0</u>  |
|             |   | <u>Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)</u> | <u>1330-20-7</u>        | <u>0.32</u>   | <u>30</u>   |
|             |   | <u>Antimony</u>   | <u>7440-36-0</u>        | <u>1.9</u>  | <u>2.1 mg/l TCLP</u>  |
|             |   | <u>Arsenic</u>  | <u>7440-38-2</u>        | <u>1.4</u>  | <u>5.0 mg/l TCLP</u>  |
|             |   | <u>Barium</u>   | <u>7440-39-3</u>        | <u>1.2</u>  | <u>7.6 mg/l TCLP</u>  |
|             |   | <u>Beryllium</u>  | <u>7440-41-7</u>        | <u>0.82</u>   | <u>NA</u>   |
|             |   | <u>Cadmium</u>  | <u>7440-43-9</u>        | <u>0.69</u>   | <u>0.19 mg/l TCLP</u>   |
|             |   | <u>Chromium (Total)</u>   | <u>7440-47-3</u>        | <u>2.77</u>   | <u>0.86 mg/l TCLP</u>   |
|             |   | <u>Cyanides (Total)<sup>7</sup></u>                                       | <u>57-12-5</u>          | <u>1.2</u>  | <u>590</u>  |
|             |   | <u>Cyanides (Amenable)<sup>7</sup></u>                                    | <u>57-12-5</u>          | <u>0.86</u>   | <u>NA</u>   |
|             |   | <u>Fluoride</u>   | <u>16964-48-8</u>       | <u>35</u>   | <u>NA</u>   |
|             |   | <u>Lead</u>   | <u>7439-92-1</u>        | <u>0.69</u>   | <u>0.37 mg/l TCLP</u>   |
|             |   | <u>Mercury</u>  | <u>7439-97-6</u>        | <u>0.15</u>   | <u>0.025 mg/l TCLP</u>  |
|             |   | <u>Nickel</u>   | <u>7440-02-0</u>        | <u>3.98</u>   | <u>5.0 mg/l TCLP</u>  |
|             |   | <u>Selenium</u>   | <u>7782-49-2</u>        | <u>0.82</u>   | <u>0.16 mg/l TCLP</u>   |
|             |   | <u>Silver</u>   | <u>7440-22-4</u>        | <u>0.43</u>   | <u>0.30 mg/l TCLP</u>   |
|             |   | <u>Sulfide</u>  | <u>8496-25-8</u>        | <u>14</u>   | <u>NA</u>   |
|             |   | <u>Thallium</u>   | <u>7440-28-0</u>        | <u>1.4</u>  | <u>NA</u>   |
|             |   | <u>Vanadium</u>   | <u>7440-62-2</u>        | <u>4.3</u>  | <u>NA</u>   |
| <u>K001</u> | <u>Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and pentachlorophenol.</u> | <u>Naphthalene</u>  | <u>91-20-3</u>          | <u>0.059</u>  | <u>5.6</u>  |
|             |   | <u>Pentachlorophenol</u>  | <u>87-86-5</u>          | <u>0.089</u>  | <u>7.4</u>  |
|             |   | <u>Phenanthrene</u>   | <u>85-01-8</u>          | <u>0.059</u>  | <u>5.6</u>  |
|             |   | <u>Pyrene</u>   | <u>129-00-0</u>         | <u>0.067</u>  | <u>8.2</u>  |

# ADMINISTRATIVE REGISTER - 834

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>                         | REGULATED HAZARDOUS CONSTITUENT                                    |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|--|-------------------------|---|---|
|            |   | Common Name  | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|            |   | Toluene  | 108-88-3                | 0.080   | 10  |
|            |   | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7               | 0.32  | 30  |
|            |   | Lead   | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| K002       | Wastewater treatment sludge from the production of chrome yellow and orange pigments.       | Chromium (Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Lead   | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| K003       | Wastewater treatment sludge from the production of molybdate orange pigments.               | Chromium (Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Lead   | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| K004       | Wastewater treatment sludge from the production of zinc yellow pigments.                    | Chromium (Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Lead   | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| K005       | Wastewater treatment sludge from the production of chrome green pigments.                   | Chromium (Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Lead   | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
|            |   | Cyanides (Total) <sup>7</sup>                                      | 57-12-5                 | 1.2   | 590   |
| K006       | Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous). | Chromium (Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Lead   | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
|            | Wastewater treatment sludge from the production of chrome oxide green pigments (hydrated).  | Chromium (Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Lead   | 7439-92-1               | 0.69  | NA  |
| K007       | Wastewater treatment sludge from the production of iron blue pigments.                      | Chromium (Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Lead   | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
|            |   | Cyanides (Total) <sup>7</sup>                                      | 57-12-5                 | 1.2   | 590   |
| K008       | Oven residue from the production of chrome oxide green pigments.                            | Chromium (Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Lead   | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| K009       | Distillation bottoms from the production of acetaldehyde from ethylene.                     | Chloroform   | 67-66-3                 | 0.046   | 6.0   |
| K010       | Distillation side cuts from the production of acetaldehyde from ethylene.                   | Chloroform   | 67-66-3                 | 0.046   | 6.0   |
| K011       | Bottom stream from the wastewater stripper in the production of acrylonitrile.              | Acetonitrile   | 75-05-8                 | 5.6   | 18  |
|            |   | Acrylonitrile  | 107-13-1                | 0.24  | 84  |
|            |   | Acrylamide   | 79-06-1                 | 19  | 23  |
|            |   | Benzene  | 71-43-2                 | 0.14  | 10  |
|            |   | Cyanide (Total)  | 57-12-5                 | 1.2   | 590   |
| K013       | Bottom stream from the acetonitrile column in the production of acrylonitrile.              | Acetonitrile   | 75-05-8                 | 5.6   | 1.8   |
|            |   | Acrylonitrile  | 107-13-1                | 0.24  | 84  |
|            |   | Acrylamide   | 79-06-1                 | 19  | 23  |
|            |   | Benzene  | 71-43-2                 | 0.14  | 10  |
|            |   | Cyanide (Total)  | 57-12-5                 | 1.2   | 590   |



# ADMINISTRATIVE REGISTER - 835

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>                           | REGULATED HAZARDOUS CONSTITUENT   |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|---|-------------------------|---|---|
|            |   | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| K014       | Bottoms from the acetonitrile purification column in the production of acrylonitrile.         | Acetonitrile  | 75-05-8                 | 5.6   | 1.8   |
|            |   | Acrylonitrile   | 107-13-1                | 0.24  | 84  |
|            |   | Acrylamide  | 79-06-1                 | 19  | 23  |
|            |   | Benzene   | 71-43-2                 | 0.14  | 10  |
|            |   | Cyanide (Total)   | 57-12-5                 | 1.2   | 590   |
| K015       | Still bottoms from the distillation of benzyl chloride.                                       | Anthracene  | 120-12-7                | 0.059   | 3.4   |
|            |   | Benzal chloride   | 98-87-3                 | 0.055   | 6.0   |
|            |   | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2                | 0.11  | 6.8   |
|            |   | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9                | 0.11  | 6.8   |
|            |   | Phenanthrene  | 85-01-8                 | 0.059   | 5.6   |
|            |   | Toluene   | 108-88-3                | 0.080   | 10  |
|            |   | Chromium (Total)  | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Nickel  | 7440-02-0               | 3.98  | 5.0 mg/l TCLP   |
| K016       | Heavy ends or distillation residues from the production of carbon tetrachloride.              | Hexachlorobenzene   | 118-74-1                | 0.055   | 10  |
|            |   | Hexachlorobutadiene   | 87-68-3                 | 0.055   | 5.6   |
|            |   | Hexachlorocyclopentadiene   | 77-47-4                 | 0.057   | 2.4   |
|            |   | Hexachloroethane  | 67-72-1                 | 0.055   | 30  |
|            |   | Tetrachloroethylene   | 127-18-4                | 0.056   | 6.0   |
| K017       | Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin. | bis(2-Chloroethyl) ether  | 111-44-4                | 0.033   | 6.0   |
|            |   | 1,2-Dichloropropane   | 78-87-5                 | 0.85  | 18  |
|            |   | 1,2,3-Trichloropropane  | 96-18-4                 | 0.85  | 30  |
| K018       | Heavy ends from the fractionation column in ethyl chloride production.                        | Chloroethane  | 75-00-3                 | 0.27  | 6.0   |
|            |   | Chloromethane   | 74-87-3                 | 0.19  | NA  |
|            |   | 1,1-Dichloroethane  | 75-34-3                 | 0.059   | 6.0   |
|            |   | 1,2-Dichloroethane  | 107-06-2                | 0.21  | 6.0   |
|            |   | Hexachlorobenzene   | 118-74-1                | 0.055   | 10  |
|            |   | Hexachlorobutadiene   | 87-68-3                 | 0.055   | 5.6   |
|            |   | Hexachloroethane  | 67-72-1                 | 0.055   | 30  |
|            |   | Pentachloroethane   | 76-01-7                 | NA  | 6.0   |
| K019       | Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.    | 1,1,1-Trichloroethane   | 71-55-6                 | 0.054   | 6.0   |
|            |   | bis(2-Chloroethyl) ether  | 111-44-1                | 0.033   | 6.0   |
|            |   | Chlorobenzene   | 108-90-7                | 0.057   | 6.0   |

# ADMINISTRATIVE REGISTER - 836

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>                      | REGULATED HAZARDOUS CONSTITUENT                                     |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|--|---|-------------------------|---|---|
|            |  | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|            |  | Chloroform  | 67-66-3                 | 0.046   | 6.0   |
|            |  | p-Dichlorobenzene   | 106-46-7                | 0.090   | NA  |
|            |  | 1,2-Dichloroethane  | 107-06-2                | 0.21  | 6.0   |
|            |  | Fluorene  | 86-73-7                 | 0.059   | NA  |
|            |  | Hexachloroethane  | 67-72-1                 | 0.055   | 30  |
|            |  | Naphthalene   | 91-20-3                 | 0.059   | 5.6   |
|            |  | Phenanthrene  | 85-01-8                 | 0.059   | 5.6   |
|            |  | 1,2,4,5-Tetrachlorobenzene  | 95-94-3                 | 0.055   | NA  |
|            |  | Tetrachloroethylene   | 127-18-4                | 0.056   | 6.0   |
|            |  | 1,2,4-Trichlorobenzene  | 120-82-1                | 0.055   | 19  |
|            |  | 1,1,1-Trichloroethane   | 71-55-6                 | 0.054   | 6.0   |
| K020       | Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production. | 1,2-Dichloroethane  | 107-06-2                | 0.21  | 6.0   |
|            |  | 1,1,2,2-Tetrachloroethane   | 79-34-6                 | 0.057   | 6.0   |
|            |  | Tetrachloroethylene   | 127-18-4                | 0.056   | 6.0   |
| K021       | Aqueous spent antimony catalyst waste from fluoromethanes production.                    | Carbon tetrachloride  | 56-23-5                 | 0.057   | 6.0   |
|            |  | Chloroform  | 67-66-3                 | 0.046   | 6.0   |
|            |  | Antimony  | 7440-36-0               | 1.9   | 2.1 mg/l TCLP   |
| K022       | Distillation bottom tars from the production of phenol/acetone from cumene.              | Toluene   | 108-88-3                | 0.080   | 10  |
|            |  | Acetophenone  | 96-86-2                 | 0.010   | 9.7   |
|            |  | Diphenylamine (difficult to distinguish from diphenylnitrosamine)   | 122-39-4                | 0.92  | 13  |
|            |  | Diphenylnitrosamine (difficult to distinguish from diphenylamine)   | 86-30-6                 | 0.92  | 13  |
|            |  | Phenol  | 108-95-2                | 0.039   | 6.2   |
|            |  | Chromium (Total)  | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |  | Nickel  | 7440-02-0               | 0.98  | 5.0 mg/l TCLP   |
| K023       | Distillation light ends from the production of phthalic anhydride from naphthalene.      | Phthalic anhydride (measured as Phthalic acid or terephthalic acid) | 100-21-0                | 0.055   | 28  |
|            |  | Phthalic anhydride (measured as Phthalic acid or terephthalic acid) | 85-44-9                 | 0.055   | 28  |
| K024       | Distillation bottoms from the production of phthalic anhydride from naphthalene.         | Phthalic anhydride (measured as Phthalic acid or terephthalic acid) | 100-21-0                | 0.055   | 28  |

# ADMINISTRATIVE REGISTER - 837

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>                                  | REGULATED HAZARDOUS CONSTITUENT                                     |                         | WASTEWATERS   | NONWASTEWATERS   |
|------------|--|---|-------------------------|---|--|
|            |  | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as *mg/l TCLP <sup>5</sup> ; or Technology Code |
|            |  | Phthalic anhydride (measured as Phthalic acid or terephthalic acid) | 85-44-9                 | 0.055   | 28   |
| K025       | Distillation bottoms from the production of nitrobenzene by the nitration of benzene.                | NA  | NA                      | LLEXT lb SSTRP lb CARBN; or INCIN                                 | INCIN  |
| K026       | Stripping still tails from the production of methyl ethyl pyridines.                                 | NA  | NA                      | INCIN   | INCIN  |
| K027       | Centrifuge and distillation residues from the toluene diisocyanate production.                       | NA  | NA                      | CARBN; or INCIN   | CMBST  |
| K028       | Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.         | 1,1-Dichloroethane  | 76-34-3                 | 0.059   | 6.0  |
|            |  | trans-1,2-Dichloroethylene  | 156-60-5                | 0.054   | 30   |
|            |  | Hexachlorobutadiene   | 87-68-3                 | 0.055   | 5.6  |
|            |  | Hexachloroethane  | 67-72-1                 | 0.055   | 30   |
|            |  | Pentachloroethane   | 76-01-7                 | NA  | 6.0  |
|            |  | 1,1,1,2-Tetrachloroethane   | 630-20-6                | 0.057   | 6.0  |
|            |  | 1,1,2,2-Tetrachloroethane   | 79-34-6                 | 0.057   | 6.0  |
|            |  | Tetrachloroethylene   | 127-18-4                | 0.056   | 6.0  |
|            |  | 1,1,1-Trichloroethane   | 71-55-6                 | 0.054   | 6.0  |
|            |  | 1,1,2-Trichloroethane   | 79-00-5                 | 0.054   | 6.0  |
|            |  | Cadmium   | 7440-43-9               | 0.69  | NA   |
|            |  | Chromium(Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP   |
|            |  | Lead  | 7439-92-1               | 0.69  | 0.37 mg/l TCLP   |
|            |  | Nickel  | 7440-02-0               | 3.98  | 5.0 mg/l TCLP  |
| K029       | Waste from the product steam stripper in the production of 1,1,1-trichloroethane.                    | Chloroform  | 67-66-3                 | 0.046   | 6.0  |
|            |  | 1,2-Dichloroethane  | 107-06-2                | 0.21  | 6.0  |
|            |  | 1,1-Dichloroethylene  | 75-35-4                 | 0.025   | 6.0  |
|            |  | 1,1,1-Trichloroethane   | 71-55-6                 | 0.054   | 6.0  |
|            |  | Vinyl chloride  | 75-01-4                 | 0.27  | 6.0  |
| K030       | Column bodies or heavy ends from the combined production of trichloroethylene and perchloroethylene. | o-Dichlorobenzene   | 95-50-1                 | 0.088   | NA   |
|            |  | p-Dichlorobenzene   | 106-46-7                | 0.090   | NA   |
|            |  | Hexachlorobutadiene   | 87-68-3                 | 0.055   | 5.6  |
|            |  | Hexachloroethane  | 67-72-1                 | 0.055   | 30   |
|            |  | Hexachloropropylene   | 1888-71-7               | NA  | 30   |
|            |  | Pentachlorobenzene  | 608-93-5                | NA  | 10   |
|            |  | Pentachloroethane   | 76-01-7                 | NA  | 6.0  |
|            |  | 1,2,4,5-Tetrachlorobenzene  | 95-94-3                 | 0.055   | 14   |
|            |  | Tetrachloroethylene   | 127-18-4                | 0.056   | 6.0  |

# ADMINISTRATIVE REGISTER - 838

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code  | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>  | REGULATED HAZARDOUS CONSTITUENT                          |                         | WASTEWATERS   | NONWASTEWATERS  |
|-------------|--|--|-------------------------|---|---|
|             |  | Common Name  | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|             |  | <u>1,2,4-Trichlorobenzene</u>                            | <u>120-82-1</u>         | <u>0.055</u>  | <u>19</u>   |
| <u>K031</u> | <u>By-product salts generated in the production of MSMA and cacodylic acid.</u>                            | <u>Arsenic</u>   | <u>7440-38-2</u>        | <u>1.4</u>  | <u>5.0 mg/l TCLP</u>  |
| <u>K032</u> | <u>Wastewater treatment sludge from the production of chlordane.</u>                                       | <u>Hexachlorocyclopentadiene</u>                         | <u>77-47-4</u>          | <u>0.057</u>  | <u>2.4</u>  |
|             |  | <u>Chlordane (alpha and gamma isomers)</u>               | <u>57-74-9</u>          | <u>0.0033</u>   | <u>0.26</u>   |
|             |  | <u>Heptachlor</u>  | <u>76-44-8</u>          | <u>0.0012</u>   | <u>0.066</u>  |
|             |  | <u>Heptachlor epoxide</u>                                | <u>1024-57-3</u>        | <u>0.016</u>  | <u>0.066</u>  |
| <u>K033</u> | <u>Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.</u> | <u>Hexachlorocyclopentadiene</u>                         | <u>77-47-4</u>          | <u>0.057</u>  | <u>2.4</u>  |
| <u>K034</u> | <u>Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.</u>      | <u>Hexachlorocyclopentadiene</u>                         | <u>77-47-4</u>          | <u>0.057</u>  | <u>2.4</u>  |
| <u>K035</u> | <u>Wastewater treatment sludges generated in the production of creosote.</u>                               | <u>Acenaphthene</u>                                      | <u>83-32-9</u>          | <u>NA</u>   | <u>3.4</u>  |
|             |  | <u>Anthracene</u>  | <u>120-12-7</u>         | <u>NA</u>   | <u>3.4</u>  |
|             |  | <u>Benz(a)anthracene</u>                                 | <u>56-55-3</u>          | <u>0.059</u>  | <u>3.4</u>  |
|             |  | <u>Benzo(a)pyrene</u>                                    | <u>50-32-8</u>          | <u>0.061</u>  | <u>3.4</u>  |
|             |  | <u>Chrysene</u>  | <u>218-01-9</u>         | <u>0.059</u>  | <u>3.4</u>  |
|             |  | <u>o-Cresol</u>  | <u>95-48-7</u>          | <u>0.11</u>   | <u>5.6</u>  |
|             |  | <u>m-Cresol (difficult to distinguish from p-cresol)</u> | <u>108-39-4</u>         | <u>0.77</u>   | <u>5.6</u>  |
|             |  | <u>p-Cresol (difficult to distinguish from m-cresol)</u> | <u>106-44-5</u>         | <u>0.77</u>   | <u>5.6</u>  |
|             |  | <u>Dibenz(a,h)anthracene</u>                             | <u>53-70-3</u>          | <u>NA</u>   | <u>8.2</u>  |
|             |  | <u>Fluoranthene</u>                                      | <u>206-44-0</u>         | <u>0.068</u>  | <u>3.4</u>  |
|             |  | <u>Fluorene</u>  | <u>86-73-7</u>          | <u>NA</u>   | <u>3.4</u>  |
|             |  | <u>Indeno(1,2,3-cd)pyrene</u>                            | <u>193-39-5</u>         | <u>NA</u>   | <u>3.4</u>  |
|             |  | <u>Naphthalene</u>                                       | <u>91-20-3</u>          | <u>0.059</u>  | <u>5.6</u>  |
|             |  | <u>Phenanthrene</u>                                      | <u>85-01-8</u>          | <u>0.059</u>  | <u>5.6</u>  |
|             |  | <u>Phenol</u>  | <u>108-95-2</u>         | <u>0.039</u>  | <u>6.2</u>  |
|             |  | <u>Pyrene</u>  | <u>129-00-0</u>         | <u>0.067</u>  | <u>8.2</u>  |
| <u>K036</u> | <u>Still bottoms from toluene reclamation distillation in the production of disulfoton.</u>                | <u>Disulfoton</u>  | <u>298-04-4</u>         | <u>0.017</u>  | <u>6.2</u>  |
| <u>K037</u> | <u>Wastewater treatment sludges from the production of disulfoton.</u>                                     | <u>Disulfoton</u>  | <u>298-04-4</u>         | <u>0.017</u>  | <u>6.2</u>  |
|             |  | <u>Toluene</u>   | <u>108-88-3</u>         | <u>0.080</u>  | <u>10</u>   |
| <u>K038</u> | <u>Wastewater from the washing and stripping of phorate production.</u>                                    | <u>Phorate</u>   | <u>298-02-2</u>         | <u>0.021</u>  | <u>4.6</u>  |
| <u>K039</u> | <u>Filter cake from the filtration of diethylphosphorodithioc acid in the production of phorate.</u>       | <u>NA</u>  | <u>NA</u>               | <u>CARBON; or INCIN</u>   | <u>CMBST</u>  |

# ADMINISTRATIVE REGISTER - 839

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>  | REGULATED HAZARDOUS CONSTITUENT           |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|--|---|-------------------------|---|---|
|            |  | Common Name                               | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| K040       | Wastewater treatment sludge from the production of phorate.  | Phorate                                   | 298-02-2                | 0.021   | 4.6   |
| K041       | Wastewater treatment sludge from the production of toxaphene.  | Toxaphene                                 | 8001-35-2               | 0.0095  | 2.6   |
| K042       | Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.    | o-Dichlorobenzene                         | 95-50-1                 | 0.088   | 6.0   |
|            |  | p-Dichlorobenzene                         | 106-46-7                | 0.090   | 6.0   |
|            |  | Pentachlorobenzene                        | 608-93-5                | 0.055   | 10  |
|            |  | 1,2,4,5-Tetrachlorobenzene                | 95-94-3                 | 0.055   | 14  |
|            |  | 1,2,4-Trichlorobenzene                    | 120-82-1                | 0.055   | 19  |
| K043       | 2,6-Dichlorophenol waste from the production of 2,4-D.   | 2,4-Dichlorophenol                        | 120-83-2                | 0.044   | 14  |
|            |  | 2,6-Dichlorophenol                        | 187-65-0                | 0.044   | 14  |
|            |  | 2,4,5-Trichlorophenol                     | 95-95-4                 | 0.18  | 7.4   |
|            |  | 2,4,6-Trichlorophenol                     | 88-06-2                 | 0.035   | 7.4   |
|            |  | 2,3,4,6-Tetrachlorophenol                 | 58-90-2                 | 0.030   | 7.4   |
|            |  | Pentachlorophenol                         | 87-86-5                 | 0.089   | 7.4   |
|            |  | Tetrachloroethylene                       | 127-18-4                | 0.056   | 6.0   |
|            |  | HxCDDs (All Hexachlorodibenzo-p-dioxins)  | NA                      | 0.000063  | 0.001   |
|            |  | HxCDFs (All Hexachlorodibenzofurans)      | NA                      | 0.000063  | 0.001   |
|            |  | PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA                      | 0.000063  | 0.001   |
|            |  | PeCDFs (All Pentachlorodibenzofurans)     | NA                      | 0.000035  | 0.001   |
|            |  | TCDDs (All Tetrachlorodibenzo-p-dioxins)  | NA                      | 0.000063  | 0.001   |
|            |  | TCDFs (All Tetrachlorodibenzofurans)      | NA                      | 0.000063  | 0.001   |
| K044       | Wastewater treatment sludges from the manufacturing and processing of explosives.                                | NA  | NA                      | DEACT   | DEACT   |
| K045       | Spent carbon from the treatment of wastewater containing explosives.   | NA  | NA                      | DEACT   | DEACT   |
| K046       | Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds. | Lead                                      | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| K047       | Pink/red water from TNT operations.  | NA  | NA                      | DEACT   | DEACT   |
| K048       | Dissolved air flotation (DAF) float from the petroleum refining industry.  | Benzene                                   | 71-43-2                 | 0.14  | 10  |
|            |  | Benzo(a)pyrene                            | 50-32-8                 | 0.061   | 3.4   |
|            |  | bis(2-Ethylhexyl) phthalate               | 117-81-7                | 0.28  | 28  |

# ADMINISTRATIVE REGISTER - 840

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| <u>Waste Code</u> | <u>Waste Description and Treatment/Regulatory Subcategory<sup>1</sup></u> | <u>REGULATED HAZARDOUS CONSTITUENT</u>                                    |                               | <u>WASTEWATERS</u>  | <u>NONWASTEWATERS</u>   |
|-------------------|---|---|-------------------------------|---|---|
|                   |   | <u>Common Name</u>  | <u>CAS<sup>2</sup> Number</u> | <u>Concentration mg/l<sup>3</sup>; or Technology Code<sup>4</sup></u> | <u>Concentration in mg/kg<sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code</u> |
|                   |   | <u>Chrysene</u>   | <u>218-01-9</u>               | <u>0.059</u>  | <u>3.4</u>  |
|                   |   | <u>Di-n-butyl phthalate</u>   | <u>84-74-2</u>                | <u>0.057</u>  | <u>28</u>   |
|                   |   | <u>Ethylbenzene</u>   | <u>100-41-4</u>               | <u>0.057</u>  | <u>10</u>   |
|                   |   | <u>Fluorene</u>   | <u>86-73-7</u>                | <u>0.059</u>  | <u>NA</u>   |
|                   |   | <u>Naphthalene</u>  | <u>91-20-3</u>                | <u>0.059</u>  | <u>5.6</u>  |
|                   |   | <u>Phenanthrene</u>   | <u>85-01-8</u>                | <u>0.059</u>  | <u>5.6</u>  |
|                   |   | <u>Phenol</u>   | <u>108-95-2</u>               | <u>0.039</u>  | <u>6.2</u>  |
|                   |   | <u>Pyrene</u>   | <u>129-00-0</u>               | <u>0.067</u>  | <u>8.2</u>  |
|                   |   | <u>Toluene</u>  | <u>108-88-33</u>              | <u>0.080</u>  | <u>10</u>   |
|                   |   | <u>Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)</u> | <u>1330-20-7</u>              | <u>0.32</u>   | <u>30</u>   |
|                   |   | <u>Chromium (Total)</u>   | <u>7440-47-3</u>              | <u>2.77</u>   | <u>0.86 mg/l TCLP</u>   |
|                   |   | <u>Cyanides (Total)<sup>7</sup></u>                                       | <u>57-12-5</u>                | <u>1.2</u>  | <u>590</u>  |
|                   |   | <u>Lead</u>   | <u>7439-92-1</u>              | <u>0.69</u>   | <u>NA</u>   |
|                   |   | <u>Nickel</u>   | <u>7440-02-0</u>              | <u>NA</u>   | <u>5.0 mg/l TCLP</u>  |
| <u>K049</u>       | <u>Slop oil emulsion solids from the petroleum refining industry.</u>     | <u>Anthracene</u>   | <u>120-12-7</u>               | <u>0.059</u>  | <u>3.4</u>  |
|                   |   | <u>Benzene</u>  | <u>71-43-2</u>                | <u>0.14</u>   | <u>10</u>   |
|                   |   | <u>Benzo(a)pyrene</u>   | <u>50-32-8</u>                | <u>0.061</u>  | <u>3.4</u>  |
|                   |   | <u>bis(2-Ethylhexyl) phthalate</u>  | <u>117-81-7</u>               | <u>0.28</u>   | <u>28</u>   |
|                   |   | <u>Carbon disulfide</u>   | <u>75-15-0</u>                | <u>3.8</u>  | <u>NA</u>   |
|                   |   | <u>Chrysene</u>   | <u>2218-01-9</u>              | <u>0.059</u>  | <u>3.4</u>  |
|                   |   | <u>2,4-Dimethylphenol</u>   | <u>105-67-9</u>               | <u>0.036</u>  | <u>NA</u>   |
|                   |   | <u>Ethylbenzene</u>   | <u>100-41-4</u>               | <u>0.057</u>  | <u>10</u>   |
|                   |   | <u>Naphthalene</u>  | <u>91-20-3</u>                | <u>0.059</u>  | <u>5.6</u>  |
|                   |   | <u>Phenanthrene</u>   | <u>85-01-8</u>                | <u>0.059</u>  | <u>5.6</u>  |
|                   |   | <u>Phenol</u>   | <u>108-95-2</u>               | <u>0.039</u>  | <u>6.2</u>  |
|                   |   | <u>Pyrene</u>   | <u>129-00-0</u>               | <u>0.067</u>  | <u>8.2</u>  |
|                   |   | <u>Toluene</u>  | <u>108-88-3</u>               | <u>0.080</u>  | <u>10</u>   |
|                   |   | <u>Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)</u> | <u>1330-20-7</u>              | <u>0.32</u>   | <u>30</u>   |
|                   |   | <u>Cyanides (Total)<sup>7</sup></u>                                       | <u>57-12-5</u>                | <u>1.2</u>  | <u>590</u>  |
|                   |   | <u>Chromium (Total)</u>   | <u>7440-47-3</u>              | <u>2.77</u>   | <u>0.86 mg/l TCLP</u>   |
|                   |   | <u>Lead</u>   | <u>7439-92-1</u>              | <u>0.69</u>   | <u>NA</u>   |
|                   |   | <u>Nickel</u>   | <u>7440-02-0</u>              | <u>NA</u>   | <u>5.0 mg/l TCLP</u>  |

# ADMINISTRATIVE REGISTER - 841

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| <u>Waste Code</u> | <u>Waste Description and Treatment/Regulatory Subcategory<sup>1</sup></u>          | <u>REGULATED HAZARDOUS CONSTITUENT</u>                                    |                               | <u>WASTEWATERS</u>  | <u>NONWASTEWATERS</u>  |
|-------------------|--|---|-------------------------------|---|--|
|                   |  | <u>Common Name</u>  | <u>CAS<sup>2</sup> Number</u> | <u>Concentration mg/l<sup>3</sup>; or Technology Code<sup>4</sup></u> | <u>Concentration in mg/kg<sup>2</sup> unless noted as *mg/l TCLP<sup>5</sup>; or Technology Code</u> |
| <u>K050</u>       | <u>Heat exchanger bundle cleaning sludge from the petroleum refining industry.</u> | <u>Benzo(a)pyrene</u>   | <u>50-32-8</u>                | <u>0.061</u>  | <u>3.4</u>   |
|                   |  | <u>Phenol</u>   | <u>108-95-2</u>               | <u>0.039</u>  | <u>6.2</u>   |
|                   |  | <u>Cyanides (Total)<sup>7</sup></u>                                       | <u>57-12-5</u>                | <u>1.2</u>  | <u>590</u>   |
|                   |  | <u>Chromium (Total)</u>   | <u>7440-47-3</u>              | <u>2.77</u>   | <u>0.86 mg/l TCLP</u>  |
|                   |  | <u>Lead</u>   | <u>7439-92-1</u>              | <u>0.69</u>   | <u>NA</u>  |
|                   |  | <u>Nickel</u>   | <u>7440-02-0</u>              | <u>NA</u>   | <u>5.0 mg/l TCLP</u>   |
| <u>K051</u>       | <u>API separator sludge from the petroleum refining industry.</u>                  | <u>Acenaphthene</u>   | <u>83-32-9</u>                | <u>0.059</u>  | <u>NA</u>  |
|                   |  | <u>Anthracene</u>   | <u>120-12-7</u>               | <u>0.059</u>  | <u>3.4</u>   |
|                   |  | <u>Benz(a)anthracene</u>  | <u>56-55-3</u>                | <u>0.059</u>  | <u>3.4</u>   |
|                   |  | <u>Benzene</u>  | <u>71-43-2</u>                | <u>0.14</u>   | <u>10</u>  |
|                   |  | <u>Benzo(a)pyrene</u>   | <u>50-32-8</u>                | <u>0.061</u>  | <u>3.4</u>   |
|                   |  | <u>bis(2-Ethylhexyl) phthalate</u>  | <u>117-81-7</u>               | <u>0.28</u>   | <u>28</u>  |
|                   |  | <u>Chrysene</u>   | <u>2218-01-9</u>              | <u>0.059</u>  | <u>3.4</u>   |
|                   |  | <u>Di-n-butyl phthalate</u>   | <u>105-67-9</u>               | <u>0.057</u>  | <u>28</u>  |
|                   |  | <u>Ethylbenzene</u>   | <u>100-41-4</u>               | <u>0.057</u>  | <u>10</u>  |
|                   |  | <u>Fluorene</u>   | <u>86-73-7</u>                | <u>0.059</u>  | <u>NA</u>  |
|                   |  | <u>Naphthalene</u>  | <u>91-20-3</u>                | <u>0.059</u>  | <u>5.6</u>   |
|                   |  | <u>Phenanthrene</u>   | <u>85-01-8</u>                | <u>0.059</u>  | <u>5.6</u>   |
|                   |  | <u>Phenol</u>   | <u>108-95-2</u>               | <u>0.039</u>  | <u>6.2</u>   |
|                   |  | <u>Pyrene</u>   | <u>129-00-0</u>               | <u>0.067</u>  | <u>8.2</u>   |
|                   |  | <u>Toluene</u>  | <u>106-88-3</u>               | <u>0.08</u>   | <u>10</u>  |
|                   |  | <u>Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)</u> | <u>1330-20-7</u>              | <u>0.32</u>   | <u>30</u>  |
|                   |  | <u>Cyanides (Total)<sup>7</sup></u>                                       | <u>57-12-5</u>                | <u>1.2</u>  | <u>590</u>   |
|                   |  | <u>Chromium (Total)</u>   | <u>7440-47-3</u>              | <u>2.77</u>   | <u>0.86 mg/l TCLP</u>  |
|                   |  | <u>Lead</u>   | <u>7439-92-1</u>              | <u>0.69</u>   | <u>NA</u>  |
|                   |  | <u>Nickel</u>   | <u>7440-02-0</u>              | <u>NA</u>   | <u>5.0 mg/l TCLP</u>   |
| <u>K052</u>       | <u>Tank bottoms (lead) from the petroleum refining industry.</u>                   | <u>Benzene</u>  | <u>71-43-2</u>                | <u>0.14</u>   | <u>10</u>  |
|                   |  | <u>Benzo(a)pyrene</u>   | <u>50-32-8</u>                | <u>0.061</u>  | <u>3.4</u>   |
|                   |  | <u>o-Cresol</u>   | <u>95-48-7</u>                | <u>0.11</u>   | <u>5.6</u>   |
|                   |  | <u>m-Cresol (difficult to distinguish from p-cresol)</u>                  | <u>108-39-4</u>               | <u>0.77</u>   | <u>5.6</u>   |
|                   |  | <u>p-Cresol (difficult to distinguish from m-cresol)</u>                  | <u>106-44-5</u>               | <u>0.77</u>   | <u>5.6</u>   |
|                   |  | <u>2,4-Dimethylphenol</u>   | <u>105-67-9</u>               | <u>0.036</u>  | <u>NA</u>  |



# ADMINISTRATIVE REGISTER - 842

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| <u>Waste Code</u> | <u>Waste Description and Treatment/Regulatory Subcategory<sup>1</sup></u>  | <u>REGULATED HAZARDOUS CONSTITUENT</u>                                    |                               | <u>WASTEWATERS</u>  | <u>NONWASTEWATERS</u>   |
|-------------------|--|---|-------------------------------|---|---|
|                   |  | <u>Common Name</u>  | <u>CAS<sup>2</sup> Number</u> | <u>Concentration mg/l<sup>3</sup>, or Technology Code<sup>4</sup></u> | <u>Concentration in mg/kg<sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code</u> |
|                   |  | <u>Ethylbenzene</u>   | <u>100-41-4</u>               | <u>0.057</u>  | <u>10</u>   |
|                   |  | <u>Naphthalene</u>  | <u>91-20-3</u>                | <u>0.059</u>  | <u>5.6</u>  |
|                   |  | <u>Phenanthrene</u>   | <u>85-01-8</u>                | <u>0.059</u>  | <u>5.6</u>  |
|                   |  | <u>Phenol</u>   | <u>108-95-2</u>               | <u>0.039</u>  | <u>6.2</u>  |
|                   |  | <u>Toluene</u>  | <u>108-88-3</u>               | <u>0.08</u>   | <u>10</u>   |
|                   |  | <u>Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)</u> | <u>1330-20-7</u>              | <u>0.32</u>   | <u>30</u>   |
|                   |  | <u>Chromium (Total)</u>   | <u>7440-47-3</u>              | <u>2.77</u>   | <u>0.86 mg/l TCLP</u>   |
|                   |  | <u>Cyanides (Total)<sup>7</sup></u>                                       | <u>57-12-5</u>                | <u>1.2</u>  | <u>590</u>  |
|                   |  | <u>Lead</u>   | <u>7439-92-1</u>              | <u>0.69</u>   | <u>NA</u>   |
|                   |  | <u>Nickel</u>   | <u>7440-02-0</u>              | <u>NA</u>   | <u>5.0 mg/l TCLP</u>  |
| <u>K060</u>       | <u>Ammonia still line sludge from coking operations.</u>   | <u>Benzene</u>  | <u>71-43-2</u>                | <u>0.14</u>   | <u>10</u>   |
|                   |  | <u>Benzo(a)pyrene</u>   | <u>50-32-8</u>                | <u>0.061</u>  | <u>3.4</u>  |
|                   |  | <u>Naphthalene</u>  | <u>91-20-3</u>                | <u>0.059</u>  | <u>5.6</u>  |
|                   |  | <u>Phenol</u>   | <u>108-95-2</u>               | <u>0.039</u>  | <u>6.2</u>  |
|                   |  | <u>Cyanides (Total)<sup>7</sup></u>                                       | <u>57-12-5</u>                | <u>1.2</u>  | <u>590</u>  |
| <u>K061</u>       | <u>Emission control dust/sludge from the primary production of steel in electric furnaces.</u>   | <u>Antimony</u>   | <u>7440-36-0</u>              | <u>NA</u>   | <u>2.1 mg/l TCLP</u>  |
|                   |  | <u>Arsenic</u>  | <u>7440-38-2</u>              | <u>NA</u>   | <u>5.0 mg/l TCLP</u>  |
|                   |  | <u>Barium</u>   | <u>7440-39-3</u>              | <u>NA</u>   | <u>7.6 mg/l TCLP</u>  |
|                   |  | <u>Beryllium</u>  | <u>7440-41-7</u>              | <u>NA</u>   | <u>0.014 mg/l TCLP</u>  |
|                   |  | <u>Cadmium</u>  | <u>7440-43-9</u>              | <u>0.69</u>   | <u>0.19 mg/l TCLP</u>   |
|                   |  | <u>Chromium (Total)</u>   | <u>7440-47-3</u>              | <u>2.77</u>   | <u>0.86 mg/l TCLP</u>   |
|                   |  | <u>Lead</u>   | <u>7439-92-1</u>              | <u>0.69</u>   | <u>0.37 mg/l TCLP</u>   |
|                   |  | <u>Mercury</u>  | <u>7439-97-6</u>              | <u>NA</u>   | <u>0.025 mg/l TCLP</u>  |
|                   |  | <u>Nickel</u>   | <u>7440-02-0</u>              | <u>3.98</u>   | <u>5.0 mg/l TCLP</u>  |
|                   |  | <u>Selenium</u>   | <u>7782-49-2</u>              | <u>NA</u>   | <u>0.16 mg/l TCLP</u>   |
|                   |  | <u>Silver</u>   | <u>7440-22-4</u>              | <u>NA</u>   | <u>0.30 mg/l TCLP</u>   |
|                   |  | <u>Thallium</u>   | <u>NA</u>                     | <u>NA</u>   | <u>0.078 mg/l TCLP</u>  |
|                   |  | <u>Zinc</u>   | <u>7440-66-6</u>              | <u>NA</u>   | <u>5.3 mg/l TCLP</u>  |
| <u>K062</u>       | <u>Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).</u> | <u>Chromium (Total)</u>   | <u>7440-47-3</u>              | <u>2.77</u>   | <u>0.86 mg/l TCLP</u>   |
|                   |  | <u>Lead</u>   | <u>7439-92-1</u>              | <u>0.69</u>   | <u>0.37 mg/l TCLP</u>   |
|                   |  | <u>Nickel</u>   | <u>7440-02-0</u>              | <u>3.98</u>   | <u>NA</u>   |
| <u>K069</u>       | <u>Emission control dust/sludge from secondary lead smelting. - Calcium sulfate (Low Lead) Subcategory</u>                                   | <u>Cadmium</u>  | <u>7440-43-9</u>              | <u>0.69</u>   | <u>0.19 mg/l TCLP</u>   |
|                   |  | <u>Lead</u>   | <u>7439-92-1</u>              | <u>0.69</u>   | <u>0.37 mg/l TCLP</u>   |
|                   | <u>Emission control dust/sludge from secondary lead smelting. - Non-Calcium sulfate (High Lead) Subcategory</u>                              | <u>NA</u>   | <u>NA</u>                     | <u>NA</u>   | <u>RLEAD</u>  |

# ADMINISTRATIVE REGISTER - 843

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| <u>Waste Code</u> | <u>Waste Description and Treatment/Regulatory Subcategory<sup>1</sup></u>  | <u>REGULATED HAZARDOUS CONSTITUENT</u>                            |                               | <u>WASTEWATERS</u>  | <u>NONWASTEWATERS</u>  |
|-------------------|--|---|-------------------------------|---|--|
|                   |  | <u>Common Name</u>  | <u>CAS<sup>2</sup> Number</u> | <u>Concentration mg/l<sup>3</sup>, or Technology Code<sup>4</sup></u> | <u>Concentration in mg/kg<sup>3</sup>, unless noted as "mg/l TCLP"; or Technology Code</u> |
| K071              | K071 (Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used) nonwastewaters that are residues from RMERC.     | Mercury   | 7439-97-6                     | NA  | 0.20 mg/l TCLP   |
|                   | K071 (Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used) nonwastewaters that are not residues from RMERC. | Mercury   | 7439-97-6                     | NA  | 0.025 mg/l TCLP  |
|                   | All K071 wastewaters.  | Mercury   | 7439-97-6                     | 0.15  | NA   |
| K073              | Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.   | Carbon tetrachloride  | 56-23-5                       | 0.057   | 6.0  |
|                   |  | Chloroform  | 67-66-3                       | 0.046   | 6.0  |
|                   |  | Hexachloroethane  | 67-72-1                       | 0.055   | 30   |
|                   |  | Tetrachloroethylene   | 127-18-4                      | 0.056   | 6.0  |
|                   |  | 1,1,1-Trichloroethane   | 71-55-6                       | 0.054   | 6.0  |
| K083              | Distillation bottoms from aniline production.  | Aniline   | 62-53-3                       | 0.81  | 14   |
|                   |  | Benzene   | 71-43-2                       | 0.14  | 10   |
|                   |  | Cyclohexanone   | 108-94-1                      | 0.36  | NA   |
|                   |  | Diphenylamine (difficult to distinguish from diphenylnitrosamine) | 122-39-4                      | 0.92  | 13   |
|                   |  | Diphenylnitrosamine (difficult to distinguish from diphenylamine) | 86-30-6                       | 0.92  | 13   |
|                   |  | Nitrobenzene  | 98-95-3                       | 0.068   | 14   |
|                   |  | Phenol  | 108-95-2                      | 0.039   | 6.2  |
|                   |  | Nickel  | 7440-02-0                     | 3.98  | 5.0 mg/l TCLP  |
| K084              | Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.   | Arsenic   | 7440-38-2                     | 1.4   | 5.0 mg/l TCLP  |
| K085              | Distillation or fractionation column bottoms from the production of chlorobenzenes.  | Benzene   | 71-43-2                       | 0.14  | 10   |
|                   |  | Chlorobenzene   | 108-90-7                      | 0.057   | 6.0  |
|                   |  | m-Dichlorobenzene   | 541-73-1                      | 0.036   | 6.0  |
|                   |  | o-Dichlorobenzene   | 95-50-1                       | 0.088   | 6.0  |
|                   |  | p-Dichlorobenzene   | 106-46-7                      | 0.090   | 6.0  |
|                   |  | Hexachlorobenzene   | 118-74-1                      | 0.055   | 10   |
|                   |  | Total PCBs (sum of all PCB isomers, or all Aroclors)              | 1336-36-3                     | 0.10  | 10   |
|                   |  | Pentachlorobenzene  | 608-93-5                      | 0.055   | 10   |
|                   |  | 1,2,4,5-Tetrachlorobenzene  | 95-94-3                       | 0.055   | 14   |
|                   |  | 1,2,4-Trichlorobenzene  | 120-82-1                      | 0.055   | 19   |

# ADMINISTRATIVE REGISTER - 844

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>   | REGULATED HAZARDOUS CONSTITUENT                                    |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|--|-------------------------|---|---|
|            |   | Common Name  | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| K086       | Solvent wastes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead. | Acetone  | 67-64-1                 | 0.28  | 160   |
|            |   | Acetophenone   | 96-86-2                 | 0.010   | 9.7   |
|            |   | bis(2-Ethylhexyl) phthalate  | 117-81-7                | 0.28  | 28  |
|            |   | n-Butyl alcohol  | 71-36-3                 | 5.6   | 2.6   |
|            |   | Butylbenzyl phthalate  | 85-68-7                 | 0.017   | 28  |
|            |   | Cyclohexanone  | 108-94-1                | 0.36  | NA  |
|            |   | o-Dichlorobenzene  | 95-50-1                 | 0.088   | 6.0   |
|            |   | Diethyl phthalate  | 84-66-2                 | 0.20  | 28  |
|            |   | Dimethyl phthalate   | 131-11-3                | 0.047   | 28  |
|            |   | Di-n-butyl phthalate   | 84-74-2                 | 0.057   | 28  |
|            |   | Di-n-octyl phthalate   | 117-84-0                | 0.017   | 28  |
|            |   | Ethyl acetate  | 141-78-6                | 0.34  | 33  |
|            |   | Ethylbenzene   | 100-41-4                | 0.057   | 10  |
|            |   | Methanol   | 67-56-1                 | 5.6   | NA  |
|            |   | Methyl ethyl ketone  | 78-93-3                 | 0.28  | 36  |
|            |   | Methyl isobutyl ketone   | 108-10-1                | 0.14  | 33  |
|            |   | Methylene chloride   | 75-09-2                 | 0.089   | 30  |
|            |   | Naphthalene  | 91-20-3                 | 0.059   | 5.6   |
|            |   | Nitrobenzene   | 98-95-3                 | 0.068   | 14  |
|            |   | Toluene  | 108-88-3                | 0.080   | 10  |
|            |   | 1,1,1-Trichloroethane  | 71-55-6                 | 0.054   | 6.0   |
|            |   | Trichloroethylene  | 79-01-6                 | 0.054   | 6.0   |
|            |   | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7               | 0.32  | 30  |
|            |   | Chromium (Total)   | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |   | Cyanides (Total) <sup>7</sup>                                      | 57-12-5                 | 1.2   | 590   |
|            |   | Lead   | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| K087       | Decanter tank tar sludge from coking operations.  | Acenaphthylene   | 208-96-8                | 0.059   | 3.4   |
|            |   | Benzene  | 71-43-2                 | 0.14  | 10  |
|            |   | Chrysene   | 218-01-9                | 0.059   | 3.4   |
|            |   | Fluoranthene   | 206-44-0                | 0.068   | 3.4   |
|            |   | Indenol(1,2,3-cd)pyrene  | 193-39-5                | 0.0055  | 3.4   |
|            |   | Naphthalene  | 91-20-3                 | 0.059   | 5.6   |
|            |   | Phenanthrene   | 85-01-8                 | 0.059   | 5.6   |

# ADMINISTRATIVE REGISTER - 845

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>                      | REGULATED HAZARDOUS CONSTITUENT                                     |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|--|---|-------------------------|---|---|
|            |  | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|            |  | Toluene   | 108-88-3                | 0.080   | 10  |
|            |  | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)  | 1330-20-7               | 0.32  | 30  |
|            |  | Lead  | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| K093       | Distillation light ends from the production of phthalic anhydride from ortho-xylene.     | Phthalic anhydride (measured as Phthalic acid or terephthalic acid) | 100-21-0                | 0.055   | 28  |
|            |  | Phthalic anhydride (measured as Phthalic acid or terephthalic acid) | 85-44-9                 | 0.055   | 28  |
| K094       | Distillation bottoms from the production of phthalic anhydride from ortho-xylene.        | Phthalic anhydride (measured as Phthalic acid or terephthalic acid) | 100-21-0                | 0.055   | 28  |
|            |  | Phthalic anhydride (measured as Phthalic acid or terephthalic acid) | 85-44-9                 | 0.055   | 28  |
| K095       | Distillation bottoms from the production of 1,1,1-trichloroethane.                       | Hexachloroethane  | 67-72-1                 | 0.055   | 30  |
|            |  | Pentachloroethane   | 76-01-7                 | 0.055   | 6.0   |
|            |  | 1,1,1,2-Tetrachloroethane   | 630-20-6                | 0.057   | 6.0   |
|            |  | 1,1,2,2-Tetrachloroethane   | 79-34-6                 | 0.057   | 6.0   |
|            |  | Tetrachloroethylene   | 127-18-4                | 0.056   | 6.0   |
|            |  | 1,1,2-Trichloroethane   | 79-00-5                 | 0.054   | 6.0   |
|            |  | Trichloroethylene   | 79-01-6                 | 0.054   | 6.0   |
| K096       | Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.      | m-Dichlorobenzene   | 541-73-1                | 0.036   | 6.0   |
|            |  | Pentachloroethane   | 76-01-7                 | 0.055   | 6.0   |
|            |  | 1,1,1,2-Tetrachloroethane   | 630-20-6                | 0.057   | 6.0   |
|            |  | 1,1,2,2-Tetrachloroethane   | 79-34-6                 | 0.057   | 6.0   |
|            |  | Tetrachloroethylene   | 127-18-4                | 0.056   | 6.0   |
|            |  | 1,2,4-Trichlorobenzene  | 120-82-1                | 0.055   | 19  |
|            |  | 1,1,2-Trichloroethane   | 79-00-5                 | 0.054   | 6.0   |
|            |  | Trichloroethylene   | 79-01-6                 | 0.054   | 6.0   |
| K097       | Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane. | Chlordane (alpha and gamma isomers)                                 | 57-74-9                 | 0.0033  | 0.26  |
|            |  | Heptachlor  | 76-44-8                 | 0.0012  | 0.066   |
|            |  | Heptachlor epoxide  | 1024-57-3               | 0.016   | 0.066   |

# ADMINISTRATIVE REGISTER - 846

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>  | REGULATED HAZARDOUS CONSTITUENT           |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|--|---|-------------------------|---|---|
|            |  | Common Name                               | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
|            |  | Hexachlorocyclopentadiene                 | 77-47-4                 | 0.057   | 2.4   |
| K098       | Untreated process wastewater from the production of toxaphene.   | Toxaphene                                 | 8001-35-2               | 0.0095  | 2.6   |
| K099       | Untreated wastewater from the production of 2,4-D.   | 2,4-Dichlorophenoxyacetic acid            | 94-75-7                 | 0.72  | 10  |
|            |  | HxCDDs (All Hexachlorodibenzo-p-dioxins)  | NA                      | 0.000063  | 0.001   |
|            |  | HxCDFs (All Hexachlorodibenzofurans)      | NA                      | 0.000063  | 0.001   |
|            |  | PeCDDs (All Pentachlorodibenzo-p-dioxins) | NA                      | 0.000063  | 0.001   |
|            |  | PeCDFs (All Pentachlorodibenzofurans)     | NA                      | 0.000035  | 0.001   |
|            |  | TCDDs (All Tetrachlorodibenzo-p-dioxins)  | NA                      | 0.000063  | 0.001   |
|            |  | TCDFs (All Tetrachlorodibenzofurans)      | NA                      | 0.000063  | 0.001   |
| K100       | Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.   | Cadmium                                   | 7440-43-9               | 0.69  | 0.19 mg/l TCLP  |
|            |  | Chromium (Total)                          | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
|            |  | Lead                                      | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| K101       | Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. | o-Nitroaniline                            | 88-74-4                 | 0.27  | 14  |
|            |  | Arsenic                                   | 7440-38-2               | 1.4   | 5.0 mg/l TCLP   |
|            |  | Cadmium                                   | 7440-43-9               | 0.69  | NA  |
|            |  | Lead                                      | 7439-92-1               | 0.69  | NA  |
|            |  | Mercury                                   | 7439-97-6               | 0.15  | NA  |
| K102       | Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.                | o-Nitrophenol                             | 88-75-5                 | 0.028   | 13  |
|            |  | Arsenic                                   | 7440-38-2               | 1.4   | 5.0 mg/l TCLP   |
|            |  | Cadmium                                   | 7440-43-9               | 0.69  | NA  |
|            |  | Lead                                      | 7439-92-1               | 0.69  | NA  |
|            |  | Mercury                                   | 7439-97-6               | 0.15  | NA  |
| K103       | Process residues from aniline extraction from the production of aniline.   | Aniline                                   | 62-53-3                 | 0.81  | 14  |
|            |  | Benzene                                   | 71-43-2                 | 0.14  | 10  |
|            |  | 2,4-Dinitrophenol                         | 51-28-5                 | 0.12  | 160   |
|            |  | Nitrobenzene                              | 98-95-3                 | 0.068   | 14  |
|            |  | Phenol                                    | 108-95-2                | 0.039   | 6.2   |
| K104       | Combined wastewater streams generated from nitrobenzene/aniline production.  | Aniline                                   | 62-53-3                 | 0.81  | 14  |
|            |  | Benzene                                   | 71-43-2                 | 0.14  | 10  |
|            |  | 2,4-Dinitrophenol                         | 51-28-5                 | 0.12  | 160   |
|            |  | Nitrobenzene                              | 98-95-3                 | 0.068   | 14  |

# ADMINISTRATIVE REGISTER - 847

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>   | REGULATED HAZARDOUS CONSTITUENT |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|---------------------------------|-------------------------|---|---|
|            |   | Common Name                     | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| K105       | Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.   | Phenol                          | 108-95-2                | 0.039   | 6.2   |
|            |   | Cyanides (Total) <sup>7</sup>   | 57-12-5                 | 1.2   | 590   |
|            |   | Benzene                         | 71-43-2                 | 0.14  | 10  |
|            |   | Chlorobenzene                   | 108-90-7                | 0.057   | 6.0   |
|            |   | 2-Chlorophenol                  | 95-57-8                 | 0.044   | 5.7   |
|            |   | o-Dichlorobenzene               | 95-50-1                 | 0.088   | 6.0   |
|            |   | p-Dichlorobenzene               | 106-46-7                | 0.090   | 6.0   |
|            |   | Phenol                          | 108-95-2                | 0.039   | 6.2   |
|            |   | 2,4,5-Trichlorophenol           | 95-95-4                 | 0.18  | 7.4   |
|            |   | 2,4,6-Trichlorophenol           | 88-06-2                 | 0.035   | 7.4   |
| K106       | K106 (wastewater treatment sludge from the mercury cell process in chlorine production) nonwastewaters that contain greater than or equal to 260 mg/kg total mercury.               | Mercury                         | 7439-97-6               | NA  | RMERC   |
|            | K106 (wastewater treatment sludge from the mercury cell process in chlorine production) nonwastewaters that contain less than 260 mg/kg total mercury that are residues from RMERC. | Mercury                         | 7439-97-6               | NA  | 0.20 mg/l TCLP  |
|            | Other K106 nonwastewaters that contain less than 260 mg/kg total mercury and are not residues from RMERC.   | Mercury                         | 7439-97-6               | NA  | 0.025 mg/l TCLP   |
|            | All K106 wastewaters.   | Mercury                         | 7439-97-6               | 0.15  | NA  |
| K107       | Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.   | NA                              | NA                      | INCIN; or CHOXD fb CARBN; or BIODG fb CARBN                       | INCIN   |
| K108       | Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.            | NA                              | NA                      | INCIN; or CHOXD fb CARBN; or BIODG fb CARBN                       | INCIN   |
| K109       | Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.  | NA                              | NA                      | INCIN; or CHOXD fb CARBN; or BIODG fb CARBN                       | INCIN   |
| K110       | Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.  | NA                              | NA                      | INCIN; or CHOXD fb CARBN; or BIODG fb CARBN                       | INCIN   |
| K111       | Product washwaters from the production of dinitrotoluene via nitration of toluene   | 2,4-Dinitrotoluene              | 121-1-1                 | 0.32  | 140   |
|            |   | 2,6-Dinitrotoluene              | 606-20-2                | 0.55  | 28  |
| K112       | Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.   | NA                              | NA                      | INCIN; or CHOXD fb CARBN; or BIODG fb CARBN                       | INCIN   |
| K113       | Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.  | NA                              | NA                      | CARBN; or INCIN   | CMBST   |
| K114       | Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.   | NA                              | NA                      | CARBN; or INCIN   | CMBST   |
| K115       | Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.   | Nickel                          | 7440-02-0               | 3.98  | 5.0 mg/l TCLP   |
|            |   | NA                              | NA                      | CARBN; or INCIN   | CMBST   |

# ADMINISTRATIVE REGISTER - 848

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>   | REGULATED HAZARDOUS CONSTITUENT   |                         | WASTEWATERS   | NONWASTEWATERS   |
|------------|---|---|-------------------------|---|--|
|            |   | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as *mg/l TCLP <sup>5</sup> ; or Technology Code |
| K116       | Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.   | NA  | NA                      | CARBN; or INCIN   | CMBST  |
| K117       | Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.  | Methyl bromide (Bromomethane)   | 74-83-9                 | 0.11  | 15   |
|            |   | Chloroform  | 67-66-3                 | 0.046   | 6.0  |
|            |   | Ethylene dibromide (1,2-Dibromoethane)                                    | 106-93-4                | 0.028   | 15   |
| K118       | Spent absorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.   | Methyl bromide (Bromomethane)   | 74-83-9                 | 0.11  | 15   |
|            |   | Chloroform  | 67-66-3                 | 0.046   | 6.0  |
|            |   | Ethylene dibromide (1,2-Dibromoethane)                                    | 106-93-4                | 0.028   | 15   |
| K123       | Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salts.   | NA  | NA                      | INCIN; or CHOXD fb (BIODG or CARBN)                               | INCIN  |
| K124       | Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.  | NA  | NA                      | INCIN; or CHOXD fb (BIODG or CARBN)                               | INCIN  |
| K125       | Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.   | NA  | NA                      | INCIN; or CHOXD fb (BIODG or CARBN)                               | INCIN  |
| K126       | Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.   | NA  | NA                      | INCIN; or CHOXD fb (BIODG or CARBN)                               | INCIN  |
| K131       | Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.  | Methyl bromide (Bromomethane)   | 74-83-9                 | 0.11  | 15   |
| K132       | Spent absorbent and wastewater separator solids from the production of methyl bromide.  | Methyl bromide (Bromomethane)   | 74-83-9                 | 0.11  | 15   |
| K136       | Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.  | Methyl bromide (Bromomethane)   | 74-83-9                 | 0.11  | 15   |
|            |   | Chloroform  | 67-66-3                 | 0.046   | 6.0  |
|            |   | Ethylene dibromide (1,2-Dibromoethane)                                    | 106-93-4                | 0.028   | 15   |
| K141       | Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludge from coking operations). | Benzene   | 71-43-2                 | 0.14  | 10   |
|            |   | Benzo(a)anthracene  | 56-55-3                 | 0.059   | 3.4  |
|            |   | Benzo(a)pyrene  | 50-2-8                  | 0.061   | 3.4  |
|            |   | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2                | 0.11  | 6.8  |
|            |   | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9                | 0.11  | 6.8  |
|            |   | Chrysene  | 218-01-9                | 0.059   | 3.4  |
|            |   | Dibenz(a,h)anthracene   | 53-70-3                 | 0.055   | 8.2  |



# ADMINISTRATIVE REGISTER - 849

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>   | REGULATED HAZARDOUS CONSTITUENT   |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|---|-------------------------|---|---|
|            |   | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| K142       | Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.  | Indeno(1,2,3-cd)pyrene  | 193-39-5                | 0.0055  | 3.4   |
|            |   | Benzene   | 71-43-2                 | 0.14  | 10  |
|            |   | Benz(a)anthracene   | 56-55-3                 | 0.059   | 3.4   |
|            |   | Benzo(a)pyrene  | 50-32-8                 | 0.061   | 3.4   |
|            |   | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2                | 0.11  | 6.8   |
|            |   | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9                | 0.11  | 6.8   |
|            |   | Chrysene  | 218-01-9                | 0.059   | 3.4   |
|            |   | Dibenz(a,h)anthracene   | 53-70-3                 | 0.055   | 8.2   |
|            |   | Ideno(1,2,3-cd)pyrene   | 193-39-5                | 0.0055  | 3.4   |
| K143       | Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal. | Benzene   | 71-43-2                 | 0.14  | 10  |
|            |   | Benz(a)anthracene   | 56-55-3                 | 0.059   | 3.4   |
|            |   | Benzo(a)pyrene  | 50-32-8                 | 0.061   | 3.4   |
|            |   | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2                | 0.11  | 6.8   |
|            |   | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9                | 0.11  | 6.8   |
|            |   | Chrysene  | 218-01-9                | 0.059   | 3.4   |
|            |   |   |                         |   |   |
| K144       | Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.                       | Benzene   | 71-43-2                 | 0.14  | 10  |
|            |   | Benz(a)anthracene   | 56-55-3                 | 0.059   | 3.4   |
|            |   | Benzo(a)pyrene  | 50-32-8                 | 0.061   | 3.4   |
|            |   | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2                | 0.11  | 6.8   |
|            |   | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9                | 0.11  | 6.8   |
|            |   | Chrysene  | 218-01-9                | 0.059   | 3.4   |
|            |   | Dibenz(a,h)anthracene   | 53-70-3                 | 0.055   | 8.2   |
|            |   |   |                         |   |   |
| K145       | Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.  | Benzene   | 71-43-2                 | 0.14  | 10  |
|            |   | Benz(a)anthracene   | 56-55-3                 | 0.059   | 3.4   |
|            |   | Benzo(a)pyrene  | 50-32-8                 | 0.061   | 3.4   |
|            |   | Chrysene  | 218-01-9                | 0.059   | 3.4   |

# ADMINISTRATIVE REGISTER - 850

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>  | REGULATED HAZARDOUS CONSTITUENT   |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|--|---|-------------------------|---|---|
|            |  | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| K147       | Tar storage tank residues from coal tar refining.  | Dibenz(a,h)anthracene   | 53-70-3                 | 0.055   | 8.2   |
|            |  | Naphthalene   | 91-20-3                 | 0.059   | 5.6   |
|            |  | Benzene   | 71-43-2                 | 0.14  | 10  |
|            |  | Benzo(a)anthracene  | 56-55-3                 | 0.059   | 3.4   |
|            |  | Benzo(a)pyrene  | 50-32-8                 | 0.061   | 3.4   |
|            |  | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2                | 0.11  | 6.8   |
|            |  | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9                | 0.11  | 6.8   |
|            |  | Chrysene  | 218-01-9                | 0.059   | 3.4   |
|            |  | Dibenz(a,h)anthracene   | 53-70-3                 | 0.055   | 8.2   |
|            |  | Indeno(1,2,3-cd)pyrene  | 193-39-5                | 0.0055  | 3.4   |
| K148       | Residues from coal tar distillation, including, but not limited to, still bottoms.   | Benzo(a)anthracene  | 56-55-3                 | 0.059   | 3.4   |
|            |  | Benzo(a)pyrene  | 50-32-8                 | 0.061   | 3.4   |
|            |  | Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene) | 205-99-2                | 0.11  | 6.8   |
|            |  | Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene) | 207-08-9                | 0.11  | 6.8   |
|            |  | Chrysene  | 218-01-9                | 0.059   | 3.4   |
|            |  | Dibenz(a,h)anthracene   | 53-70-3                 | 0.055   | 8.2   |
|            |  | Indeno(1,2,3-cd)pyrene  | 193-39-5                | 0.0055  | 3.4   |
|            |  |   |                         |   |   |
| K149       | Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. (This waste does not include still bottoms from the distillations of benzyl chloride.) | Chlorobenzene   | 108-90-7                | 0.057   | 6.0   |
|            |  | Chloroform  | 67-66-3                 | 0.046   | 6.0   |
|            |  | Chloromethane   | 74-87-3                 | 0.19  | 30  |
|            |  | p-Dichlorobenzene   | 106-46-7                | 0.090   | 6.0   |
|            |  | Hexachlorobenzene   | 118-74-1                | 0.055   | 10  |
|            |  | Pentachlorobenzene  | 608-93-5                | 0.055   | 10  |
|            |  | 1,2,4,5-Tetrachlorobenzene  | 95-94-3                 | 0.055   | 14  |
|            |  | Toluene   | 108-88-3                | 0.080   | 10  |

# ADMINISTRATIVE REGISTER - 851

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>   | REGULATED HAZARDOUS CONSTITUENT |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|---------------------------------|-------------------------|---|---|
|            |   | Common Name                     | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| K150       | Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. | Carbon tetrachloride            | 56-23-5                 | 0.057   | 6.0   |
|            |   | Chloroform                      | 67-66-3                 | 0.046   | 6.0   |
|            |   | Chloromethane                   | 74-87-3                 | 0.19  | 30  |
|            |   | p-Dichlorobenzene               | 106-46-7                | 0.090   | 6.0   |
|            |   | Hexachlorobenzene               | 118-74-1                | 0.055   | 10  |
|            |   | Pentachlorobenzene              | 608-93-5                | 0.055   | 10  |
|            |   | 1,2,4,5-Tetrachlorobenzene      | 95-94-3                 | 0.055   | 14  |
|            |   | 1,1,2,2-Tetrachloroethane       | 79-34-5                 | 0.057   | 6.0   |
|            |   | Tetrachloroethylene             | 127-18-4                | 0.056   | 6.0   |
|            |   | 1,2,4-Trichlorobenzene          | 120-82-1                | 0.055   | 19  |
| K151       | Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.         | Benzene                         | 71-43-2                 | 0.14  | 10  |
|            |   | Carbon tetrachloride            | 56-23-5                 | 0.057   | 6.0   |
|            |   | Chloroform                      | 67-66-3                 | 0.046   | 6.0   |
|            |   | Hexachlorobenzene               | 118-74-1                | 0.055   | 10  |
|            |   | Pentachlorobenzene              | 608-93-5                | 0.055   | 10  |
|            |   | 1,2,4,5-Tetrachlorobenzene      | 95-94-3                 | 0.055   | 14  |
|            |   | Tetrachloroethylene             | 127-18-4                | 0.056   | 6.0   |
|            |   | Toluene                         | 108-88-3                | 0.080   | 10  |
| P001       | Warfarin, & salts, when present at concentrations greater than 0.3%   | Warfarin                        | 81-81-2                 | (WETOX or CHOXD) lb CARBN; or INCIN                               | CMBST   |
| P002       | 1-Acetyl-2-thiourea   | 1-Acetyl-2-thiourea             | 591-08-2                | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
| P003       | Acrolein  | Acrolein                        | 107-02-8                | 0.29  | CMBST   |
| P004       | Aldrin  | Aldrin                          | 309-00-2                | 0.021   | 0.066   |
| P005       | Allyl alcohol   | Allyl alcohol                   | 107-18-6                | (WETOX or CHOXD) lb CARBN; or INCIN                               | CMBST   |
| P006       | Aluminum phosphide  | Aluminum phosphide              | 20859-73-8              | CHOXD; CHRED; or INCIN  | CHOXD; CHRED; or INCIN  |
| P007       | 5-Aminomethyl 3-isoxazolol  | 5-Aminomethyl 3-isoxazolol      | 2763-96-4               | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
| P008       | 4-Aminopyridine   | 4-Aminopyridine                 | 504-24-5                | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
| P009       | Ammonium picrate  | Ammonium picrate                | 131-74-8                | CHOXD; CHRED; CARBN; BIODG; or INCIN                              | CHOXD; CHRED; or CMBST  |
| P010       | Arsenic acid  | Arsenic                         | 7440-38-2               | 1.4   | 5.0 mg/l TCLP   |
| P011       | Arsenic pentoxide   | Arsenic                         | 7440-38-2               | 1.4   | 5.0 mg/l TCLP   |
| P012       | Arsenic trioxide  | Arsenic                         | 7440-38-2               | 1.4   | 5.0 mg/l TCLP   |
| P013       | Barium cyanide  | Barium                          | 7440-39-3               | NA  | 7.6 mg/l TCLP   |

# ADMINISTRATIVE REGISTER - 852

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| <u>Waste Code</u> | <u>Waste Description and Treatment/Regulatory Subcategory<sup>1</sup></u> | <u>REGULATED HAZARDOUS CONSTITUENT</u>  |                               | <u>WASTEWATERS</u>  | <u>NONWASTEWATERS</u>   |
|-------------------|---|---|-------------------------------|---|---|
|                   |   | <u>Common Name</u>  | <u>CAS<sup>2</sup> Number</u> | <u>Concentration mg/l<sup>3</sup>; or Technology Code<sup>4</sup></u> | <u>Concentration in mg/kg<sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code</u> |
|                   |   | <u>Cyanides (Total)<sup>7</sup></u>   | <u>57-12-5</u>                | <u>1.2</u>  | <u>590</u>  |
|                   |   | <u>Cyanides (Amenable)<sup>7</sup></u>  | <u>57-12-5</u>                | <u>0.86</u>   | <u>30</u>   |
| <u>P014</u>       | <u>Thiophenol (Benzene thiol)</u>   | <u>Thiophenol (Benzene thiol)</u>   | <u>108-98-5</u>               | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>P015</u>       | <u>Beryllium dust</u>   | <u>Beryllium</u>  | <u>7440-41-7</u>              | <u>RMETL; or RTHRM</u>  | <u>RMETL; or RTHRM</u>  |
| <u>P016</u>       | <u>Dichloromethyl ether (Bis(chloromethyl)ether)</u>                      | <u>Dichloromethyl ether</u>   | <u>542-88-1</u>               | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>P017</u>       | <u>Bromoacetone</u>   | <u>Bromoacetone</u>   | <u>598-31-2</u>               | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>P018</u>       | <u>Brucine</u>  | <u>Brucine</u>  | <u>357-57-3</u>               | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>P020</u>       | <u>2-sec-Butyl-4,6-dinitrophenol (Dinoseb)</u>                            | <u>2-sec-Butyl-4,6-dinitrophenol (Dinoseb)</u>                                  | <u>88-85-7</u>                | <u>0.066</u>  | <u>2.5</u>  |
| <u>P021</u>       | <u>Calcium cyanide</u>  | <u>Cyanides (Total)<sup>7</sup></u>   | <u>57-12-5</u>                | <u>1.2</u>  | <u>590</u>  |
|                   |   | <u>Cyanides (Amenable)<sup>7</sup></u>  | <u>57-12-5</u>                | <u>0.86</u>   | <u>30</u>   |
| <u>P022</u>       | <u>Carbon disulfide</u>   | <u>Carbon disulfide</u>   | <u>75-15-0</u>                | <u>3.8</u>  | <u>INCIN</u>  |
|                   |   | <u>Carbon disulfide; alternate<sup>6</sup> standard for nonwastewaters only</u> | <u>75-15-0</u>                | <u>NA</u>   | <u>4.8 mg/l TCLP</u>  |
| <u>P023</u>       | <u>Chloroacetaldehyde</u>   | <u>Chloroacetaldehyde</u>   | <u>107-20-0</u>               | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>P024</u>       | <u>p-Chloroaniline</u>  | <u>p-Chloroaniline</u>  | <u>106-47-8</u>               | <u>.046</u>   | <u>16</u>   |
| <u>P026</u>       | <u>1-(o-Chlorophenyl)thiourea</u>   | <u>1-(o-Chlorophenyl)thiourea</u>   | <u>5344-82-1</u>              | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>P027</u>       | <u>3-Chloropropionitrile</u>  | <u>3-Chloropropionitrile</u>  | <u>542-76-7</u>               | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>P028</u>       | <u>Benzyl chloride</u>  | <u>Benzyl chloride</u>  | <u>100-44-7</u>               | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>P029</u>       | <u>Copper cyanide</u>   | <u>Cyanides (Total)<sup>7</sup></u>   | <u>57-12-5</u>                | <u>1.2</u>  | <u>590</u>  |
|                   |   | <u>Cyanides (Amenable)<sup>7</sup></u>  | <u>57-12-5</u>                | <u>0.86</u>   | <u>30</u>   |
| <u>P030</u>       | <u>Cyanides (soluble salts and complexes)</u>                             | <u>Cyanides (Total)<sup>7</sup></u>   | <u>57-12-5</u>                | <u>1.2</u>  | <u>590</u>  |
|                   |   | <u>Cyanides (Amenable)<sup>7</sup></u>  | <u>57-12-5</u>                | <u>0.86</u>   | <u>30</u>   |
| <u>P031</u>       | <u>Cyanogen</u>   | <u>Cyanogen</u>   | <u>460-19-5</u>               | <u>CHOXD; WETOX; or INCIN</u>   | <u>CHOXD; WETOX; or INCIN</u>   |
| <u>P033</u>       | <u>Cyanogen chloride</u>  | <u>Cyanogen chloride</u>  | <u>506-77-4</u>               | <u>CHOXD; WETOX; or INCIN</u>   | <u>CHOXD; WETOX; or INCIN</u>   |
| <u>P034</u>       | <u>2-Cyclohexyl-4,6-dinitrophenol</u>                                     | <u>2-Cyclohexyl-4,6-dinitrophenol</u>   | <u>131-89-5</u>               | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>P036</u>       | <u>Dichlorophenylarsine</u>   | <u>Arsenic</u>  | <u>7440-38-2</u>              | <u>1.4</u>  | <u>5.0 mg/l TCLP</u>  |
| <u>P037</u>       | <u>Dieldrin</u>   | <u>Dieldrin</u>   | <u>60-57-1</u>                | <u>0.017</u>  | <u>0.13</u>   |
| <u>P038</u>       | <u>Diethylarsine</u>  | <u>Arsenic</u>  | <u>7440-38-2</u>              | <u>1.4</u>  | <u>5.0 mg/l TCLP</u>  |

# ADMINISTRATIVE REGISTER - 853

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup> | REGULATED HAZARDOUS CONSTITUENT          |                         | WASTEWATERS   | NONWASTEWATERS   |
|------------|---|--|-------------------------|---|--|
|            |   | Common Name                              | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as *mg/l TCLP <sup>5</sup> ; or Technology Code |
| P039       | Disulfoton  | Disulfoton                               | 298-04-4                | 0.017   | 6.2  |
| P040       | O,O-Diethyl O-pyrazinyl phosphorothioate                            | O,O-Diethyl O-pyrazinyl phosphorothioate | 297-97-2                | CARBON; or INCIN  | CMBST  |
| P041       | Diethyl-p-nitrophenyl phosphate                                     | Diethyl-p-nitrophenyl phosphate          | 311-45-5                | CARBON; or INCIN  | CMBST  |
| P042       | Epinephrine   | Epinephrine                              | 51-43-4                 | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN  |
| P043       | Diisopropylfluorophosphate (DFP)                                    | Diisopropylfluorophosphate (DFP)         | 55-91-4                 | CARBON; or INCIN  | CMBST  |
| P044       | Dimethoate  | Dimethoate                               | 60-51-5                 | CARBON; or INCIN  | CMBST  |
| P045       | Thiofanox   | Thiofanox                                | 39196-18-4              | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN  |
| P046       | alpha, alpha-Dimethylphenethylamine                                 | alpha, alpha-Dimethylphenethylamine      | 122-09-8                | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN  |
| P047       | 4,6-Dinitro-o-cresol  | 4,6-Dinitro-o-cresol                     | 543-52-1                | 0.28  | 160  |
|            | 4,6-Dinitro-o-cresol salts  | NA                                       | NA                      | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN  |
| P048       | 2,4-Dinitrophenol   | 2,4-Dinitrophenol                        | 51-28-5                 | 0.12  | 160  |
| P049       | Dithiobiuret  | Dithiobiuret                             | 541-53-7                | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN  |
| P050       | Endosulfan  | Endosulfan I                             | 939-98-8                | 0.023   | 0.066  |
|            |   | Endosulfan II                            | 33213-6-5               | 0.029   | 0.13   |
|            |   | Endosulfan sulfate                       | 1031-07-8               | 0.029   | 0.13   |
| P051       | Endrin  | Endrin                                   | 72-20-8                 | 0.0028  | 0.13   |
|            |   | Endrin aldehyde                          | 7421-93-4               | 0.025   | 0.13   |
| P054       | Aziridine   | Aziridine                                | 151-56-4                | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN  |
| P056       | Fluorine  | Fluoride (measured in wastewaters only)  | 16964-48-8              | 35  | ADGAS fb NEUTR   |
| P057       | Fluoroacetamide   | Fluoroacetamide                          | 640-19-7                | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN  |
| P058       | Fluoroacetic acid, sodium salt                                      | Fluoroacetic acid, sodium salt           | 62-74-8                 | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN  |
| P059       | Heptachlor  | Heptachlor                               | 76-44-8                 | 0.0012  | 0.066  |
|            |   | Heptachlor epoxide                       | 1024-57-3               | 0.016   | 0.066  |
| P060       | Isodrin   | Isodrin                                  | 465-73-6                | 0.021   | 0.066  |
| P062       | Hexaethyl tetraphosphate  | Hexaethyl tetraphosphate                 | 757-58-4                | CARBON; or INCIN  | CMBST  |
| P063       | Hydrogen cyanide  | Cyanides (Total) <sup>7</sup>            | 57-12-5                 | 1.2   | 590  |
|            |   | Cyanides (Amenable) <sup>7</sup>         | 57-12-5                 | 0.86  | 30   |
| P064       | Isocyanic acid, ethyl ester   | Isocyanic acid, ethyl ester              | 624-83-9                | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN  |

# ADMINISTRATIVE REGISTER - 854

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>  | REGULATED HAZARDOUS CONSTITUENT  |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|--|----------------------------------|-------------------------|---|---|
|            |  | Common Name                      | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| P065       | P065 (mercury fulminate) nonwastewaters, regardless of their total mercury content, that are not incinerator residues or are not residues from RMERC.                  | Mercury                          | 7439-97-6               | NA  | IMERC   |
|            | P065 (mercury fulminate) nonwastewaters that are either incinerator residues or are residues from RMERC; and contain greater than or equal to 260 mg/kg total mercury. | Mercury                          | 7339-97-6               | NA  | RMERC   |
|            | P065 (mercury fulminate) nonwastewaters that are residues from RMERC and contain less than 260 mg/kg total mercury.  | Mercury                          | 7439-97-6               | NA  | 0.20 mg/l TCLP  |
|            | P065 (mercury fulminate) nonwastewaters that are incinerator residues and contain less than 260 mg/kg total mercury.   | Mercury                          | 7439-97-6               | NA  | 0.025 mg/l TCLP   |
|            | All P065 (mercury fulminate) wastewaters.  | Mercury                          | 7439-97-6               | 0.15  | NA  |
| P066       | Methomyl   | Methomyl                         | 16752-77-5              | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| P067       | 2-Methyl-aziridine   | 2-Methyl-aziridine               | 75-55-8                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| P068       | Methyl hydrazine   | Methyl hydrazine                 | 60-34-4                 | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN                        | CHOXD; CHRED; or<br>CMBST   |
| P069       | 2-Methylacetonitrile   | 2-Methylacetonitrile             | 75-86-5                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| P070       | Aldicarb   | Aldicarb                         | 116-06-3                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| P071       | Methyl parathion   | Methyl parathion                 | 298-00-0                | 0.014   | 4.6   |
| P072       | 1-Naphthyl-2-thiourea  | 1-Naphthyl-2-thiourea            | 86-88-4                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| P073       | Nickel carbonyl  | Nickel                           | 7440-02-0               | 3.98  | 5.0 mg/l TCLP   |
| P074       | Nickel cyanide   | Cyanides (Total) <sup>7</sup>    | 57-12-5                 | 1.2   | 590   |
|            |  | Cyanides (Amenable) <sup>7</sup> | 57-12-5                 | 0.86  | 30  |
|            |  | Nickel                           | 7440-02-0               | 3.98  | 5.0 mg/l TCLP   |
| P075       | Nicotine and salts   | Nicotine and salts               | 54-11-5                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| P076       | Nitric oxide   | Nitric oxide                     | 10102-43-9              | ADGAS   | ADGAS   |
| P077       | p-Nitroaniline   | p-Nitroaniline                   | 100-01-6                | 0.028   | 28  |
| P078       | Nitrogen dioxide   | Nitrogen dioxide                 | 10102-44-0              | ADGAS   | ADGAS   |
| P081       | Nitroglycerin  | Nitroglycerin                    | 55-63-0                 | CHOXD; CHRED;<br>CARBN; BIODG or<br>INCIN                         | CHOXD; CHRED; or<br>CMBST   |
| P082       | N-Nitrosodimethylamine   | N-Nitrosodimethylamine           | 62-75-9                 | 0.40  | 2.3   |
| P084       | N-Nitrosomethylvinylamine  | N-Nitrosomethylvinylamine        | 4549-40-0               | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| P085       | Octamethylpyrophosphoramide  | Octamethylpyrophosphoramide      | 152-16-9                | CARBN; or INCIN   | CMBST   |
| P087       | Osmium tetroxide   | Osmium tetroxide                 | 20816-12-0              | RMETL; or RTHRM   | RMETL; or RTHRM   |

# ADMINISTRATIVE REGISTER - 855

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>  | REGULATED HAZARDOUS CONSTITUENT  |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|--|----------------------------------|-------------------------|---|---|
|            |  | Common Name                      | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| P088       | Endothall  | Endothall                        | 145-73-3                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| P089       | Parathion  | Parathion                        | 56-38-2                 | 0.014   | 4.6   |
| P092       | P092 (phenyl mercuric acetate) nonwastewaters, regardless of their total mercury content, that are not incinerator residues or are not residues from RMERC.                        | Mercury                          | 7439-97-6               | NA  | IMERC; or RMERC   |
|            | P092 (phenyl mercuric acetate) nonwastewaters that are either incinerator residues or are residues from RMERC; and still contain greater than or equal to 260 mg/kg total mercury. | Mercury                          | 7439-97-6               | NA  | RMERC   |
|            | P092 (phenyl mercuric acetate) nonwastewaters that are residues from RMERC and contain less than 260 mg/kg total mercury.  | Mercury                          | 7439-97-6               | NA  | 0.20 mg/l TCLP  |
|            | P092 (phenyl mercuric acetate) nonwastewaters that are incinerator residues and contain less than 260 mg/kg total mercury.   | Mercury                          | 7439-97-6               | NA  | 0.025 mg/l TCLP   |
|            | All P092 (phenyl mercuric acetate) wastewaters.  | Mercury                          | 7439-97-6               | 0.15  | NA  |
| P093       | Phenylthiourea   | Phenylthiourea                   | 103-85-5                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| P094       | Phorate  | Phorate                          | 298-02-2                | 0.021   | 4.6   |
| P095       | Phosgene   | Phosgene                         | 75-44-5                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| P096       | Phosphine  | Phosphine                        | 7803-51-2               | CHOXD; CHRED; or<br>INCIN   | CHOXD; CHRED; or INCIN  |
| P097       | Famphur  | Famphur                          | 52-85-7                 | 0.017   | 15  |
| P098       | Potassium cyanide.   | Cyanides (Total) <sup>7</sup>    | 57-12-5                 | 1.2   | 590   |
|            |  | Cyanides (Amenable) <sup>7</sup> | 57-12-5                 | 0.86  | 30  |
| P099       | Potassium silver cyanide   | Cyanides (Total) <sup>7</sup>    | 57-12-5                 | 1.2   | 590   |
|            |  | Cyanides (Amenable) <sup>7</sup> | 57-12-5                 | 0.86  | 30  |
|            |  | Silver                           | 7440-22-4               | 0.43  | 0.30 mg/l TCLP  |
| P101       | Ethyl cyanide (Propanenitrile)   | Ethyl cyanide (Propanenitrile)   | 107-12-0                | 0.24  | 360   |
| P102       | Propargyl alcohol  | Propargyl alcohol                | 107-19-7                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| P103       | Selenourea   | Selenium                         | 7782-49-2               | 0.82  | 0.16 mg/l TCLP  |
| P104       | Silver cyanide   | Cyanides (Total) <sup>7</sup>    | 57-12-5                 | 1.2   | 590   |
|            |  | Cyanides (Amenable) <sup>7</sup> | 57-12-5                 | 0.86  | 30  |
|            |  | Silver                           | 7440-22-4               | 0.43  | 0.30 mg/l TCLP  |
| P105       | Sodium azide   | Sodium azide                     | 26628-22-8              | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN                        | CHOXD; CHRED; or<br>CMBST   |
| P106       | Sodium cyanide   | Cyanides (Total) <sup>7</sup>    | 57-12-5                 | 1.2   | 590   |
|            |  | Cyanides (Amenable) <sup>7</sup> | 57-12-5                 | 0.86  | 30  |



# ADMINISTRATIVE REGISTER - 856

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>                             | REGULATED HAZARDOUS CONSTITUENT                                       |                         | WASTEWATERS   | NONWASTEWATERS <sup>1</sup>   |
|------------|---|---|-------------------------|---|---|
|            |   | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| P108       | Strychnine and salts  | Strychnine and salts  | 57-24-9                 | (WETOX or CHOXD)<br>lb CARBN; or INCIN                            | INCIN   |
| P109       | Tetraethyldithiopyrophosphate   | Tetraethyldithiopyrophosphate   | 3689-24-5               | CARBN; or INCIN   | CMBST   |
| P110       | Tetraethyl lead   | lead  | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| P111       | Tetraethylpyrophosphate   | Tetraethylpyrophosphate   | 107-49-3                | CARBN; or INCIN   | CMBST   |
| P112       | Tetranitromethane   | Tetranitromethane   | 509-14-8                | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN                        | CHOXD; CHRED; or<br>CMBST   |
| P113       | Thallic oxide   | Thallium (measured<br>in wastewaters only)                            | 7440-28-0               | 1.4   | RTHRM; or STABL   |
| P114       | Thallium selenite   | Selenium  | 7782-49-2               | 0.82  | 0.16 mg/l TCLP  |
| P115       | Thallium (I) sulfate  | Thallium (measured<br>in wastewaters only)                            | 7440-28-0               | 1.4   | RTHRM; or STABL   |
| P116       | Thiosemicarbazide   | Thiosemicarbazide   | 79-19-6                 | (WETOX or CHOXD)<br>lb CARBN; or INCIN                            | INCIN   |
| P118       | Trichloromethanethiol   | Trichloromethanethiol   | 75-70-7                 | (WETOX or CHOXD)<br>lb CARBN; or INCIN                            | INCIN   |
| P119       | Ammonium vanadate   | Vanadium (measured<br>in wastewaters only)                            | 7440-62-2               | 4.3   | STABL   |
| P120       | Vanadium pentoxide  | Vanadium (measured<br>in wastewaters only)                            | 7440-62-2               | 4.3   | STABL   |
| P121       | Zinc cyanide  | Cyanides (Total) <sup>7</sup>   | 57-12-5                 | 1.2   | 590   |
|            |   | Cyanides (Amenable) <sup>7</sup>                                      | 57-12-5                 | 0.86  | 30  |
| P122       | Zinc phosphide Zn <sub>3</sub> P <sub>2</sub> , when present at concentrations greater than 10% | Zinc Phosphide  | 1314-84-7               | CHOXD; CHRED; or<br>INCIN   | CHOXD; CHRED; or INCIN  |
| P123       | Toxaphene   | Toxaphene   | 8001-35-2               | 0.0095  | 2.6   |
| U001       | Acetaldehyde  | Acetaldehyde  | 75-07-0                 | (WETOX or CHOXD)<br>lb CARBN; or INCIN                            | CMBST   |
| U002       | Acetone   | Acetone   | 67-64-1                 | 0.28  | 160   |
| U003       | Acetonitrile  | Acetonitrile  | 75-05-8                 | 5.6   | INCIN   |
|            |   | Acetonitrile; alternate <sup>8</sup> standard for nonwastewaters only | 75-05-8                 | NA  | 1.8   |
| U004       | Acetophenone  | Acetophenone  | 98-86-2                 | 0.010   | 9.7   |
| U005       | 2-Acetylaminofluorene   | 2-Acetylaminofluorene   | 53-96-3                 | 0.059   | 140   |
| U006       | Acetyl chloride   | Acetyl chloride   | 75-36-5                 | (WETOX or CHOXD)<br>lb CARBN; or INCIN                            | INCIN   |
| U007       | Acrylamide  | Acrylamide  | 79-06-1                 | (WETOX or CHOXD)<br>lb CARBN; or INCIN                            | INCIN   |
| U008       | Acrylic acid  | Acrylic acid  | 79-10-7                 | (WETOX or CHOXD)<br>lb CARBN; or INCIN                            | CMBST   |
| U009       | Acrylonitrile   | Acrylonitrile   | 107-13-1                | 0.24  | 84  |

# ADMINISTRATIVE REGISTER - 857

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup> | REGULATED HAZARDOUS CONSTITUENT     |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|-------------------------------------|-------------------------|---|---|
|            |   | Common Name                         | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| U010       | Mitomycin C   | Mitomycin C                         | 50-07-7                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U011       | Amitrole  | Amitrole                            | 61-82-5                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U012       | Aniline   | Aniline                             | 62-53-3                 | 0.81  | 14  |
| U014       | Auramine  | Auramine                            | 492-80-8                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U015       | Azaserine   | Azaserine                           | 115-02-6                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U016       | Benz(c)acridine   | Benz(c)acridine                     | 225-51-4                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| U017       | Benzal chloride   | Benzal chloride                     | 98-87-3                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U018       | Benz(a)anthracene   | Benz(a)anthracene                   | 56-55-3                 | 0.059   | 3.4   |
| U019       | Benzene   | Benzene                             | 71-43-2                 | 0.14  | 10  |
| U020       | Benzenesulfonyl chloride  | Benzenesulfonyl chloride            | 98-09-9                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U021       | Benzidine   | Benzidine                           | 92-87-5                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U022       | Benzo(a)pyrene  | Benzo(a)pyrene                      | 50-32-8                 | 0.061   | 3.4   |
| U023       | Benzotrichloride  | Benzotrichloride                    | 98-07-7                 | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN                        | CHOXD; CHRED; or<br>CMBST   |
| U024       | bis(2-Chloroethoxy)methane  | bis(2-Chloroethoxy)methane          | 111-91-1                | 0.036   | 7.2   |
| U025       | bis(2-Chloroethyl)ether   | bis(2-Chloroethyl)ether             | 111-44-4                | 0.033   | 6.0   |
| U026       | Chlornaphazine  | Chlornaphazine                      | 494-03-1                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U027       | bis(2-Chloroisopropyl)ether   | bis(2-Chloroisopropyl)ether         | 108-60-1                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | 7.2   |
| U028       | bis(2-Ethylhexyl)phthalate  | bis(2-Ethylhexyl)phthalate          | 117-81-7                | 0.28  | 28  |
| U029       | Methyl bromide (Bromomethane)                                       | Methyl bromide (Bromomethane)       | 74-83-9                 | 0.11  | 15  |
| U030       | 4-Bromophenyl phenyl ether  | 4-Bromophenyl phenyl ether          | 101-55-3                | 0.055   | 15  |
| U031       | n-Butyl alcohol   | n-Butyl alcohol                     | 71-36-3                 | 5.6   | 2.6   |
| U032       | Calcium chromate  | Chromium (Total)                    | 7440-47-3               | 2.77  | 0.86 mg/l TCLP  |
| U033       | Carbon oxyfluoride  | Carbon oxyfluoride                  | 353-50-4                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U034       | Trichloroacetaldehyde (Chloral)                                     | Trichloroacetaldehyde (Chloral)     | 75-87-6                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U035       | Chlorambucil  | Chlorambucil                        | 305-03-3                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U036       | Chlordane   | Chlordane (alpha and gamma isomers) | 57-74-9                 | 0.0033  | 0.26  |

# ADMINISTRATIVE REGISTER - 858

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup> | REGULATED HAZARDOUS CONSTITUENT   |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|---|-------------------------|---|---|
|            |   | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| U037       | Chlorobenzene   | Chlorobenzene   | 108-90-7                | 0.057   | 6.0   |
| U038       | Chlorobenzilate   | Chlorobenzilate   | 510-15-6                | 0.10  | INCIN   |
| U039       | p-Chloro-m-cresol   | p-Chloro-m-cresol   | 59-50-7                 | 0.018   | 14  |
| U041       | Epichlorohydrin (1-Chloro-2,3-epoxypropane)                         | Epichlorohydrin (1-Chloro-2,3-epoxypropane)                                       | 106-89-8                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U042       | 2-Chloroethyl vinyl ether   | 2-Chloroethyl vinyl ether   | 110-75-8                | 0.062   | INCIN   |
| U043       | Vinyl chloride  | Vinyl chloride  | 75-01-4                 | 0.27  | 6.0   |
| U044       | Chloroform  | Chloroform  | 67-66-3                 | 0.046   | 6.0   |
| U045       | Chloromethane (Methyl chloride)                                     | Chloromethane (Methyl chloride)   | 74-87-3                 | 0.19  | 30  |
| U046       | Chloromethyl methyl ether   | Chloromethyl methyl ether   | 107-30-2                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U047       | 2-Chloronaphthalene   | 2-Chloronaphthalene   | 91-58-7                 | 0.055   | 5.6   |
| U048       | 2-Chlorophenol  | 2-Chlorophenol  | 95-57-8                 | 0.044   | 5.7   |
| U049       | 4-Chloro-o-toluidine hydrochloride                                  | 4-Chloro-o-toluidine hydrochloride  | 3165-93-3               | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U050       | Chrysene  | Chrysene  | 218-01-9                | 0.059   | 3.4   |
| U051       | Creosote  | Naphthalene   | 91-20-3                 | 0.059   | 5.6   |
|            |   | Pentachlorophenol   | 87-86-5                 | 0.089   | 7.4   |
|            |   | Phenanthrene  | 85-01-8                 | 0.059   | 5.6   |
|            |   | Pyrene  | 129-00-0                | 0.067   | 8.2   |
|            |   | Toluene   | 108-88-3                | 0.080   | 10  |
|            |   | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)                | 1330-20-7               | 0.32  | 30  |
|            |   | Lead  | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| U052       | Cresols (Cresylic acid)   | o-Cresol  | 95-48-7                 | 0.11  | 5.6   |
|            |   | m-Cresol (difficult to distinguish from p-cresol)                                 | 108-39-4                | 0.77  | 5.6   |
|            |   | p-Cresol (difficult to distinguish from m-cresol)                                 | 106-44-5                | 0.77  | 5.6   |
|            |   | Cresol-mixed isomers (Cresylic acid) (sum of o-, m-, and p-cresol concentrations) | 1319-77-3               | 0.88  | 11.2  |
| U053       | Crotonaldehyde  | Crotonaldehyde  | 4170-30-3               | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| U055       | Cumene  | Cumene  | 98-82-8                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |

# ADMINISTRATIVE REGISTER - 859

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup> | REGULATED HAZARDOUS CONSTITUENT  |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|--|-------------------------|---|---|
|            |   | Common Name  | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| U056       | Cyclohexane   | Cyclohexane  | 110-82-7                | (WETOX or CHOXD) fb CARBN; or INCIN                               | CMBST   |
| U057       | Cyclohexanone   | Cyclohexanone  | 108-94-1                | 0.36  | CMBST   |
|            |   | Cyclohexanone; alternate <sup>5</sup> standard for nonwastewaters only | 108-94-1                | NA  | 0.75 mg/l TCLP  |
| U058       | Cyclophosphamide  | Cyclophosphamide   | 50-18-0                 | CARBN; or INCIN   | CMBST   |
| U059       | Daunomycin  | Daunomycin   | 20830-81-3              | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN   |
| U060       | DDD   | o,p'-DDD   | 53-19-0                 | 0.023   | 0.087   |
|            |   | p,p'-DDD   | 72-54-8                 | 0.023   | 0.087   |
| U061       | DDT   | o,p'-DDT   | 789-02-6                | 0.0039  | 0.087   |
|            |   | p,p'-DDT   | 50-29-3                 | 0.0039  | 0.087   |
|            |   | o,p'-DDD   | 53-19-0                 | 0.023   | 0.087   |
|            |   | p,p'-DDD   | 72-54-8                 | 0.023   | 0.087   |
|            |   | o,p'-DDE   | 3424-82-6               | 0.031   | 0.087   |
|            |   | p,p'-DDE   | 72-55-9                 | 0.031   | 0.087   |
| U062       | Diallate  | Diallate   | 2303-16-4               | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN   |
| U063       | Dibenz(a,h)anthracene   | Dibenz(a,h)anthracene  | 53-70-3                 | 0.055   | 8.2   |
| U064       | Dibenz(a,i)pyrene   | Dibenz(a,i)pyrene  | 189-55-9                | (WETOX or CHOXD) fb CARBN; or INCIN                               | CMBST   |
| U066       | 1,2-Dibromo-3-chloropropane   | 1,2-Dibromo-3-chloropropane  | 96-12-8                 | 0.11  | 15  |
| U067       | Ethylene dibromide (1,2-Dibromoethane)                              | Ethylene dibromide (1,2-Dibromoethane)                                 | 106-93-4                | 0.028   | 15  |
| U068       | Dibromomethane  | Dibromomethane   | 74-95-3                 | 0.11  | 15  |
| U069       | Di-n-butyl phthalate  | Di-n-butyl phthalate   | 84-74-2                 | 0.057   | 28  |
| U070       | o-Dichlorobenzene   | o-Dichlorobenzene  | 95-50-1                 | 0.088   | 6.0   |
| U071       | m-Dichlorobenzene   | m-Dichlorobenzene  | 541-73-1                | 0.036   | 6.0   |
| U072       | p-Dichlorobenzene   | p-Dichlorobenzene  | 106-46-7                | 0.090   | 6.0   |
| U073       | 3,3'-Dichlorobenzidine  | 3,3'-Dichlorobenzidine   | 91-94-1                 | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN   |
| U074       | 1,4-Dichloro-2-butene   | cis-1,4-Dichloro-2-butene  | 1476-11-5               | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN   |
|            |   | trans-1,4-Dichloro-2-butene  | 764-41-0                | (WETOX or CHOXD) fb CARBN; or INCIN                               | INCIN   |
| U075       | Dichlorodifluoromethane   | Dichlorodifluoromethane  | 75-71-8                 | 0.23  | 7.2   |
| U076       | 1,1-Dichloroethane  | 1,1-Dichloroethane   | 75-34-3                 | 0.059   | 6.0   |
| U077       | 1,2-Dichloroethane  | 1,2-Dichloroethane   | 107-06-2                | 0.21  | 6.0   |
| U078       | 1,1-Dichloroethylene  | 1,1-Dichloroethylene   | 75-35-4                 | 0.025   | 6.0   |

# ADMINISTRATIVE REGISTER - 860

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup> | REGULATED HAZARDOUS CONSTITUENT            |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|--|-------------------------|---|---|
|            |   | Common Name                                | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> , or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| U079       | 1,2-Dichloroethylene  | trans-1,2-Dichloroethylene                 | 156-60-5                | 0.054   | 30  |
| U080       | Methylene chloride  | Methylene chloride                         | 75-09-2                 | 0.089   | 30  |
| U081       | 2,4-Dichlorophenol  | 2,4-Dichlorophenol                         | 120-83-2                | 0.044   | 14  |
| U082       | 2,6-Dichlorophenol  | 2,6-Dichlorophenol                         | 87-65-0                 | 0.044   | 14  |
| U083       | 1,2-Dichloropropane   | 1,2-Dichloropropane                        | 78-87-5                 | 0.85  | 18  |
| U084       | 1,3-Dichloropropylene   | cis-1,3-Dichloropropylene                  | 10061-01-5              | 0.036   | 18  |
|            |   | trans-1,3-Dichloropropylene                | 10061-02-6              | 0.036   | 18  |
| U085       | 1,2:3,4-Diepoxybutane   | 1,2:3,4-Diepoxybutane                      | 1464-53-5               | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| U086       | N,N'-Diethylhydrazine   | N,N'-Diethylhydrazine                      | 1615-80-1               | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN                        | CHOXD; CHRED; or<br>CMBST   |
| U087       | O,O-Diethyl S-methyldithiophosphate                                 | O,O-Diethyl S-methyldithiophosphate        | 3288-58-2               | CARBN; or INCIN   | CMBST   |
| U088       | Diethyl phthalate   | Diethyl phthalate                          | 84-66-2                 | 0.20  | 28  |
| U089       | Diethyl stilbestrol   | Diethyl stilbestrol                        | 56-53-1                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| U090       | Dihydrosafrole  | Dihydrosafrole                             | 94-58-6                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| U091       | 3,3'-Dimethoxybenzidine   | 3,3'-Dimethoxybenzidine                    | 119-90-4                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U092       | Dimethylamine   | Dimethylamine                              | 124-40-3                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U093       | p-Dimethylaminoazobenzene   | p-Dimethylaminoazobenzene                  | 60-11-7                 | 0.13  | INCIN   |
| U094       | 7,12-Dimethylbenz(a)anthracene                                      | 7,12-Dimethylbenz(a)anthracene             | 57-97-6                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| U095       | 3,3'-Dimethylbenzidine  | 3,3'-Dimethylbenzidine                     | 119-93-7                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U096       | alpha, alpha-Dimethyl benzyl hydroperoxide                          | alpha, alpha-Dimethyl benzyl hydroperoxide | 80-15-9                 | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN                        | CHOXD; CHRED; or<br>CMBST   |
| U097       | Dimethylcarbamoyl chloride  | Dimethylcarbamoyl chloride                 | 79-44-7                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U098       | 1,1-Dimethylhydrazine   | 1,1-Dimethylhydrazine                      | 57-14-7                 | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN                        | CHOXD; CHRED; or<br>CMBST   |
| U099       | 1,2-Dimethylhydrazine   | 1,2-Dimethylhydrazine                      | 540-73-8                | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN                        | CHOXD; CHRED; or<br>CMBST   |
| U101       | 2,4-Dimethylphenol  | 2,4-Dimethylphenol                         | 105-67-9                | 0.036   | 14  |
| U102       | Dimethyl phthalate  | Dimethyl phthalate                         | 131-11-3                | 0.047   | 28  |
| U103       | Dimethyl sulfate  | Dimethyl sulfate                           | 77-78-1                 | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN                        | CHOXD; CHRED; or<br>CMBST   |

# ADMINISTRATIVE REGISTER - 861

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup> | REGULATED HAZARDOUS CONSTITUENT   |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|---|-------------------------|---|---|
|            |   | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| U105       | 2,4-Dinitrotoluene  | 2,4-Dinitrotoluene  | 121-14-2                | 0.32  | 140   |
| U106       | 2,6-Dinitrotoluene  | 2,6-Dinitrotoluene  | 606-20-2                | 0.55  | 28  |
| U107       | Di-n-octyl phthalate  | Di-n-octyl phthalate  | 117-84-0                | 0.017   | 28  |
| U108       | 1,4-Dioxane   | 1,4-Dioxane   | 123-91-1                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
|            |   | 1,4-Dioxane; alternate <sup>6</sup> standard for nonwastewaters only        | 123-91-1                | NA  | 170   |
| U109       | 1,2-Diphenylhydrazine   | 1,2-Diphenylhydrazine   | 122-66-7                | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN                        | CHOXD; CHRED; or<br>CMBST   |
|            |   | 1,2-Diphenylhydrazine; alternate <sup>6</sup> standard for wastewaters only | 122-66-7                | 0.087   | NA  |
| U110       | Dipropylamine   | Dipropylamine   | 142-84-7                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U111       | Di-n-propylnitrosamine  | Di-n-propylnitrosamine  | 621-64-7                | 0.40  | 14  |
| U112       | Ethyl acetate   | Ethyl acetate   | 141-78-6                | 0.34  | 33  |
| U113       | Ethyl acrylate  | Ethyl acrylate  | 140-88-5                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| U114       | Ethylenebisdithiocarbamic acid salts and esters                     | Ethylenebisdithiocarbamic acid  | 111-54-6                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U115       | Ethylene oxide  | Ethylene oxide  | 75-21-8                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CHOXD; or INCIN   |
|            |   | Ethylene oxide; alternate <sup>6</sup> standard for wastewaters only        | 75-21-8                 | 0.12  | NA  |
| U116       | Ethylene thiourea   | Ethylene thiourea   | 96-45-7                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U117       | Ethyl ether   | Ethyl ether   | 60-29-7                 | 0.12  | 160   |
| U118       | Ethyl methacrylate  | Ethyl methacrylate  | 97-63-2                 | 0.14  | 160   |
| U119       | Ethyl methane sulfonate   | Ethyl methane sulfonate   | 62-50-0                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U120       | Fluoranthene  | Fluoranthene  | 206-44-0                | 0.068   | 3.4   |
| U121       | Trichloromonofluoromethane  | Trichloromonofluoromethane  | 75-69-4                 | 0.020   | 30  |
| U122       | Formaldehyde  | Formaldehyde  | 50-00-0                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| U123       | Formic acid   | Formic acid   | 64-18-6                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| U124       | Furan   | Furan   | 110-00-9                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| U125       | Furfural  | Furfural  | 98-01-1                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| U126       | Glycidylaldehyde  | Glycidylaldehyde  | 765-34-4                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |

# ADMINISTRATIVE REGISTER - 862

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>   | REGULATED HAZARDOUS CONSTITUENT         |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|---|-------------------------|---|---|
|            |   | Common Name                             | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| U127       | Hexachlorobenzene   | Hexachlorobenzene                       | 118-74-1                | 0.055   | 10  |
| U128       | Hexachlorobutadiene   | Hexachlorobutadiene                     | 87-68-3                 | 0.055   | 5.6   |
| U129       | Lindane   | alpha-BHC                               | 319-84-6                | 0.00014   | 0.066   |
|            |   | beta-BHC                                | 319-85-7                | 0.00014   | 0.066   |
|            |   | delta-BHC                               | 319-86-8                | 0.023   | 0.066   |
|            |   | gamma-BHC (Lindane)                     | 58-89-9                 | 0.0017  | 0.066   |
| U130       | Hexachlorocyclopentadiene   | Hexachlorocyclopentadiene               | 77-47-4                 | 0.057   | 2.4   |
| U131       | Hexachloroethane  | Hexachloroethane                        | 67-72-1                 | 0.055   | 30  |
| U132       | Hexachlorophene   | Hexachlorophene                         | 70-30-4                 | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
| U133       | Hydrazine   | Hydrazine                               | 302-01-2                | CHOXD; CHRED; CARBN; BIODG; or INCIN                              | CHOXD; CHRED; or CMBST  |
| U134       | Hydrogen fluoride   | Fluoride (measured in wastewaters only) | 16964-48-8              | 35  | ADGAS lb NEUTR; or NEUTR  |
| U135       | Hydrogen sulfide  | Hydrogen sulfide                        | 7783-06-4               | CHOXD; CHRED; or INCIN  | CHOXD; CHRED; or INCIN  |
| U136       | Cacodylic acid  | Arsenic                                 | 7440-38-2               | 1.4   | 5.0 mg/l TCLP   |
| U137       | Indeno(1,2,3-cd)pyrene  | Indeno(1,2,3-cd)pyrene                  | 193-39-5                | 0.0055  | 3.4   |
| U138       | Iodomethane   | Iodomethane                             | 74-88-4                 | 0.19  | 65  |
| U140       | Isobutyl alcohol  | Isobutyl alcohol                        | 78-83-1                 | 5.6   | 170   |
| U141       | Isosafrole  | Isosafrole                              | 120-58-1                | 0.081   | 2.6   |
| U142       | Kepone  | Kepone                                  | 143-50-8                | 0.0011  | 0.13  |
| U143       | Lasiocarpine  | Lasiocarpine                            | 303-34-4                | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
| U144       | Lead acetate  | Lead                                    | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| U145       | Lead phosphate  | Lead                                    | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| U146       | Lead subacetate   | Lead                                    | 7439-92-1               | 0.69  | 0.37 mg/l TCLP  |
| U147       | Maleic anhydride  | Maleic anhydride                        | 108-31-6                | (WETOX or CHOXD) lb CARBN; or INCIN                               | CMBST   |
| U148       | Maleic hydrazide  | Maleic hydrazide                        | 123-33-1                | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
| U149       | Malononitrile   | Malononitrile                           | 109-77-3                | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
| U150       | Melphalan   | Melphalan                               | 148-82-3                | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
| U151       | U151 (mercury) nonwastewaters that contain greater than or equal to 260 mg/kg total mercury.                        | Mercury                                 | 7439-97-6               | NA  | RMERC   |
|            | U151 (mercury) nonwastewaters that contain less than 260 mg/kg total mercury and that are residues from RMERC only. | Mercury                                 | 7439-97-6               | NA  | 0.20 mg/l TCLP  |



# ADMINISTRATIVE REGISTER - 863

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| <u>Waste Code</u> | <u>Waste Description and Treatment/Regulatory Subcategory<sup>1</sup></u>  | <u>REGULATED HAZARDOUS CONSTITUENT</u>  |                               | <u>WASTEWATERS</u>  | <u>NONWASTEWATERS</u>   |
|-------------------|--|---|-------------------------------|---|---|
|                   |  | <u>Common Name</u>  | <u>CAS<sup>2</sup> Number</u> | <u>Concentration mg/l<sup>3</sup>; or Technology Code<sup>4</sup></u> | <u>Concentration in mg/kg<sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code</u> |
|                   | <u>U151 (mercury) nonwastewaters that contain less than 260 mg/kg total mercury and that are not residues from RMERC only.</u> | <u>Mercury</u>  | <u>7439-97-6</u>              | <u>NA</u>   | <u>0.025 mg/l TCLP</u>  |
|                   | <u>All U151 (mercury) wastewater.</u>  | <u>Mercury</u>  | <u>7439-97-6</u>              | <u>0.15</u>   | <u>NA</u>   |
|                   | <u>Element Mercury Contaminated with Radioactive Materials</u>   | <u>Mercury</u>  | <u>7439-97-6</u>              | <u>NA</u>   | <u>AMLGM</u>  |
| <u>U152</u>       | <u>Methacrylonitrile</u>   | <u>Methacrylonitrile</u>  | <u>126-98-7</u>               | <u>0.24</u>   | <u>84</u>   |
| <u>U153</u>       | <u>Methanethiol</u>  | <u>Methanethiol</u>   | <u>74-93-1</u>                | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>U154</u>       | <u>Methanol</u>  | <u>Methanol</u>   | <u>67-56-1</u>                | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>CMBST</u>  |
|                   |  | <u>Methanol; alternate<sup>5</sup> set of standards for both wastewaters and nonwastewaters</u> | <u>67-56-1</u>                | <u>5.6</u>  | <u>0.75 mg/l TCLP</u>   |
| <u>U155</u>       | <u>Methapyrilene</u>   | <u>Methapyrilene</u>  | <u>91-80-5</u>                | <u>0.081</u>  | <u>1.5</u>  |
| <u>U156</u>       | <u>Methyl chlorocarbonate</u>  | <u>Methyl chlorocarbonate</u>   | <u>79-22-1</u>                | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>U157</u>       | <u>3-Methylcholanthrene</u>  | <u>3-Methylcholanthrene</u>   | <u>56-49-5</u>                | <u>0.0055</u>   | <u>15</u>   |
| <u>U158</u>       | <u>4,4'-Methylene bis(2-chloroaniline)</u>   | <u>4,4'-Methylene bis(2-chloroaniline)</u>  | <u>101-14-4</u>               | <u>0.50</u>   | <u>30</u>   |
| <u>U159</u>       | <u>Methyl ethyl ketone</u>   | <u>Methyl ethyl ketone</u>  | <u>78-93-3</u>                | <u>0.28</u>   | <u>36</u>   |
| <u>U160</u>       | <u>Methyl ethyl ketone peroxide</u>  | <u>Methyl ethyl ketone peroxide</u>   | <u>1338-23-4</u>              | <u>CHOXD; CHRED; CARBN; BIODG; or INCIN</u>                           | <u>CHOXD; CHRED; or CMBST</u>   |
| <u>U161</u>       | <u>Methyl isobutyl ketone</u>  | <u>Methyl isobutyl ketone</u>   | <u>108-10-1</u>               | <u>0.14</u>   | <u>33</u>   |
| <u>U162</u>       | <u>Methyl methacrylate</u>   | <u>Methyl methacrylate</u>  | <u>80-62-6</u>                | <u>0.14</u>   | <u>160</u>  |
| <u>U163</u>       | <u>N-Methyl N'-nitro N-nitrosoguanidine</u>  | <u>N-Methyl N'-nitro N-nitrosoguanidine</u>   | <u>70-25-7</u>                | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>U164</u>       | <u>Methylthiouracil</u>  | <u>Methylthiouracil</u>   | <u>56-04-2</u>                | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>U165</u>       | <u>Naphthalene</u>   | <u>Naphthalene</u>  | <u>91-20-3</u>                | <u>0.059</u>  | <u>5.6</u>  |
| <u>U166</u>       | <u>1,4-Naphthoquinone</u>  | <u>1,4-Naphthoquinone</u>   | <u>130-15-4</u>               | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>CMBST</u>  |
| <u>U167</u>       | <u>1-Naphthylamine</u>   | <u>1-Naphthylamine</u>  | <u>134-32-7</u>               | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>U168</u>       | <u>2-Naphthylamine</u>   | <u>2-Naphthylamine</u>  | <u>91-59-8</u>                | <u>0.52</u>   | <u>INCIN</u>  |
| <u>U169</u>       | <u>Nitrobenzene</u>  | <u>Nitrobenzene</u>   | <u>98-95-3</u>                | <u>0.068</u>  | <u>14</u>   |
| <u>U170</u>       | <u>p-Nitrophenol</u>   | <u>p-Nitrophenol</u>  | <u>100-02-7</u>               | <u>0.12</u>   | <u>29</u>   |
| <u>U171</u>       | <u>2-Nitropropane</u>  | <u>2-Nitropropane</u>   | <u>79-46-9</u>                | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |
| <u>U172</u>       | <u>N-Nitrosodi-n-butylamine</u>  | <u>N-Nitrosodi-n-butylamine</u>   | <u>924-16-3</u>               | <u>0.40</u>   | <u>17</u>   |
| <u>U173</u>       | <u>N-Nitrosodiethanolamine</u>   | <u>N-Nitrosodiethanolamine</u>  | <u>1116-54-7</u>              | <u>(WETOX or CHOXD) fb CARBN; or INCIN</u>                            | <u>INCIN</u>  |

# ADMINISTRATIVE REGISTER - 864

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code  | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup> | REGULATED HAZARDOUS CONSTITUENT   |                         | WASTEWATERS   | NONWASTEWATERS  |
|-------------|---|---|-------------------------|---|---|
|             |   | Common Name   | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| <u>U174</u> | <u>N-Nitrosodiethylamine</u>  | <u>N-Nitrosodiethylamine</u>  | <u>55-18-5</u>          | <u>0.40</u>   | <u>28</u>   |
| <u>U176</u> | <u>N-Nitroso-N-ethylurea</u>  | <u>N-Nitroso-N-ethylurea</u>  | <u>759-73-9</u>         | <u>(WETOX or CHOXD)</u><br><u>fb CARBN; or INCIN</u>              | <u>INCIN</u>  |
| <u>U177</u> | <u>N-Nitroso-N-methylurea</u>                                       | <u>N-Nitroso-N-methylurea</u>   | <u>684-93-5</u>         | <u>(WETOX or CHOXD)</u><br><u>fb CARBN; or INCIN</u>              | <u>INCIN</u>  |
| <u>U178</u> | <u>N-Nitroso-N-methylurethane</u>                                   | <u>N-Nitroso-N-methylurethane</u>   | <u>615-53-2</u>         | <u>(WETOX or CHOXD)</u><br><u>fb CARBN; or INCIN</u>              | <u>INCIN</u>  |
| <u>U179</u> | <u>N-Nitrosopiperidine</u>  | <u>N-Nitrosopiperidine</u>  | <u>100-75-4</u>         | <u>0.013</u>  | <u>35</u>   |
| <u>U180</u> | <u>N-Nitrosopyrrolidine</u>   | <u>N-Nitrosopyrrolidine</u>   | <u>930-55-2</u>         | <u>0.013</u>  | <u>35</u>   |
| <u>U181</u> | <u>5-Nitro-o-toluidine</u>  | <u>5-Nitro-o-toluidine</u>  | <u>99-55-8</u>          | <u>0.32</u>   | <u>28</u>   |
| <u>U182</u> | <u>Paraldehyde</u>  | <u>Paraldehyde</u>  | <u>123-63-7</u>         | <u>(WETOX or CHOXD)</u><br><u>fb CARBN; or INCIN</u>              | <u>CMBST</u>  |
| <u>U183</u> | <u>Pentachlorobenzene</u>   | <u>Pentachlorobenzene</u>   | <u>608-93-5</u>         | <u>0.055</u>  | <u>10</u>   |
| <u>U184</u> | <u>Pentachloroethane</u>  | <u>Pentachloroethane</u>  | <u>76-01-7</u>          | <u>(WETOX or CHOXD)</u><br><u>fb CARBN; or INCIN</u>              | <u>INCIN</u>  |
|             |   | <u>Pentachloroethane; alternate<sup>8</sup> standards for both wastewaters and nonwastewaters</u> | <u>76-01-7</u>          | <u>0.055</u>  | <u>6.0</u>  |
| <u>U185</u> | <u>Pentachloronitrobenzene</u>                                      | <u>Pentachloronitrobenzene</u>  | <u>82-68-8</u>          | <u>0.055</u>  | <u>4.8</u>  |
| <u>U186</u> | <u>1,3-Pentadiene</u>   | <u>1,3-Pentadiene</u>   | <u>504-60-9</u>         | <u>(WETOX or CHOXD)</u><br><u>fb CARBN; or INCIN</u>              | <u>CMBST</u>  |
| <u>U187</u> | <u>Phenacetin</u>   | <u>Phenacetin</u>   | <u>62-44-2</u>          | <u>0.081</u>  | <u>16</u>   |
| <u>U188</u> | <u>Phenol</u>   | <u>Phenol</u>   | <u>108-95-2</u>         | <u>0.039</u>  | <u>6.2</u>  |
| <u>U189</u> | <u>Phosphorus sulfide</u>   | <u>Phosphorus sulfide</u>   | <u>1314-80-3</u>        | <u>CHOXD; CHRED; or INCIN</u>                                     | <u>CHOXD; CHRED; or INCIN</u>   |
| <u>U190</u> | <u>Phthalic anhydride</u>   | <u>Phthalic anhydride (measured as Phthalic acid or terephthalic acid)</u>                        | <u>100-21-0</u>         | <u>0.055</u>  | <u>28</u>   |
|             |   | <u>Phthalic anhydride</u>   | <u>85-44-9</u>          | <u>0.055</u>  | <u>28</u>   |
| <u>U191</u> | <u>2-Picoline</u>   | <u>2-Picoline</u>   | <u>109-06-8</u>         | <u>(WETOX or CHOXD)</u><br><u>fb CARBN; or INCIN</u>              | <u>INCIN</u>  |
| <u>U192</u> | <u>Pronamide</u>  | <u>Pronamide</u>  | <u>23950-58-5</u>       | <u>0.093</u>  | <u>1.5</u>  |
| <u>U193</u> | <u>1,3-Propane sultone</u>  | <u>1,3-Propane sultone</u>  | <u>1120-71-4</u>        | <u>(WETOX or CHOXD)</u><br><u>fb CARBN; or INCIN</u>              | <u>INCIN</u>  |
| <u>U194</u> | <u>n-Propylamine</u>  | <u>n-Propylamine</u>  | <u>107-10-8</u>         | <u>(WETOX or CHOXD)</u><br><u>fb CARBN; or INCIN</u>              | <u>INCIN</u>  |
| <u>U196</u> | <u>Pyridine</u>   | <u>Pyridine</u>   | <u>110-86-1</u>         | <u>0.014</u>  | <u>16</u>   |
| <u>U197</u> | <u>p-Benzoquinone</u>   | <u>p-Benzoquinone</u>   | <u>106-51-4</u>         | <u>(WETOX or CHOXD)</u><br><u>fb CARBN; or INCIN</u>              | <u>CMBST</u>  |
| <u>U200</u> | <u>Reserpine</u>  | <u>Reserpine</u>  | <u>50-55-5</u>          | <u>(WETOX or CHOXD)</u><br><u>fb CARBN; or INCIN</u>              | <u>INCIN</u>  |
| <u>U201</u> | <u>Resorcinol</u>   | <u>Resorcinol</u>   | <u>108-46-3</u>         | <u>(WETOX or CHOXD)</u><br><u>fb CARBN; or INCIN</u>              | <u>CMBST</u>  |

# ADMINISTRATIVE REGISTER - 865

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup> | REGULATED HAZARDOUS CONSTITUENT         |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|---|---|-------------------------|---|---|
|            |   | Common Name                             | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| U202       | Saccharin and salts   | Saccharin                               | 81-07-2                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U203       | Safrole   | Safrole                                 | 94-59-7                 | 0.081   | 22  |
| U204       | Selenium dioxide  | Selenium                                | 7782-49-2               | 0.82  | 0.16 mg/l TCLP  |
| U205       | Selenium sulfide  | Selenium                                | 7782-49-2               | 0.82  | 0.16 mg/l TCLP  |
| U206       | Streptozotocin  | Streptozotocin                          | 18883-66-4              | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U207       | 1,2,4,5-Tetrachlorobenzene  | 1,2,4,5-Tetrachlorobenzene              | 95-94-3                 | 0.055   | 14  |
| U208       | 1,1,1,2-Tetrachloroethane   | 1,1,1,2-Tetrachloroethane               | 630-20-6                | 0.057   | 6.0   |
| U209       | 1,1,2,2-Tetrachloroethane   | 1,1,2,2-Tetrachloroethane               | 79-34-5                 | 0.057   | 6.0   |
| U210       | Tetrachloroethylene   | Tetrachloroethylene                     | 127-18-4                | 0.056   | 6.0   |
| U211       | Carbon tetrachloride  | Carbon tetrachloride                    | 56-23-5                 | 0.057   | 6.0   |
| U213       | Tetrahydrofuran   | Tetrahydrofuran                         | 109-99-9                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | CMBST   |
| U214       | Thallium (I) acetate  | Thallium (measured in wastewaters only) | 7440-28-0               | 1.4   | RTHRM; or STABL   |
| U215       | Thallium (I) carbonate  | Thallium (measured in wastewaters only) | 7440-28-0               | 1.4   | RTHRM; or STABL   |
| U216       | Thallium (I) chloride   | Thallium (measured in wastewaters only) | 7440-28-0               | 1.4   | RTHRM; or STABL   |
| U217       | Thallium (I) nitrate  | Thallium (measured in wastewaters only) | 7440-28-0               | 1.4   | RTHRM; or STABL   |
| U218       | Thioacetamide   | Thioacetamide                           | 62-55-5                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U219       | Thiourea  | Thiourea                                | 62-56-6                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U220       | Toluene   | Toluene                                 | 108-88-3                | 0.080   | 10  |
| U221       | Toluenediamine  | Toluenediamine                          | 25376-45-8              | CARBN; or INCIN   | CMBST   |
| U222       | o-Toluidine hydrochloride   | o-Toluidine hydrochloride               | 636-21-5                | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U223       | Toluene diisocyanate  | Toluene diisocyanate                    | 26471-62-5              | CARBN; or INCIN   | CMBST   |
| U225       | Bromoform (Tribromomethane)   | Bromoform (Tribromomethane)             | 75-25-2                 | 0.63  | 15  |
| U226       | 1,1,1-Trichloroethane   | 1,1,1-Trichloroethane                   | 71-55-6                 | 0.054   | 6.0   |
| U227       | 1,1,2-Trichloroethane   | 1,1,2-Trichloroethane                   | 79-00-5                 | 0.054   | 6.0   |
| U228       | Trichloroethylene   | Trichloroethylene                       | 79-01-6                 | 0.054   | 6.0   |
| U234       | 1,3,5-Trinitrobenzene   | 1,3,5-Trinitrobenzene                   | 99-35-4                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |
| U235       | tris-(2,3-Dibromopropyl)-phosphate                                  | tris-(2,3-Dibromopropyl)-phosphate      | 126-72-7                | 0.11  | 0.10  |
| U236       | Trypan Blue   | Trypan Blue                             | 72-57-1                 | (WETOX or CHOXD)<br>fb CARBN; or INCIN                            | INCIN   |

# ADMINISTRATIVE REGISTER - 866

## TREATMENT STANDARDS FOR HAZARDOUS WASTES

| Waste Code | Waste Description and Treatment/Regulatory Subcategory <sup>1</sup>                            | REGULATED HAZARDOUS CONSTITUENT                                    |                         | WASTEWATERS   | NONWASTEWATERS  |
|------------|--|--|-------------------------|---|---|
|            |  | Common Name  | CAS <sup>2</sup> Number | Concentration mg/l <sup>3</sup> ; or Technology Code <sup>4</sup> | Concentration in mg/kg <sup>3</sup> unless noted as "mg/l TCLP"; or Technology Code |
| U237       | Uracil mustard   | Uracil mustard   | 66-75-1                 | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
| U238       | Urethane (Ethyl carbamate)   | Urethane (Ethyl carbamate)   | 51-79-6                 | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
| U239       | Xylenes  | Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations) | 1330-20-7               | 0.32  | 30  |
| U240       | 2,4-D (2,4-Dichlorophenoxyacetic acid)   | 2,4-D (2,4-Dichlorophenoxyacetic acid)                             | 94-75-7                 | 0.72  | 10  |
|            | 2,4-D (2,4-Dichlorophenoxyacetic acid) salts and esters  |  | NA                      | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
| U243       | Hexachloropropylene  | Hexachloropropylene  | 1888-71-7               | 0.035   | 30  |
| U244       | Thiram   | Thiram   | 137-26-8                | (WETOX or CHOXD) lb CARBN; or INCIN                               | INCIN   |
| U246       | Cyanogen bromide   | Cyanogen bromide   | 506-68-3                | CHOXD; WETOX; or INCIN  | CHOXD; WETOX; or INCIN  |
| U247       | Methoxychlor   | Methoxychlor   | 72-43-5                 | 0.25  | 0.18  |
| U248       | Warfarin, & salts, when present at concentrations of 0.3% or less                              | Warfarin   | 81-81-2                 | (WETOX or CHOXD) lb CARBN; or INCIN                               | CMBST   |
| U249       | Zinc phosphide, Zn <sub>3</sub> P <sub>2</sub> , when present at concentrations of 10% or less | Zinc Phosphide   | 1314-84-7               | CHOXD; CHRED; or INCIN  | CHOXD; CHRED; or INCIN  |
| U328       | o-Toluidine  | o-Toluidine  | 95-53-4                 | INCIN; or CHOXD lb (BIODG or CARBN); or BIODG lb CARBN            | INCIN; or Thermal Destruction   |
| U353       | p-Toluidine  | p-Toluidine  | 106-49-0                | INCIN; or CHOXD lb (BIODG or CARBN); or BIODG lb CARBN            | INCIN; or Thermal Destruction   |
| U359       | 2-Ethoxyethanol  | 2-Ethoxyethanol  | 110-80-5                | INCIN; or CHOXD lb (BIODG or CARBN); or BIODG lb CARBN            | CMBST   |

1 The waste descriptions provided in this table do not replace waste descriptions in 401 KAR Chapter 31. Descriptions of Treatment/Regulatory Subcategories are provided, as needed, to distinguish between applicability of different standards.

2 CAS means Chemical Abstract Services. When the waste code or regulated constituents are described as a combination of a chemical with its salts and esters, the CAS number is given for the parent compound only.

3 Concentration standards for wastewaters are expressed in mg/l and are based on analysis of composite samples.

4 All treatment standards expressed as a Technology Code or combination of Technology Codes are explained in detail in Section 3 of this administrative regulation, Table 1 - Technology Codes and Descriptions of Technology-Based Standards.

5 Except for Metals (EP or TCLP) and Cyanides (Total and Amenable) the nonwastewater treatment standards expressed as a concentration were established, in part, based upon incineration in units operated in accordance with the technical requirements of 401 KAR 34:240 or 35:240, or based upon combustion in fuel substitution units operating in accordance with applicable

technical requirements. A facility may comply with these treatment standards according to provisions in subsection (4) of this section. All concentration standards for nonwastewaters are based on analysis of grab samples.

6 Where an alternate treatment standard or set of alternate standards has been indicated, a facility may comply with this alternate standard, but only for the Treatment/Regulatory Subcategory and physical form (that is, wastewater and non-wastewater) specified for that alternate standard.

7 Both Cyanides (Total) and Cyanides (Amenable) for nonwastewaters are to be analyzed using Method 9010 or 9012, found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, incorporated in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010, with a sample size of tn (10) grams and a distillation time of one (1) hour and fifteen (15) minutes.

NOTE: NA means not applicable.

~~[A restricted waste identified in Section 3 of this administrative~~

regulation may be land disposed only if an extract of the waste or of the treatment residue of the waste developed using the test method of Section 1 of 401 KAR 37:100 does not exceed the value shown in Table CCWE (Constituent Concentrations in Waste Extract) in Section 2 of this administrative regulation for any hazardous constituent listed for that waste, with the following exceptions: D004, D008, K031, K084, K101, K102, P010, P011, P012, P036, P038, and U136. Table CCWE identifies the restricted wastes D004, D008, P038, and U136 and the concentrations of their associated constituents which may not be exceeded by the extract of a waste or waste treatment residual developed using the test method incorporated by reference in 401 KAR 31:100 or 401 KAR 37:100 for the allowable land disposal of such wastes.

(2) A restricted waste for which a treatment technology is specified under Section 3(1) of this administrative regulation may be land disposed after it is treated using that specified technology or an equivalent treatment method approved by the cabinet under the procedures set forth in Section 3(2) of this administrative regulation.

(3) Except as otherwise specified in Section 5(3) of this administrative regulation, a restricted waste identified in Section 5 of this administrative regulation may be land disposed only if the constituent concentrations in the waste or treatment residue of the waste do not exceed the value shown in Table CCW (Constituent Concentrations in Waste) referenced in Section 5 of this administrative regulation for any hazardous constituent listed in Table CCW for that waste.]

Section 2. Treatment Standards Expressed as Concentrations in Waste Extract. For the requirements previously found in this section and for treatment standards in Table CCWE - Constituent Concentrations in Waste Extracts, refer to Section 1 of this administrative regulation. [(1) Table CCWE identifies the restricted wastes and the concentrations of their associated hazardous constituents which may not be exceeded by the extract of a waste or waste treatment residual developed using the test method in Section 1 of 401 KAR 37:100 for the allowable land disposal of wastes, with the exception of wastes D004, D008, D031, K084, K101, K102, P010, P011, P012, P036, and U136 and the concentrations of their associated constituents which may not be exceeded by the extract or waste treatment residual developed using the test methods in 401 KAR 31:110 for the allowable land disposal of such wastes. (Section 2 of 401 KAR 37:100 provides the cabinet guidance on treatment methods that have been shown to achieve the Table CCWE levels for the respective wastes. Section 2 of 401 KAR 31:100 is not a regulatory requirement but is provided to assist generators and owners or operators in their selection of appropriate treatment methods.) Compliance with these concentrations shall be required based upon grab samples, unless otherwise noted in Table CCWE. Table CCWE identifies the restricted wastes D004, D008, K031, K084, K101, K102, P010, P011, P012, P036, P038, and U136 and the concentrations of their associated constituents which may not be exceeded by the extract of a waste or waste treatment residual developed using the test method in Sections 1 or 2 of 401 KAR 37:100 for the allowable land disposal of such wastes. (Section 2 of 401 KAR 37:100 provides cabinet guidance on treatment methods that have been shown to achieve the Table CCWE levels for the respective wastes. Section 2 of 401 KAR 37:100 is not a regulatory requirement but is provided to assist generators and owners or operators in their selection of appropriate treatment methods.)]

Table CCWE - Constituent Concentrations in Waste Extract

| Waste code   | Commercial chemical name | See also  | Regulated hazardous constituent | CAS No. for regulated hazardous constituent | Wastewater           |       | Nonwastewater        |       |
|--|--------------------------|---|---------------------------------|---|----------------------|-------|----------------------|-------|
|  |                          |   |                                 |   | Concentration (mg/l) | Notes | Concentration (mg/l) | Notes |
| D004   | NA                       | Table CCW in Section 5                          | Arsenic                         | 7440-38-2                                   | NA                   |       | 5.0                  | (1)   |
| D005   | NA                       | Table CCW in Section 5                          | Barium                          | 7440-39-3                                   | NA                   |       | 100                  |       |
| D006   | NA                       | Table CCW in Section 5                          | Cadmium                         | 7440-43-0                                   | NA                   |       | 1.0                  |       |
| D007   | NA                       | Table CCW in Section 5                          | Chromium (Total)                | 7440-47-32                                  | NA                   |       | 5.0                  |       |
| D008   | NA                       | Table CCW in Section 5                          | Lead                            | 7439-02-1                                   | NA                   |       | 5.0                  | (1)   |
| D009 (Low Mercury Subcategory - less than 260 mg/kg Mercury) | NA                       | Table 2 in Section 3 and Table CCW in Section 5 | Mercury                         | 7439-07-6                                   | NA                   |       | 0.20                 |       |
| D010   | NA                       | Table CCW in Section 5                          | Selenium                        | 7782-49-2                                   | NA                   |       | 5.7                  |       |
| D011   | NA                       | Table CCW in Section 5                          | Silver                          | 7440-22-4                                   | NA                   |       | 5.0                  |       |
| F001-F005 spent solvents                                     | NA                       | Table CCW in Section 5                          | Acetone                         | 67-64-1                                     | 0.05                 |       | 0.50                 |       |
|  |                          |   | n-Butyl alcohol                 | 71-36-3                                     | 5.0                  |       | 5.0                  |       |
|  |                          |   | Carbon disulfide                | 75-15-0                                     | NA                   |       | 4.8                  |       |

# ADMINISTRATIVE REGISTER - 868

|      |    |                        |   |            |       |       |
|------|----|------------------------|---|------------|-------|-------|
| F006 | NA | Table CCW in Section 5 | Carbon tetra-<br>chloride                     | 56-23-5    | 0.06  | 0.96  |
|      |    |                        | Chlorobenzene                                 | 108-90-7   | 0.15  | 0.96  |
|      |    |                        | Cresols (and<br>cresylic acid)                |            | 2.82  | 0.75  |
|      |    |                        | Cyclohexanone                                 | 108-94-1   | NA    | 0.75  |
|      |    |                        | 1,2-Dichloroben-<br>zene                      | 95-50-1    | 0.65  | 0.125 |
|      |    |                        | Ethyl acetate                                 | 141-78-6   | 0.05  | 0.75  |
|      |    |                        | Ethylbenzene                                  | 100-41-4   | 0.05  | 0.053 |
|      |    |                        | Ethyl ether                                   | 60-29-7    | 0.05  | 0.75  |
|      |    |                        | Isobutanol                                    | 78-83-1    | 5.0   | 5.0   |
|      |    |                        | Methanol                                      | 67-56-1    | NA    | 0.75  |
|      |    |                        | Methylene chlo-<br>ride                       | 75-07-2    | 0.20  | 0.96  |
|      |    |                        | Methyl ethyl<br>ketone                        | 78-03-3    | 0.05  | 0.75  |
|      |    |                        | Methyl isobutyl<br>ketone                     | 108-10-1   | 0.05  | 0.33  |
|      |    |                        | Nitrobenzene                                  | 98-05-3    | 0.65  | 0.125 |
|      |    |                        | Pyridine                                      | 110-86-1   | 1.12  | 0.33  |
|      |    |                        | Tetrachloroethyl-<br>ene                      | 127-18-4   | 0.070 | 0.06  |
|      |    |                        | Toluene                                       | 108-88-3   | 1.12  | 0.33  |
|      |    |                        | 1,1,1, Trichloro-<br>ethane                   | 71-55-6    | 1.05  | 0.41  |
|      |    |                        | 1,1,2 Trichloro-<br>1,2,2-Trifluor-<br>ethane | 76-13-1    | 1.05  | 0.06  |
|      |    |                        | Trichloroethylene                             | 79-01-6    | 0.062 | 0.001 |
|      |    |                        | Trichlorofluoro-<br>methane                   | 75-69-4    | 0.05  | 0.96  |
|      |    |                        | Xylene  |            | 0.05  | 0.15  |
| F007 | NA | Table CCW in Section 5 | Cadmium-                                      | 7440-43-0  | NA    | 0.066 |
|      |    |                        | Chromium (To-<br>tal)                         | 7440-47-32 | NA    | 5.2   |
|      |    |                        | Lead  | 7439-92-1  | NA    | 0.51  |
|      |    |                        | Nickel  | 7440-02-0  | NA    | 0.32  |
|      |    |                        | Silver  | 7440-22-4  | NA    | 0.072 |
| F008 | NA | Table CCW in Section 5 | Cadmium-                                      | 7440-43-0  | NA    | 0.066 |
|      |    |                        | Chromium (To-<br>tal)                         | 7440-47-32 | NA    | 5.2   |
|      |    |                        | Lead  | 7439-92-1  | NA    | 0.51  |
|      |    |                        | Nickel  | 7440-02-0  | NA    | 0.32  |
|      |    |                        | Silver  | 7440-22-4  | NA    | 0.072 |
|      |    |                        | Cadmium-                                      | 7440-43-0  | NA    | 0.066 |

# ADMINISTRATIVE REGISTER - 869

|   |    |                        |   |            |           |           |
|---|----|------------------------|---|------------|-----------|-----------|
| F009  | NA | Table CCW in Section 5 | Chromium (Total)                        | 7440-47-32 | NA        | 5.2       |
|   |    |                        | Lead                                    | 7439-92-1  | NA        | 0.51      |
|   |    |                        | Nickel                                  | 7440-02-0  | NA        | 0.32      |
|   |    |                        | Silver                                  | 7440-22-4  | NA        | 0.072     |
|   |    |                        | Cadmium                                 | 7440-43-0  | NA        | 0.066     |
|   |    |                        | Chromium (Total)                        | 7440-47-32 | NA        | 5.2       |
|   |    |                        | Lead                                    | 7439-92-1  | NA        | 0.51      |
|   |    |                        | Nickel                                  | 7440-02-0  | NA        | 0.32      |
| F011  | NA | Table CCW in Section 5 | Silver                                  | 7440-22-4  | NA        | 0.072     |
|   |    |                        | Cadmium                                 | 7440-43-0  | NA        | 0.066     |
|   |    |                        | Chromium (Total)                        | 7440-47-32 | NA        | 5.2       |
|   |    |                        | Lead                                    | 7439-92-1  | NA        | 0.51      |
|   |    |                        | Nickel                                  | 7440-02-0  | NA        | 0.32      |
|   |    |                        | Silver                                  | 7440-22-4  | NA        | 0.072     |
|   |    |                        | Cadmium                                 | 7440-43-0  | NA        | 0.066     |
|   |    |                        | Chromium (Total)                        | 7440-47-32 | NA        | 5.2       |
| F012  | NA | Table CCW in Section 5 | Lead                                    | 7439-92-1  | NA        | 0.51      |
|   |    |                        | Nickel                                  | 7440-02-0  | NA        | 0.32      |
|   |    |                        | Silver                                  | 7440-22-4  | NA        | 0.072     |
|   |    |                        | Cadmium                                 | 7440-43-0  | NA        | 0.066     |
|   |    |                        | Chromium (Total)                        | 7440-47-32 | NA        | 5.2       |
|   |    |                        | Lead                                    | 7439-92-1  | NA        | 0.51      |
|   |    |                        | Nickel                                  | 7440-02-0  | NA        | 0.32      |
|   |    |                        | Silver                                  | 7440-22-4  | NA        | 0.072     |
| F019  | NA | Table CCW in Section 2 | Chromium (Total)                        | 7440-47-32 | NA        | 5.2       |
| F020-F023 and F026-F028 dioxin containing wastes <sup>2</sup> | NA | NA                     | HxCDD All Hexachloro-dibenzo-p-dioxins  |            | <1 ppb    | <1 ppb    |
|   |    |                        | HxCDF All Hexachloro-dibenzo-furans     |            | <1 ppb    | <1 ppb    |
|   |    |                        | PeCDD All Pentachloro-dibenzo-p-dioxins |            | <1 ppb    | <1 ppb    |
|   |    |                        | PeCDF All Pentachloro-dibenzo-furans    |            | <1 ppb    | <1 ppb    |
|   |    |                        | TCDD All Tetrachloro-dibenzo-p-dioxins  |            |           |           |
|   |    |                        | TCDF All Tetrachloro-dibenzo-furans     |            | <1 ppb    | <1 ppb    |
|   |    |                        | 2,4,6-Trichlorophenol                   | 95-95-4    | <0.05 ppm | <0.05 ppm |
|   |    |                        | 2,4,6-Trichlorophenol                   | 98-06-2    | <0.05 ppm | <0.05 ppm |
|   |    |                        | 2,3,4,6-Tetrachlorophenol               | 68-00-2    | <0.05 ppm | <0.05 ppm |



# ADMINISTRATIVE REGISTER - 870

|                  |    |                        |                   |            |           |           |
|------------------|----|------------------------|-------------------|------------|-----------|-----------|
| F024             | NA | Table CCW in Section 2 | Pentachlorophenol | 87-86-5    | <0.01 ppm | <0.01 ppm |
|                  |    |                        | Chromium (Total)  | 7440-47-32 | NA        | 0.072     |
|                  |    |                        | Lead              | 7439-92-1  | NA        |           |
| *F037            | NA | Table CCW in Section 2 | Nickel            | 7440-02-0  | NA        | 0.088     |
|                  |    |                        | Chromium (Total)  | 7440-47-32 | NA        | 1.7       |
|                  |    |                        | Nickel            | 7440-02-0  | NA        | 0.20      |
| *F038            | NA | Table CCW in Section 2 | Chromium (Total)  | 7440-47-32 | NA        | 1.7       |
|                  |    |                        | Nickel            | 7440-02-0  | NA        | 0.20      |
|                  |    |                        | Antimony          | 7440-36-0  | NA        | 0.23      |
| F039             | NA | Table CCW in Section 2 | Arsenic           | 7440-38-2  | NA        | 5.0       |
|                  |    |                        | Barium            | 7440-30-3  | NA        | 52        |
|                  |    |                        | Cadmium           | 7440-43-0  | NA        | 0.066     |
|                  |    |                        | Chromium (Total)  | 7440-47-32 | NA        | 5.2       |
|                  |    |                        | Lead              | 7439-92-1  | NA        | 0.51      |
|                  |    |                        | Mercury           | 7439-97-6  | NA        | 0.025     |
|                  |    |                        | Nickel            | 7440-02-0  | NA        | 0.32      |
|                  |    |                        | Selenium          | 7782-49-2  | NA        | 5.7       |
|                  |    |                        | Silver            | 7440-22-4  | NA        | 0.072     |
|                  |    |                        | Lead              | 7439-92-1  | NA        | 0.51      |
| K001             | NA | Table CCW in Section 2 | Lead              | 7439-92-1  | NA        | 0.51      |
| K002             | NA | Table CCW in Section 2 | Chromium (Total)  | 7440-47-32 | NA        | 0.004     |
|                  |    |                        | Lead              | 7439-92-1  | NA        | 0.37      |
| K003             | NA | Table CCW in Section 2 | Chromium (Total)  | 7440-47-32 | NA        | 0.004     |
|                  |    |                        | Lead              | 7439-92-1  | NA        | 0.37      |
| K004             | NA | Table CCW in Section 2 | Chromium (Total)  | 7440-47-32 | NA        | 0.004     |
|                  |    |                        | Lead              | 7439-92-1  | NA        | 0.37      |
| K005             | NA | Table CCW in Section 2 | Chromium (Total)  | 7440-47-32 | NA        | 0.004     |
|                  |    |                        | Lead              | 7439-92-1  | NA        | 0.37      |
| K006 (anhydrous) | NA | Table CCW in Section 2 | Chromium (Total)  | 7440-47-32 | NA        | 0.004     |
|                  |    |                        | Lead              | 7439-92-1  | NA        | 0.37      |
| K006 (hydrated)  | NA | Table CCW in Section 2 | Chromium (Total)  | 7440-47-32 | NA        | 5.2       |
|                  |    |                        | Lead              | 7439-92-1  | NA        | 0.37      |
| K007             | NA | Table CCW in Section 2 | Chromium (Total)  | 7440-47-32 | NA        | 0.004     |
|                  |    |                        | Lead              | 7439-92-1  | NA        | 0.37      |
| K008             | NA | Table CCW in Section 2 | Chromium (Total)  | 7440-47-32 | NA        | 0.004     |
|                  |    |                        | Lead              | 7439-92-1  | NA        | 0.37      |

# ADMINISTRATIVE REGISTER - 871

|       |    |                        |                  |            |    |       |     |
|-------|----|------------------------|------------------|------------|----|-------|-----|
| K015  | NA | Table CCW in Section 2 | Chromium (Total) | 7440-47-32 | NA | 1.7   |     |
|       |    |                        | Nickel           | 7440-02-0  | NA | 0.2   |     |
| K021  | NA | Table CCW in Section 2 | Antimony         | 7440-36-0  | NA | 0.23  |     |
| K022  | NA | Table CCW in Section 2 | Chromium (Total) | 7440-47-32 | NA | 5.2   |     |
|       |    |                        | Nickel           | 7440-02-0  | NA | 0.32  |     |
| K028  | NA | Table CCW in Section 2 | Chromium (Total) | 7440-47-32 | NA | 0.073 |     |
|       |    |                        | Lead             | 7439-92-1  | NA | 0.021 |     |
|       |    |                        | Nickel           | 7440-02-0  | NA | 0.088 |     |
| K031  | NA | Table CCW in Section 2 | Arsenic          | 7440-38-2  | NA | 5.6   | (+) |
| K046  | NA | Table CCW in Section 2 | Lead             | 7439-92-1  | NA | 0.18  |     |
| K048  | NA | Table CCW in Section 2 | Chromium (Total) | 7440-47-32 | NA | 1.7   |     |
|       |    |                        | Nickel           | 7440-02-0  | NA | 0.20  |     |
| K049  | NA | Table CCW in Section 2 | Chromium (Total) | 7440-47-32 | NA | 1.7   |     |
|       |    |                        | Nickel           | 7440-02-0  | NA | 0.20  |     |
| K050  | NA | Table CCW in Section 2 | Chromium (Total) | 7440-47-32 | NA | 1.7   |     |
|       |    |                        | Nickel           | 7440-02-0  | NA | 0.20  |     |
| K061  | NA | Table CCW in Section 2 | Chromium (Total) | 7440-47-32 | NA | 1.7   |     |
|       |    |                        | Nickel           | 7440-02-0  | NA | 0.20  |     |
| K062  | NA | Table CCW in Section 2 | Chromium (Total) | 7440-47-32 | NA | 1.7   |     |
|       |    |                        | Nickel           | 7440-02-0  | NA | 0.20  |     |
| *K064 | NA | Table CCW in Section 2 | Antimony         | 7440-36-0  | NA | 2.1   |     |
|       |    |                        | Arsenic          | 7440-38-2  | NA | 0.055 |     |
|       |    |                        | Barium           | 7440-30-3  | NA | 7.6   |     |
|       |    |                        | Beryllium        | 7440-41-7  | NA | 0.014 |     |
|       |    |                        | Cadmium          | 7440-43-0  | NA | 0.10  |     |
|       |    |                        | Chromium (Total) | 7440-47-32 | NA | 0.33  |     |
|       |    |                        | Lead             | 7439-92-1  | NA | 0.37  |     |
|       |    |                        | Mercury          | 7439-97-6  | NA | 0.009 |     |
|       |    |                        | Nickel           | 7440-02-0  | NA | 5     |     |
|       |    |                        | Selenium         | 7782-40-2  | NA | 0.16  |     |
|       |    |                        | Silver           | 7440-22-4  | NA | 0.3   |     |
|       |    |                        | Thallium         |            | NA | 0.078 |     |
|       |    |                        | Zinc             | 7440-66-6  | NA | 5.3   |     |
| K062  | NA | Table CCW in Section 2 | Chromium (Total) | 7440-47-32 | NA | 0.094 |     |
|       |    |                        | Lead             | 7439-92-1  | NA | 0.37  |     |

# ADMINISTRATIVE REGISTER - 872

|   |                       |  |                  |            |    |       |     |
|---|-----------------------|--|------------------|------------|----|-------|-----|
| K060 (Calcium Sulfate Subcategory)  | NA                    | Table 2 in 268.42 and Table CCW in Section 2 | Cadmium          | 7440-43-0  | NA | 0.14  |     |
|   |                       |  | Lead             | 7439-02-1  | NA | 0.24  |     |
| K071  | NA                    | Table CCW in Section 2                       | Mercury          | 7439-07-6  | NA | 0.025 |     |
| K083  | NA                    | Table CCW in Section 2                       | Nickel           | 7440-02-2  | NA | 0.088 |     |
| K084  | NA                    | Table CCW in Section 2                       | Arsenic          | 7440-38-2  | NA | 5.6   | (+) |
| K086  | NA                    | Table CCW in Section 2                       | Chromium (Total) | 7440-47-32 | NA | 0.004 |     |
|   |                       |  | Lead             | 7439-02-1  | NA | 0.37  |     |
| K087  | NA                    | Table CCW in Section 2                       | Lead             | 7439-02-1  | NA | 0.51  |     |
| K100  | NA                    | Table CCW in Section 2                       | Cadmium          | 7440-43-0  | NA | 0.066 |     |
|   |                       |  | Chromium (Total) | 7440-47-32 | NA | 5.2   |     |
|   |                       |  | Lead             | 7439-02-1  | NA | 0.51  |     |
| K101  | NA                    | Table CCW in Section 2                       | Arsenic          | 7440-38-2  | NA | 5.6   | (+) |
| K102  | NA                    | Table CCW in Section 2                       | Arsenic          | 7440-38-2  | NA | 5.6   | (+) |
| K106 (Low Mercury Subcategory less than 260 mg/kg Mercury residues from RMERC)              | NA                    | Table 2 in 268.42 and Table CCW in Section 2 | Mercury          | 7439-07-6  | NA | 0.020 |     |
| K106 (Low Mercury Subcategory less than 260 mg/kg Mercury that are not residues from RMERC) | NA                    | Table 2 in 268.42 and Table CCW in Section 2 | Mercury          | 7439-07-6  | NA | 0.025 |     |
| K115  | NA                    | Table CCW in Section 2                       | Nickel           | 7440-02-0  | NA | 0.32  |     |
| P010  | Arsenic acid          | Table CCW in Section 2                       | Arsenic          | 7440-38-2  | NA | 5.6   | (+) |
| P011  | Arsenic pentoxide     | Table CCW in Section 2                       | Arsenic          | 7440-38-2  | NA | 5.6   | (+) |
| P012  | Arsenic trioxide      | Table CCW in Section 2                       | Arsenic          | 7440-38-2  | NA | 5.6   | (+) |
| P013  | Barium cyanide        | Table CCW in Section 2                       | Barium           | 7440-30-3  | NA | 52    |     |
| P036  | Dichlorophenyl arsine | Table CCW in Section 2                       | Arsenic          | 7440-38-2  | NA | 5.6   | (+) |
| P038  | Diethylarsine         | Table CCW in Section 2                       | Arsenic          | 7440-38-2  | NA | 5.6   | (+) |
| P065 (Low Mercury Subcategory Less than 260 mg/kg Mercury residues from RMERC)              | Mercury fulminate     | Table 2 in 268.42 and Table CCW in Section 2 | Mercury          | 7439-07-6  | NA | 0.20  |     |

# ADMINISTRATIVE REGISTER - 873

|  |                          |  |                  |            |    |       |     |
|--|--------------------------|--|------------------|------------|----|-------|-----|
| P065 (Low Mercury Subcategory- Less than 260 mg/kg Mercury-incinerator residues (and are not residues from RMERC)) | Mercury fulminate        | Table 2 in 268.42 and Table CCW in Section 2 | Mercury          | 7439-97-6  | NA | 0.025 |     |
| P073   | Nickel carbonyl          | Table CCW in Section 2                       | Nickel           | 7440-02-0  | NA | 0.32  |     |
| P074   | Nickel cyanide           | Table CCW in Section 2                       | Nickel           | 7440-02-0  | NA | 0.32  |     |
| P092 (Low Mercury Subcategory- Less than 260 mg/kg Mercury-residues from RMERC)                                    | Phenyl mercury acetate   | Table 2 in 268.42 and Table CCW in Section 2 | Mercury          | 7439-97-6  | NA | 0.20  |     |
| P092 (Low Mercury Subcategory- Less than 260 mg/kg Mercury-incinerator residues (and are not residues from RMERC)) | Phenyl mercury acetate   | Table 2 in 268.42 and Table CCW in Section 2 | Mercury          | 7439-97-6  | NA | 0.025 |     |
| P099   | Potassium silver cyanide | Table CCW in Section 2                       | Silver           | 7440-22-4  | NA | 0.072 |     |
| P103   | Selenourea               | Table CCW in Section 2                       | Selenium         | 7782-40-2  | NA | 5.7   |     |
| P104   | Silver cyanide           | Table CCW in Section 2                       | Silver           | 7440-22-4  | NA | 0.072 |     |
| P110   | Tetraethyl lead          | Table CCW in Section 2                       | Lead             | 7439-92-1  | NA | 0.51  |     |
| P114   | Thallium selenite        | Table CCW in Section 2                       | Selenium         | 7782-40-2  | NA | 5.7   |     |
| U032   | Calcium chromate         | Table CCW in Section 2                       | Chromium (Total) | 7440-47-32 | NA | 0.094 |     |
| U051   | Creosote                 | Table CCW in Section 2                       | Lead             | 7439-92-1  | NA | 0.51  |     |
| U136   | Gasodyle acid            | Table CCW in Section 2                       | Arsenic          | 7440-38-2  | NA | 5.6   | (+) |
| U144   | Lead acetate             | Table CCW in Section 2                       | Lead             | 7439-92-1  | NA | 0.51  |     |
| U145   | Lead phosphate           | Table CCW in Section 2                       | Lead             | 7439-92-1  | NA | 0.51  |     |
| U146   | Lead subacetate          | Table CCW in Section 2                       | Lead             | 7439-92-1  | NA | 0.51  |     |
| U151 (Low Mercury Subcategory- Less than 260 mg/kg Mercury-residues from RMERC)                                    | Mercury                  | Table CCW in Section 2 and Table 2 in 268.42 | Mercury          | 7439-97-6  | NA | 0.20  |     |

# ADMINISTRATIVE REGISTER - 874

|  |                  |  |          |           |    |  |       |
|--|------------------|--|----------|-----------|----|--|-------|
| U151 (Low Mercury Subcategory - Less than 260 mg/kg Mercury that are not residues from RMERC.) | Mercury          | Table CCW in Section 2 and Table 2 in 268.42 | Mercury  | 7439-97-6 | NA |  | 0-025 |
| U204   | Selenium dioxide | Table CCW in Section 2                       | Selenium | 7782-49-2 | NA |  | 5-7   |
| U205   | Selenium sulfide | Table CCW in Section 2                       | Selenium | 7782-49-2 | NA |  | 5-7   |

FOOTNOTE: \*These treatment standards have been based on EP Leachate analysis but this does not preclude the use of TCLP analysis.  
FOOTNOTE: \*These waste codes are not subcategorized into wastewaters and nonwastewaters.  
Note: NA means Not Applicable.

(2) When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue shall meet the lowest treatment standard for the constituent of concern.]

Section 3. Treatment Standards Expressed as Specified [Specific] Technologies. Note: For the requirements previously found in this section in Table 2 - Technology-based Standards by RCRA Waste Code, and Table 3 - Technology-based Standards for Specific Radioactive Hazardous Mixed Waste, refer to Section 1 of this administrative regulation.

(1) The following wastes of paragraphs (a) and (b) of this subsection and in the Table in Section 1 of this administrative regulation, "Treatment Standards for Hazardous Wastes", for which standards are expressed as a treatment method rather than a concentration level, shall be treated using the [identified] technology or technologies specified in paragraphs (a) and (b) of this subsection and Table 1 of this section, [or an equivalent method approved by the cabinet:]

(a) Liquid hazardous waste containing PCBs at concentrations greater than or equal to fifty (50) ppm but less than 500 ppm shall be incinerated in accordance with the technical requirements of 40 CFR 761.70 or burned in high efficiency boilers in accordance with the technical requirements of 40 CFR 761.60 [(1989)]. Liquid hazardous wastes containing PCBs at concentrations greater than or equal to 500 ppm shall be incinerated in accordance with the technical requirements of 40 CFR 761.70 [(1989)]. Thermal treatment under this section shall also be in compliance with applicable administrative regulations in Chapters 34, 35, and 36.

(b) Nonliquid hazardous wastes containing halogenated organic compounds (HOCs) in total concentration greater than or equal to 1,000 mg/kg and liquid HOC-containing wastes that are prohibited under Section 3(1)(c) [4(3)(a)] of 401 KAR 37:030, shall be incinerated in accordance with the requirements of 401 KAR 34:240 or 401 KAR 35:240. These treatment standards do not apply where the waste is subject to a 401 KAR 37:030 treatment standard for a specific HOC (such as a hazardous waste chlorinated solvent for which a treatment standard is established under Section 1 [3(1)] of this administrative regulation).

(c) A mixture consisting of wastewater, the discharge of which is subject to regulation under Sections 307(b) or 402 of the CWA, and de minimis losses of materials from manufacturing operations in which these materials are used as raw materials or are produced as products in the manufacturing process, and that meet the criteria of the D001 ignitable liquids containing greater than ten (10) percent total organic constituents (TOC) subcategory, is subject to the DEACT treatment standard described in Table 1 of 40 CFR 268.42. For purposes of this paragraph, de minimis losses include those from normal material handling operations (spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks from process equipment, storage tanks, or containers; leaks from well-maintained pump packings and seals; sample purgings; and relief device discharges.

(d) The wastewater form of the following hazardous wastes listed in 401 KAR 37:010 shall be treated by carbon absorption, or incineration, or pretreatment followed by carbon absorption: K027, K039, K113, K114, K115, K116, P040, P041, P043, P044, P062, P085, P109, P111, U058, U087, U221, and U223.

Table 1. Technology Codes and Description of Technology-Based Standards

| Technolo-gy code | Description of technology-based standards  |
|------------------|--|
| ADGAS:           | Venting of compressed gases into an absorbing or reacting media (i.e., solid or liquid)-venting can be accomplished through physical release utilizing valves/piping; physical penetration of the container; and/or penetration through detonation.  |
| AMLGM:           | Amalgamation of liquid, elemental mercury contaminated with radioactive materials utilizing inorganic reagents such as copper, zinc, nickel, gold, and sulfur that result in a nonliquid, semisolid amalgam and thereby reducing potential emissions of elemental mercury vapors to the air.   |
| BIODG:           | Biodegradation of organics or nonmetallic inorganics (i.e., degradable inorganics that contain the elements of phosphorus, nitrogen, and sulfur) in units operated under either aerobic or anaerobic conditions such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the biodegradation of many organic constituents that cannot be directly analyzed in wastewater residues). |

## ADMINISTRATIVE REGISTER - 875

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| CARBN:       | Carbon adsorption (granulated or powdered) of nonmetallic inorganics, organo-metallics, and/or organic constituents, operated such that a surrogate compound or indicator parameter has not undergone breakthrough (e.g., Total Organic Carbon can often be used as an indicator parameter for the adsorption of many organic constituents that cannot be directly analyzed in wastewater residues). Breakthrough occurs when the carbon has become saturated with the constituent (or indicator parameter) and substantial change in adsorption rate associated with that constituent occurs.   |
| CHOXD:       | Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combinations of reagents: (1) Hypochlorite (e.g. bleach); (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (ultraviolet light) assisted ozone; (5) peroxides; (6) persulfates; (7) perchlorates; (8) permangantes; and/or (9) other oxidizing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues). Chemical oxidation specifically includes what is commonly referred to as alkaline chlorination.       |
| CHRED:       | Chemical reduction utilizing the following reducing reagents (or waste reagents) or combinations of reagents: (1) Sulfur dioxide; (2) sodium, potassium, or alkali salts or sulfites, bisulfites, metabisulfites, and polyethylene glycols (e.g., NaPEG and KPEG); (3) sodium hydrosulfide; (4) ferrous salts; and/or (5) other reducing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Halogens can often be used as an indicator parameter for the reduction of many halogenated organic constituents that cannot be directly analyzed in wastewater residues). Chemical reduction is commonly used for the reduction of hexavalent chromium to the trivalent state. |
| <u>CMBST</u> | <u>Combustion in incinerators, boilers, or industrial furnaces operated in accordance with the applicable requirements of 401 KAR 34:240, 35:240 or 36:020.</u>  |
| DEACT:       | Deactivation to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, and/or reactivity.   |
| FSUBS:       | Fuel substitution in units operated in accordance with applicable technical operating requirements.  |
| HLVIT:       | Vitrification of high level mixed radioactive wastes in units in compliance with all applicable radioactive protection requirements under control of the Nuclear Regulatory Commission.  |
| IMERC:       | Incineration of wastes containing organics and mercury in units operated in accordance with the technical operating requirements of 40 CFR part 264 subpart 0 and part 265 subpart 0. All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories).   |
| INCIN:       | Incineration in units operated in accordance with the technical operating requirements of 40 CFR part 264 subpart 0 and part 265 subpart 0.  |
| LLEXT:       | Liquid-liquid extraction (often referred to as solvent extraction) of organics from liquid wastes into an immiscible solvent for which the hazardous constituents have a greater solvent affinity, resulting in an extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and a raffinate (extracted liquid waste) proportionately low in organics that must undergo further treatment as specified in the standard.   |
| MACRO:       | Macroencapsulation with surface coating materials such as polymeric organics (e.g. resins and plastics) or with a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media. Macroencapsulation specifically does not include any material that would be classified as a tank or container according to 40 CFR 260.10.  |
| NEUTR:       | Neutralization with the following reagents (or waste reagents) or combinations of reagents: (1) Acids; (2) bases; or (3) water (including wastewaters) resulting in a pH greater than 2 but less than 12.5 as measured in the aqueous residuals.   |
| NLDBR:       | No land disposal based on recycling.   |
| PRECP:       | Chemical precipitation of metals and other inorganics as insoluble precipitates of oxides, hydroxides, carbonates, sulfides, sulfates, chlorides, fluorides, or phosphates. The following reagents (or waste reagents) are typically used alone or in combination: (1) Lime (i.e., containing oxides and/or hydroxides of calcium and/or magnesium); (2) caustic (i.e., sodium and/or potassium hydroxides); (3) soda ash (i.e., sodium carbonate); (4) sodium sulfide; (5) ferric sulfate or ferric chloride; (6) alum; or (7) sodium sulfate. Additional flocculating, coagulation or similar reagents/processes that enhance sludge dewatering characteristics are not precluded from use.  |
| RBERY:       | Thermal recovery of Beryllium.   |
| RCGAS:       | Recovery/reuse of compressed gases including techniques such as reprocessing of the gases for reuse/resale; filtering/adsorption of impurities; remixing for direct reuse or resale; and use of the gas as a fuel source.  |
| RCORR:       | Recovery of acids or bases utilizing one or more of the following recovery technologies: (1) Distillation (i.e., thermal concentration); (2) ion exchange; (3) resin or solid adsorption; (4) reverse osmosis; and/or (5) incineration for the recovery of acid. Note: this does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.  |
| RLEAD:       | Thermal recovery of lead in secondary lead smelters.   |

# ADMINISTRATIVE REGISTER - 876

|        |  |
|--------|--|
| RMERC: | Retorting or roasting in a thermal processing unit capable of volatilizing mercury and subsequently condensing the volatilized mercury for recovery. The retorting or roasting unit (or facility) must be subject to one or more of the following: (a) a National Emissions Standard for Hazardous Air Pollutants (NESHAP) for mercury; (b) a Best Available Control Technology (BACT) or a Lowest Achievable Emission Rate (LAER) standard for mercury imposed pursuant to a Prevention of Significant Deterioration (PSD) permit; or (c) a state permit that establishes emission limitations (within meaning of section 302 of the Clean Air Act) for mercury. All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories). |
| RMETL: | Recovery of metals or inorganics utilizing one or more of the following direct physical/removal technologies: (1) ion exchange; (2) resin or solid (i.e., zeolites) adsorption; (3) reverse osmosis; (4) chelation/solvent extraction; (5) freeze crystallization; (6) ultrafiltration and/or (7) simple precipitation (i.e., crystallization) - Note: This does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.  |
| RORGS: | Recovery of organics utilizing one or more of the following technologies: (1) Distillation; (2) thin film evaporation; (3) steam stripping; (4) carbon adsorption; (5) critical fluid extraction; (6) liquid-liquid extraction; (7) precipitation/crystallization (including freeze crystallization); or (8) chemical phase separation techniques (i.e., addition of acids, bases, demulsifiers, or similar chemicals); - Note: this does not preclude the use of other physical phase separation techniques such as a decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.  |
| RTHRM: | Thermal recovery of metals or inorganics from nonwastewaters in units identified as industrial furnaces according to 40 CFR 260.10 (1), (6), (7), (11), and (12) under the definition of "industrial furnaces".  |
| RZINC: | Resmelting in high temperature metal recovery units for the purpose of recovery of zinc.   |
| STABL: | Stabilization with the following reagents (or waste reagents) or combinations of reagents: (1) Portland cement; or (2) lime/pozzolans (e.g., fly ash and cement kiln dust) - this does not preclude the addition of reagents (e.g., iron salts, silicates, and clays) designed to enhance the set/cure time and/or compressive strength, or to overall reduce the leachability of the metal or inorganic.  |
| SSTRP: | Steam stripping of organics from liquid wastes utilizing direct application of steam to the wastes operated such that liquid and vapor flow rates, as well as, temperature and pressure ranges have been optimized, monitored, and maintained. These operating parameters are dependent upon the design parameters of the unit such as, the number of separation stages and the internal column design. Thus, resulting in a condensed extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and an extracted wastewater that must undergo further treatment as specified in the standard.  |
| WETOX: | Wet air oxidation performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues).  |
| WTRRX: | Controlled reaction with water for highly reactive inorganic or organic chemicals with precautionary controls for protection of workers from potential violent reactions as well as precautionary controls for potential emissions of toxic/ignitable levels of gases released during the reaction.  |

Note 1: When a combination of these technologies (i.e., a treatment train) is specified as a single treatment standard, the order of application is specified in §268.42, Table 2 by indicating the five letter technology code that must be applied first, then the designation "fb." (an abbreviation for "followed by"), then the five (5) letter technology code for the technology that must be applied next, and so on.

Note 2: When more than one (1) technology (or treatment train) are specified as alternative treatment standards, the five (5) letter technology codes (or the treatment trains) are separated by a semicolon (;) with the last technology preceded by the word "OR". This indicates that any one (1) of these BDAT technologies or treatment trains can be used for compliance with the standard.

Table 2. Technology-Based Standards by RCRA Waste Code

| Waste code | See also | Waste descriptions and/or treatment subcategory  | CAS No. for regulated hazardous constituents | Technology code |                        |
|------------|----------|--|--|-----------------|------------------------|
|            |          |  |  | Wastewaters     | Nonwastewaters         |
| D001       | NA       | Ignitable Liquids based on 261.21(a)(1)-Wastewaters.   | NA   | DEACT           | NA                     |
| D001       | NA       | Ignitable Liquids based on 261.21(a)(1)-Low TOC Ignitable Liquids Subcategory- Less than 10% total organic carbon.                 | NA   | NA              | DEACT                  |
| D001       | NA       | Ignitable Liquids based on 261.21(a)(1)-High TOC Ignitable Liquids Subcategory- Greater than or equal to 10% total organic carbon. | NA   | NA              | FSUBS; RORGS; or INCIN |



# ADMINISTRATIVE REGISTER - 877

|      |   |  |           |  |  |
|------|---|--|-----------|--|--|
| D001 | NA  | Ignitable-compressed-gases-based-on 261.21(a)(2).  | NA        | NA   | DEACT*   |
| D001 | NA  | Ignitable-reactives-based-on 261.21(a)(2).   | NA        | NA   | DEACT  |
| D001 | NA  | Oxidizers-based-on 261.21(a)(4).   | NA        | DEACT  | DEACT  |
| D002 | NA  | Acid-subcategory-based-on 261.22(a)(1).  | NA        | DEACT  | DEACT  |
| D002 | NA  | Alkaline-subcategory-based-on 261.22(a)(1).  | NA        | DEACT  | DEACT  |
| D002 | NA  | Other-corrosives-based-on 261.22(a)(2).  | NA        | DEACT  | DEACT  |
| D003 |   | Reactive-Sulfides-based-on 261.23(a)(5).   | NA        | DEACT but not including dilution as a substitute for adequate treatment. | DEACT but not including dilution as a substitute for adequate treatment. |
| D003 | NA  | Explosives-based-on 261.23(a)(6),(7), and (8).   | NA        | DEACT  | DEACT  |
| D003 | NA  | Water-reactives-based-on 261.23(a)(2), (3), and (4).   | NA        | NA   | DEACT  |
| D003 | NA  | Other-reactives-based-on 261.23(a)(1).   | NA        | DEACT  | DEACT  |
| D006 | NA  | Cadmium-containing-batteries.  | 7440-43-0 | NA   | RTHRM  |
| D008 | NA  | Lead-acid-batteries (Note: This standard only applies to lead-acid batteries that are identified as RCRA hazardous wastes and that are not excluded elsewhere from regulation under the land disposal restrictions of 40 CFR 268 or exempted under other EPA regulations (see 40 CFR 266.80)). | 7439-92-1 | NA   | RLEAD  |
| D009 | Table CCWE in 268.41 and Table CCW in Section 2 | Mercury: (High-Mercury-Subcategory greater than or equal to 260 mg/kg total Mercury contains mercury and organics (and are not incinerator residues)).   | 7439-97-6 | NA   | IMERC; or RMERC  |
| D009 | Table CCWE in 268.41 and Table CCW in Section 2 | Mercury: (High-Mercury-Subcategory greater than or equal to 260 mg/kg total Mercury inorganics (including incinerator residues and residues from RMERC)).  | 7439-97-6 | NA   | RMERC  |
| D012 | Table CCW in Section 2                          | Endrin.  | 72-20-8   | BIODG; or INCIN  | NA   |
| D013 | Table CCW in Section 2                          | Lindane.   | 58-89-9   | CARBN; or INCIN  | NA   |
| D014 | Table CCW in Section 2                          | Methoxychlor.  | 72-43-5   | WETOX; or INCIN  | NA   |
| D015 | Table CCW in Section 2                          | Toxaphene.   | 8001-35-1 | BIODG; or INCIN  | NA   |
| D016 | Table CCW in Section 2                          | 2,4-D.   | 94-75-7   | CHOXD; BIODG; or INCIN   | NA   |
| D017 | Table CCW in Section 2                          | 2,4,5-TP.  | 93-72-1   | CHOXD; or INCIN  | NA   |
| F006 | Table CCWE in 268.41 and Table CCW in Section 2 | 2-Nitropropane.  | 79-46-9   | (WETOX or CHOXD) & CARBN; or INCIN                                       | INCIN  |
| F006 | Table CCWE in 268.41 and Table CCW in Section 2 | 2-Ethoxyethanol.   | 110-80-5  | BIODG; or INCIN  | INCIN  |

# ADMINISTRATIVE REGISTER - 878

|       |   |   |    |  |                 |
|-------|---|---|----|--|-----------------|
| F024  | Table<br>CCWE in<br>268.41 and<br>Table CCW<br>in Section 2 |   | NA | INCIN  | INCIN           |
| K025  | NA  | Distillation bottoms from the production of nitrobenzene by the nitration of benzene.   | NA | LLEXT-lb SSTRP-lb<br>CARBN; or INCIN               | INCIN           |
| K026  | NA  | Stripping still tails from the production of methyl ethyl pyridines.  | NA | INCIN  | INCIN           |
| K027  | NA  | Centrifuge and distillation residues from toluene diisocyanate production.  | NA | CARBN; or INCIN                                    | FSUBS; or INCIN |
| K039  | NA  | Filter cake from the filtration of diethylphosphorodithioic acid in the production of phosphate.  | NA | CARBN; or INCIN                                    | FSUBS; or INCIN |
| K044  | NA  | Wastewater treatment sludges from the manufacturing and processing of explosives.   | NA | DEACT  | DEACT           |
| K046  | NA  | Spent carbon from the treatment of wastewater containing explosives.  | NA | DEACT  | DEACT           |
| K047  | NA  | Pink/red water from TNT operations.   | NA | DEACT  | DEACT           |
| K069  | Table<br>CCWE in<br>268.41 and<br>Table CCW<br>in Section 2 | Emission control dust/sludge from secondary lead smelting: Noncalcium Sulfate Subcategory.  | NA | NA   | RLEAD           |
| K106  | Table<br>CCWE in<br>268.41 and<br>Table CCW<br>in Section 2 | Wastewater treatment sludge from the mercury cell process in chlorine production: (High Mercury Subcategory greater than or equal to 260 mg/kg total mercury).          | NA | NA   | RMERG           |
| *K107 |   | Column bottoms from product separation from the production of 1,1 dimethylhydrazine (UDMH) from carboxylic acid hydrazides  | NA | INCIN; or CHOXD-lb,<br>CARBN; or BIODG-lb<br>CARBN | INCIN.          |
| *K108 |   | Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1 dimethylhydrazine (UDMH) from carboxylic acid hydrazides | NA | INCIN; or CHOXD-lb,<br>CARBN; or BIODG-lb<br>CARBN | INCIN.          |
| *K109 |   | Spent filter cartridges from product purification from the production of 1,1 dimethylhydrazine (UDMH) from carboxylic acid hydrazides                                   | NA | INCIN; or CHOXD-lb,<br>CARBN; or BIODG-lb<br>CARBN | INCIN.          |
| *K110 |   | Condensed column overheads from intermediate separation from the production of 1,1 dimethylhydrazine (UDMH) from carboxylic acid hydrazides                             | NA | INCIN; or CHOXD-lb,<br>CARBN; or BIODG-lb<br>CARBN | INCIN.          |
| *K112 |   | Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene  | NA | INCIN; or CHOXD-lb,<br>CARBN; or BIODG-lb<br>CARBN | INCIN.          |
| K113  | NA  | Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.                            | NA | CARBN; or INCIN                                    | FSUBS; or INCIN |
| K114  | NA  | Violins from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.  | NA | CARBN; or INCIN                                    | FSUBS; or INCIN |
| K116  | NA  | Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.   | NA | CARBN; or INCIN                                    | FSUBS; or INCIN |

# ADMINISTRATIVE REGISTER - 879

|       |                        |   |            |   |                               |
|-------|------------------------|---|------------|---|-------------------------------|
| K116  | NA                     | Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.                     | NA         | CARBN; or INCIN                                 | FSUBS; or INCIN               |
| *K123 |                        | Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenedithiocarbamic acid and its salts                 | NA         | INCIN; or CHOXD; <del>fb</del> (BIODG or CARBN) | INCIN.                        |
| *K124 |                        | Reactor vent scrubber water from the production of ethylenedithiocarbamic acid and its salts  | NA         | INCIN; or CHOXD; <del>fb</del> (BIODG or CARBN) | INCIN.                        |
| *K125 |                        | Filtration, evaporation, and centrifugation solids from the production of ethylenedithiocarbamic acid and its salts                                   | NA         | INCIN; or CHOXD; <del>fb</del> (BIODG or CARBN) | INCIN.                        |
| *K126 |                        | Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenedithiocarbamic acid and its salts | NA         | INCIN; or CHOXD; <del>fb</del> (BIODG or CARBN) | INCIN.                        |
| P001  | NA                     | Warfarin (>0.3%).   | 81-81-2    | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | FSUBS; or INCIN               |
| P002  | NA                     | 1-Acetyl-2-thiourea.  | 501-08-2   | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | INCIN                         |
| P003  | Table CCW in Section 2 | Acrolein.   | 107-02-8   | NA  | FSUBS; or INCIN               |
| P005  | NA                     | Allyl alcohol.  | 107-18-6   | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | FSUBS; or INCIN               |
| P006  | NA                     | Aluminum phosphide.   | 20850-73-8 | CHOXD; CHRED; or INCIN                          | CHOXD; CHRED; or INCIN        |
| P007  | NA                     | 5-Aminoethyl-3-isoxazole.   | 2763-06-4  | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | INCIN                         |
| P008  | NA                     | 4-Aminopyridine.  | 504-24-5   | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | INCIN                         |
| P009  | NA                     | Ammonium picrate.   | 131-74-8   | CHOXD; CHRED; CARBN; BIODG; or INCIN            | FSUBS; CHOXD; CHRED; or INCIN |
| P014  | NA                     | Thiophenol (Benzene thiol).   | 108-08-5   | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | INCIN                         |
| P015  | NA                     | Beryllium dust.   | 7440-41-7  | RMETL; or RTHRM                                 | RMETL; or RTHRM               |
| P016  | NA                     | Bis(chloromethyl) ether.  | 542-88-1   | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | INCIN                         |
| P017  | NA                     | Bromoacetone.   | 508-31-2   | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | INCIN                         |
| P018  | NA                     | Brucine.  | 357-57-3   | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | INCIN                         |
| P022  | Table CCW in Section 2 | Carbon disulfide.   | 75-15-0    | NA  | INCIN                         |
| P023  | NA                     | Chloroacetaldehyde.   | 107-20-0   | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | INCIN                         |
| P026  | NA                     | 1-(o-Chlorophenyl) thiourea.  | 5344-82-1  | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | INCIN                         |
| P027  | NA                     | 3-Chloropropionitrile.  | 542-76-7   | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | INCIN                         |
| P028  | NA                     | Benzyl chloride.  | 100-44-7   | (WETOX or CHOXD) <del>fb</del> CARBN; or INCIN  | INCIN                         |

# ADMINISTRATIVE REGISTER - 880

|      |   |  |            |                                      |                               |
|------|---|--|------------|--------------------------------------|-------------------------------|
| P031 | NA  | Cyanogen.  | 460-10-5   | CHOXD; WETOX; or INCIN               | CHOXD; WETOX; or INCIN        |
| P033 | NA  | Cyanogen chloride.   | 506-77-4   | CHOXD; WETOX; or INCIN               | CHOXD; WETOX; or INCIN        |
| P034 | NA  | 2-Cyclohexyl 4,6-dinitrophenol.  | 131-80-5   | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P040 | NA  | O,O-Diethyl O-pyrazinyl phosphorothioate.  | 297-07-2   | CARBN; or INCIN                      | FSUBS; or INCIN               |
| P041 | NA  | Diethyl p-nitrophenyl phosphate.   | 311-45-5   | CARBN; or INCIN                      | FSUBS; or INCIN               |
| P042 | NA  | Epinephrine.   | 51-43-4    | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P043 | NA  | Diisopropyl fluorophosphate (DFP).   | 55-01-4    | CARBN; or INCIN                      | FSUBS; or INCIN               |
| P044 | NA  | Dimethoate.  | 60-51-5    | CARBN; or INCIN                      | FSUBS or INCIN                |
| P045 | NA  | Thiophanox.  | 30196-18-4 | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P046 | NA  | alpha,alpha-Dimethyl phenethylamino.   | 122-00-8   | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P047 | NA  | 4,6-Dinitro o-cresol salt.   | 534-52-1   | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P048 | NA  | 2,4-Dithiobiuret.  | 541-53-7   | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P054 | NA  | Aziridine.   | 151-56-4   | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P056 | Table CCW in Section 2                          | Fluorine.  | 7782-41-4  | NA                                   | ADAS lb-NEUTR                 |
| P057 | NA  | Fluoroacetamide.   | 640-19-7   | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P058 | NA  | Fluoroacetic acid, sodium salt.  | 62-74-8    | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P062 | NA  | Hexaoxyltetraphosphate.  | 757-58-4   | CARBN; or INCIN                      | FSUBS; or INCIN               |
| P064 | NA  | Isoocyanic acid, ethyl ester.  | 624-83-0   | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P065 | Table CCWE in 268.41 and Table CCW in Section 2 | Mercury fulminate: (High Mercury Subcategory greater than or equal to 260 mg/kg total Mercury either incinerator residues or residues from RMERC). | 628-86-4   | NA                                   | RMERC                         |
| P065 | Table CCWE in 268.41 and Table CCW in Section 2 | Mercury fulminate: (All Nonwastewaters that are not incinerator residues or are not residues from RMERC; regardless of Mercury Content).           | 628-86-4   | NA                                   | RMERC                         |
| P066 | NA  | Methomyl.  | 16752-77-5 | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P067 | NA  | 2-Methylaziridine.   | 75-55-8    | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P068 | NA  | Methyl hydrazine.  | 60-34-4    | CHOXD; CHRED; CARBN; BIODG; or INCIN | FSUBS; CHOXD; CHRED; or INCIN |
| P069 | NA  | Methylacetonitrile.  | 75-86-5    | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |
| P070 | NA  | Aldicarb.  | 115-06-3   | (WETOX or CHOXD) lb-CARBN; or INCIN  | INCIN                         |

# ADMINISTRATIVE REGISTER - 881

|      |   |  |            |  |                                  |
|------|---|--|------------|--|----------------------------------|
| P072 | NA  | 1-Naphthyl-2-thiourea.   | 86-88-4    | {WETOX or CHOXD}<br>fb-CARBN; or INCIN     | INCIN                            |
| P075 | NA  | Nicotine and salts.  | *54-11-5   | {WETOX or CHOXD}<br>fb-CARBN; or INCIN     | INCIN                            |
| P076 | NA  | Nitric oxide.  | 10102-43-0 | ADGAS                                      | ADGAS                            |
| P079 | NA  | Nitrogen dioxide.  | 10102-44-0 | ADGAS                                      | ADGAS                            |
| P084 | NA  | Nitroglycerin.   | 55-63-0    | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN | FSUBS; CHOXD;<br>CHRED; or INCIN |
| P082 | Table CCW<br>in Section 2                                   | N-Nitrosodimethylamine.  | 62-75-0    | NA   | INCIN                            |
| P084 | NA  | N-Nitrosomethylvinylamine.   | 4540-40-0  | {WETOX or CHOXD}<br>fb-CARBN; OR INCIN     | INCIN                            |
| P085 | NA  | Octamethylpyrophosphoramide.   | 152-16-0   | CARBN; or INCIN                            | FSUBS; or INCIN                  |
| P087 | NA  | Osmium tetroxide.  | 20816-12-0 | RMETL; or RTHRM                            | RMETL; or RTHRM                  |
| P088 | NA  | Endothall.   | 145-73-3   | {WETOX or CHOXD}<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| P092 | Table<br>CCWE in<br>268.41 and<br>Table CCW<br>in Section 2 | Phenyl mercury acetate: (High Mercury<br>Subcategory greater than or equal to 260<br>mg/kg total Mercury either incinerator resi-<br>dues or residues from RMERC). | 62-38-4    | NA   | RMERC                            |
| P092 | Table<br>CCWE in<br>268.41 and<br>Table CCW<br>in Section 2 | Phenyl mercury acetate: (All nonwaste-<br>waters that are not incinerator residues and<br>are not residues from RMERC; regardless<br>of Mercury Content).          | 62-38-4    | NA   | IMERC; or RMERC                  |
| P093 | NA  | N-Phenylthiourea.  | 103-85-5   | {WETOX or CHOXD}<br>fb-CARBN; or INCIN     | INCIN                            |
| P095 | NA  | Phosgene.  | 75-44-5    | {WETOX or CHOXD}<br>fb-CARBN; or<br>INCIN  | INCIN                            |
| P096 | NA  | Phosphine.   | 7803-51-2  | CHOXD; CHRED; or<br>INCIN                  | CHOXD; CHRED; or<br>INCIN        |
| P102 | NA  | Propargyl alcohol.   | 107-10-7   | {WETOX or CHOXD}<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| P105 | NA  | Sodium azide.  | 26629-22-8 | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN | FSUBS; CHOXD;<br>CHRED; or INCIN |
| P108 | NA  | Strychnine and salts.  | *67-24-0   | {WETOX or CHOXD}<br>fb-CARBN; or INCIN     | INCIN                            |
| P109 | NA  | Tetraethylthiopyrophosphate.   | 3680-24-5  | CARBN; or INCIN                            | FSUBS; or INCIN                  |
| P112 | NA  | Tetranitromethane.   | 500-14-8   | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN | FSUBS; CHOXD;<br>CHRED; or INCIN |
| P113 | Table CCW<br>in Section 2                                   | Thallio oxide.   | 1314-32-5  | NA   | RTHRM; or STABL                  |
| P115 | Table CCW<br>in Section 2                                   | Thallium (1) sulfate.  | 7446-18-6  | NA   | RTHRM; or STABL                  |
| P116 | NA  | Thiocemicarbazide.   | 70-10-6    | {WETOX or CHOXD}<br>fb-CARBN; or INCIN     | INCIN                            |
| P118 | NA  | Trichloromethanethiol.   | 75-70-7    | {WETOX or CHOXD}<br>fb-CARBN; or INCIN     | INCIN                            |

## ADMINISTRATIVE REGISTER - 882

|      |                           |  |           |  |                                  |
|------|---------------------------|--|-----------|--|----------------------------------|
| P110 | Table CCW<br>in Section 2 | Ammonium vanadate.                           | 7803-55-6 | NA   | STABLE                           |
| P120 | Table CCW<br>in Section 2 | Vanadium pentoxide.                          | 1314-62-1 | NA   | STABLE                           |
| P122 | NA                        | Zinc Phosphide (>10%).                       | 1314-84-7 | CHOXD; CHRED; or<br>INCIN                  | CHOXD; CHRED; or<br>INCIN        |
| U001 | NA                        | Acetaldehyde.                                | 75-07-0   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | FSUBS; or INCIN                  |
| U003 | Table CCW<br>in Section 2 | Acetonitrile.                                | 75-05-8   | NA   | INCIN                            |
| U006 | NA                        | Acetyl Chloride.                             | 75-36-5   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U007 | NA                        | Acrylamide.                                  | 70-06-1   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U008 | NA                        | Acrylic acid.                                | 70-10-7   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | FSUBS; or INCIN                  |
| U010 | NA                        | Mitomycin C.                                 | 50-07-7   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U011 | NA                        | Amitrole.                                    | 61-82-5   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U014 | NA                        | Auramine.                                    | 402-80-8  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U015 | NA                        | Azaserine.                                   | 115-02-6  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U016 | NA                        | Benz(e)acridine.                             | 225-61-4  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | FSUBS; or INCIN                  |
| U017 | NA                        | Benzal chloride.                             | 98-87-3   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U020 | NA                        | Benzenesulfonyl chloride.                    | 98-09-0   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U021 | NA                        | Benzidine.                                   | 92-87-6   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U023 | NA                        | Benzotrichloride.                            | 98-07-7   | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN | FSUBS; CHOXD;<br>CHRED; or INCIN |
| U026 | NA                        | Chlornaphazin.                               | 404-03-1  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U033 | NA                        | Carbonyl fluoride.                           | 353-50-4  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U034 | NA                        | Trichloroacetaldehyde (Chloral).             | 75-87-6   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U035 | NA                        | Chlorambucil.                                | 305-03-3  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U038 | Table CCW<br>in Section 2 | Chlorobenzilate.                             | 510-15-6  | NA   | INCIN                            |
| U041 | NA                        | 1-Chloro-2,3-epoxypropane (Epichlorohydrin). | 106-80-8  | (WETOX or CHOXD)<br>fb CARBN; or<br>INCIN  | INCIN                            |
| U042 | Table CCW<br>in Section 2 | 2-Chloroethyl vinyl ether.                   | 110-75-8  | (WETOX or CHOXD)<br>fb CARBN; or<br>INCIN  | INCIN                            |
| U046 | NA                        | Chloromethyl methyl ether.                   | 107-30-2  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |

# ADMINISTRATIVE REGISTER - 883

|      |                           |   |            |  |                                  |
|------|---------------------------|---|------------|--|----------------------------------|
| U049 | NA                        | 4-Chloro-o-toluidine-hydrochloride-                             | 3165-03-3  | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U053 | NA                        | Gretenaldehyde-   | 4170-30-3  | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U055 | NA                        | Cumeno-   | 98-82-8    | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U056 | NA                        | Cyclohexano-  | 110-82-7   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U057 | Table CCW<br>in Section-2 | Cyclohexanone-  | 108-94-1   | NA   | FSUBS; or INCIN                  |
| U058 | NA                        | Cyclophosphamide-   | 60-18-0    | CARBN; or INCIN                            | FSUBS; or INCIN                  |
| U059 | NA                        | Daunomycin-   | 20830-81-3 | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U062 | NA                        | Diallate-   | 2303-16-4  | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U064 | NA                        | 1,2,7,8-Dibenzopyrene-  | 180-65-0   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U073 | NA                        | 3,3'-Dichlorobenzidine-   | 91-94-1    | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U074 | NA                        | cis-1,4-Dichloro-2-butylene-trans-1,4-Di-<br>chloro-2-butylene- | 1476-11-5  | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U085 | NA                        | 1,2,3,4-Diepoxbutano-   | 1464-53-5  | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U086 | NA                        | N,N-Diethylhydrazine-   | 1615-80-1  | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN | FSUBS; CHOXD;<br>CHRED; or INCIN |
| U087 | NA                        | O,O-Diethyl-S-methyldithiophosphate-                            | 3288-58-2  | CARBN; or INCIN                            | FSUBS; or INCIN                  |
| U089 | NA                        | Diethylstilbestrol-   | 56-53-1    | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U090 | NA                        | Dihydrocafeole-   | 94-58-6    | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U091 | NA                        | 3,3'-Dimethoxybenzidine-  | 110-90-4   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U092 | NA                        | Dimethylamine-  | 124-40-3   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U093 | Table CCW<br>in Section-2 | p-Dimethylamineazobenzene-                                      | 621-00-9   | NA   | INCIN                            |
| U094 | NA                        | 7,12-Dimethyl-benz(a)anthracene-                                | 57-97-6    | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U095 | NA                        | 3,3'-Dimethylbenzidine-   | 110-93-7   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U096 | NA                        | a,a-Dimethyl-benzyl-hydroperoxide-                              | 80-15-0    | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN | FSUBS; CHOXD;<br>CHRED; or INCIN |
| U097 | NA                        | Dimethylearbomyl-chloride-                                      | 70-44-7    | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U098 | NA                        | 1,1-Dimethylhydrazine-  | 57-14-7    | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN | FSUBS; CHOXD;<br>CHRED; or INCIN |
| U099 | NA                        | 1,2-Dimethylhydrazine-  | 540-73-8   | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN | FSUBS; CHOXD;<br>CHRED; or INCIN |



# ADMINISTRATIVE REGISTER - 884

|      |   |   |           |  |                                  |
|------|---|---|-----------|--|----------------------------------|
| U103 | NA  | Dimethyl sulfate.   | 77-78-1   | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN | FSUBS; CHOXD;<br>CHRED; or INCIN |
| U109 | NA  | 1,2-Diphenylhydrazine.  | 122-66-7  | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN | FSUBS; CHOXD;<br>CHRED; or INCIN |
| U110 | NA  | Dipropylamine.  | 142-84-7  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U112 | NA  | Ethyl acrylate.   | 140-88-5  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | FSUBS; or INCIN                  |
| U114 | NA  | Ethylene bis-dithiocarbamic acid.   | 111-54-6  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U115 | NA  | Ethylene oxide.   | 75-21-8   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | CHOXD; or INCIN                  |
| U116 | NA  | Ethylene thiourea.  | 96-45-7   | (WETOX or CHOXD)<br>fb CARBN; or<br>INCIN  | INCIN                            |
| U119 | NA  | Ethyl methano sulfonate.  | 62-50-0   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U122 | NA  | Formaldehyde.   | 50-00-0   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | FSUBS; or INCIN                  |
| U123 | NA  | Formic acid.  | 64-18-6   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | FSUBS; or INCIN                  |
| U124 | NA  | Furan.  | 110-00-0  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | FSUBS; or INCIN                  |
| U125 | NA  | Furfural.   | 98-01-1   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | FSUBS; or INCIN                  |
| U126 | NA  | Glycidaldehyde.   | 765-34-4  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | FSUBS; or INCIN                  |
| U132 | NA  | Hexachlorophenene.  | 70-30-4   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U133 | NA  | Hydrazine.  | 302-01-2  | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN | FSUBS; CHOXD;<br>CHRED; or INCIN |
| U134 | Table CCW<br>in Section 2                                   | Hydrogen Fluoride.  | 7664-39-3 | NA   | ADGAS fb NEUTR; or<br>NEUTR      |
| U136 | NA  | Hydrogen Sulfide.   | 7783-06-4 | CHOXD; CHRED; or<br>INCIN                  | CHOXD; CHRED; or<br>INCIN        |
| U143 | NA  | Lasiocarpine.   | 303-34-4  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U147 | NA  | Maleic anhydride.   | 108-31-6  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | FSUBS; or INCIN                  |
| U148 | NA  | Maleic hydrazide.   | 123-33-1  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U149 | NA  | Malononitrile.  | 109-77-3  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U150 | NA  | Molophalan.   | 148-82-3  | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |
| U151 | Table<br>CCWE in<br>269.41 and<br>Table CCW<br>in Section 2 | Mercury: (High Mercury Subcategory great-<br>er than or equal to 260 mg/kg total Mer-<br>cury). | 7430-07-6 | NA   | PMERG                            |
| U153 | NA  | Methane thiol.  | 74-83-1   | (WETOX or CHOXD)<br>fb CARBN; or INCIN     | INCIN                            |

# ADMINISTRATIVE REGISTER - 885

|      |                           |                                       |            |  |                                  |
|------|---------------------------|---------------------------------------|------------|--|----------------------------------|
| U154 | Table CCW<br>in Section 2 | Methanol.                             | 67-56-1    | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U166 | NA                        | Methyl chloroacetate.                 | 70-22-1    | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U160 | NA                        | Methyl ethyl ketone peroxide.         | 1338-23-4  | CHOXD; CHRED;<br>CARBN; BIODG; or<br>INCIN | FSUBS; CHOXD;<br>CHRED; or INCIN |
| U163 | NA                        | N-Methyl-N'-nitro-N-Nitrosoguanidine. | 70-25-7    | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U164 | NA                        | Methylthiouracil.                     | 56-04-2    | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U166 | NA                        | 1,4-Naphthoquinone.                   | 130-15-4   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U167 | NA                        | 1-Naphthylamine.                      | 134-32-7   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U168 | Table CCW<br>in Section 2 | 2-Naphthylamine.                      | 91-59-8    | NA   | INCIN                            |
| U171 | NA                        | 2-Nitropropane.                       | 70-46-0    | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U173 | NA                        | N-Nitroso-di-n-ethanolamine.          | 1116-54-7  | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U176 | NA                        | N-Nitroso-N-ethylurea.                | 750-73-0   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U177 | NA                        | N-Nitroso-N-methylurea.               | 684-03-5   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U178 | NA                        | N-Nitroso-N-methylurethane.           | 615-53-2   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U182 | NA                        | Paraldehyde.                          | 123-63-7   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U184 | NA                        | Pentachloroethane.                    | 76-01-7    | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U186 | NA                        | 1,3-Pentadiene.                       | 504-60-0   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U180 | NA                        | Phosphorus sulfide.                   | 1314-80-3  | CHOXD; CHRED; or<br>INCIN                  | CHOXD; CHRED; or<br>INCIN        |
| U101 | NA                        | 2-Picoline.                           | 100-06-8   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U103 | NA                        | 1,2-Propane sultone.                  | 1120-71-4  | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U104 | NA                        | n-Propylamine.                        | 107-10-8   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U107 | NA                        | p-Benzoquinone.                       | 106-51-4   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U200 | NA                        | Reserpine.                            | 50-55-5    | (WETOX or CHOXD)<br>fb-CARBN or INCIN      | INCIN                            |
| U201 | NA                        | Resorcinol.                           | 108-46-3   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |
| U202 | NA                        | Saccharin and salts.                  | *81-07-2   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U206 | NA                        | Streptozotocin.                       | 18883-66-4 | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | INCIN                            |
| U213 | NA                        | Tetrahydrofuran.                      | 100-00-0   | (WETOX or CHOXD)<br>fb-CARBN; or INCIN     | FSUBS; or INCIN                  |

# ADMINISTRATIVE REGISTER - 886

|       |                        |   |            |   |                                |
|-------|------------------------|---|------------|---|--------------------------------|
| U214  | Table CCW in Section 2 | Thallium (I) acetate.                         | 563-68-8   | NA  | RTHRM; or STABL                |
| U215  | Table CCW in Section 2 | Thallium (I) carbonate.                       | 6533-73-9  | NA  | RTHRM; or STABL                |
| U216  | Table CCW in Section 2 | Thallium (I) chloride.                        | 7791-12-0  | NA  | RTHRM; or STABL                |
| U217  | Table CCW in Section 2 | Thallium (I) nitrate.                         | 10102-46-1 | NA  | RTHRM; or STABL                |
| U218  | NA                     | Thioacetamide.                                | 62-55-5    | {WETOX or CHOXD}<br>fb-CARBN; or INCIN                        | INCIN                          |
| U219  | NA                     | Thiourea.                                     | 62-56-6    | {WETOX or CHOXD}<br>fb-CARBN; or INCIN                        | INCIN                          |
| U221  | NA                     | Toluenediamine.                               | 25376-45-8 | CARBN; or INCIN   | FSUBS; or INCIN                |
| U222  | NA                     | o-Toluidine hydrochloride.                    | 636-21-5   | {WETOX or CHOXD}<br>fb-CARBN; or INCIN                        | INCIN                          |
| U223  | NA                     | Toluene diisocyanate.                         | 26471-62-5 | CARBN; or INCIN   | FSUBS; or INCIN                |
| U234  | NA                     | sym-Trinitrobenzene.                          | 90-35-4    | {WETOX or CHOXD}<br>fb-CARBN; or INCIN                        | INCIN                          |
| U236  | NA                     | Trypan-Blue.                                  | 72-57-1    | {WETOX or CHOXD}<br>fb-CARBN; or INCIN                        | INCIN                          |
| U237  | NA                     | Uracil-mustard.                               | 66-75-1    | {WETOX or CHOXD}<br>fb-CARBN; or INCIN                        | INCIN                          |
| U238  | NA                     | Ethyl carbamate.                              | 51-70-6    | {WETOX or CHOXD}<br>fb-CARBN; or INCIN                        | INCIN                          |
| U240  | NA                     | 2,4-Dichlorophenoxyacetic (salts and esters). | *94-75-7   | {WETOX or CHOXD}<br>fb-CARBN; or INCIN                        | INCIN                          |
| U244  | NA                     | Thiram.                                       | 137-26-8   | {WETOX or CHOXD}<br>fb-CARBN; or INCIN                        | INCIN                          |
| U246  | NA                     | Cyanogen bromide.                             | 506-68-3   | CHOXD; WETOX; or INCIN  | CHOXD; WETOX; or INCIN         |
| U248  | NA                     | Warfarin (<3% or less).                       | 81-81-2    | {WETOX or CHOXD}<br>fb-CARBN; or INCIN                        | FSUBS; or INCIN                |
| U249  | NA                     | Zinc-Phosphide (<10%).                        | 1314-84-7  | CHOXD; CHRED; or INCIN  | CHOXD; CHRED; or INCIN         |
| *U228 |                        | o-toluidine                                   | 95-53-4    | INCIN; or CHOXD fb;<br>{BIODG or CARBN};<br>or BIODG fb CARBN | INCIN; or Thermal Destruction. |
| *U263 |                        | p-toluidine                                   | 106-49-0   | INCIN; or CHOXD fb;<br>{BIODG or CARBN};<br>or BIODG fb CARBN | INCIN; or Thermal Destruction. |
| *U269 |                        | 2-ethoxy-ethanol                              | 110-80-5   | INCIN; or CHOXD fb;<br>{BIODG or CARBN};<br>or BIODG fb CARBN | INCIN; or FSUBS.               |

FOOTNOTE: \*CAS Number given for parent compound only.

FOOTNOTE: \*This waste code exists in gaseous form and is not categorized as wastewater or nonwastewater forms.

Note: NA means Not Applicable.

268.42 Table 3. Technology-Based Standards for Specific Radioactive Hazardous Mixed Waste

| Waste code | Waste descriptions and/or treatment category | CAS No. | Technology Code |                |
|------------|--|---------|-----------------|----------------|
|            |  |         | Wastewaters     | Nonwastewaters |

# ADMINISTRATIVE REGISTER - 887

|      |   |           |    |       |
|------|---|-----------|----|-------|
| D002 | Radioactive high-level wastes generated during the reprocessing of fuel rods subcategory  | NA        | NA | HLVIT |
| D004 | Radioactive high-level wastes generated during the reprocessing of fuel rods subcategory  | NA        | NA | HLVIT |
| D005 | Radioactive high-level wastes generated during the reprocessing of fuel rods subcategory  | NA        | NA | HLVIT |
| D006 | Radioactive high-level wastes generated during the reprocessing of fuel rods subcategory  | NA        | NA | HLVIT |
| D007 | Radioactive high-level wastes generated during the reprocessing of fuel rods subcategory  | NA        | NA | HLVIT |
| D008 | Radioactive lead solids subcategory (Note: these lead solids include, but are not limited to, all forms of lead shielding, and other elemental forms of lead. These lead solids do not include treatment residuals such as hydroxide sludges, other wastewater treatment residuals, or incinerator ashes that can undergo conventional pozzolanic stabilization, nor do they include organolead materials that can be incinerated and stabilized as ash). | 7439-92-1 | NA | MACRO |
| D008 | Radioactive high-level wastes generated during the reprocessing of fuel rods subcategory  | NA        | NA | HLVIT |
| D009 | Elemental mercury contaminated with radioactive materials   | 7439-97-6 | NA | AMLGM |
| D009 | Hydraulic oil contaminated with mercury; radioactive materials subcategory  | 7439-97-6 | NA | IMERC |
| D009 | Radioactive high-level wastes generated during the reprocessing of fuel rods subcategory  | NA        | NA | HLVIT |
| D010 | Radioactive high-level wastes generated during the reprocessing of fuel rods subcategory  | NA        | NA | HLVIT |
| D011 | Radioactive high-level wastes generated during the reprocessing of fuel rods subcategory  | NA        | NA | HLVIT |
| U151 | Mercury: Elemental mercury contaminated with radioactive materials  | 7439-97-6 | NA | AMLGM |

Note: NA means Not Applicable.]

(2) Any person may submit an application to the cabinet demonstrating that an alternative treatment method can achieve a measure of performance equivalent to that achievable by methods specified in subsections (1), (3), and (4) of this section for wastes or specified in

Table 1 of Section 6 of this administrative regulation for hazardous debris. The applicant shall submit information demonstrating that his treatment method is in compliance with federal, state and local requirements and is protective of human health and the environment.

On the basis of such information and any other available information, the cabinet may approve the use of the alternative treatment method if it finds that the alternative treatment method provides a measure of performance equivalent to that achieved by methods specified in subsections (1), (3), and (4) of this section for wastes or in Table 1 of Section 6 of this administrative regulation for hazardous debris. Approval shall not be granted by the cabinet without concurrence from the U.S. EPA. Any approval shall be stated in writing and may contain such provisions and conditions as the cabinet deems appropriate. The person to whom such approval is issued shall comply with all limitations contained in such a determination.

(3) As an alternative to the otherwise applicable treatment standards in this administrative regulation, lab packs are eligible for land disposal provided the following requirements are met:

(a) The lab packs comply with the applicable provisions of Section 11 of 401 KAR 34:230 and Section 9 of 401 KAR 35:230;

(b) The lab pack does not contain any of the wastes listed in Appendix IV to 40 CFR Part 268, adopted in Section 10 of 401 KAR 37:010; [All hazardous wastes contained in such lab packs are specified in Section 10(2)(a) and (b) of 401 KAR 37:010;]

(c) The lab packs are incinerated in accordance with the requirements of 401 KAR 34:240 or 401 KAR 35:240; and

(d) Any incinerator residues from lab packs containing D004, D005, D006, D007, D008, D010, D011 are treated in compliance with the applicable treatment standards specified for such wastes in this administrative regulation.

(4) Radioactive hazardous mixed wastes are subject to the treatment standards of Section 1 of this administrative regulation. Where treatment standards are specified for radioactive mixed wastes in the Table of Treatment Standards, those treatment standards will govern. Where there is no specific treatment standard for radioactive mixed waste, the treatment standard for the hazardous waste (as designated by EPA waste code) applies. Hazardous debris containing radioactive waste is not subject to the treatment standards specified in Table 3 of this section but is subject to the treatment standards specified in Section 6 of this administrative regulation. [with treatment standards specified in Table 3 of this section are not subject to any treatment standards specified in Section 2 or 5 of this administrative regulation, or Table 2 of this section. Radioactive hazardous mixed wastes not subject to treatment standards in Table 3 of this section remain subject to all applicable treatment standards specified in this section or Section 6 of this administrative regulation, and Table 3 of this section.]

Section 4. Variance From a Treatment Standard. (1) Where the treatment standard is expressed as a concentration in a waste or waste extract and a waste cannot be treated to the specified level, or where the treatment technology is not appropriate to the waste, the generator or treatment facility may petition the cabinet for a variance from the treatment standard. The petitioner shall demonstrate that because the physical or chemical properties of the waste differ significantly from wastes analyzed in developing the treatment standard, the waste cannot be treated to specified levels or by the specified methods.

(2) Each petition shall be submitted in accordance with the procedures in Section 1 of 401 KAR 31:060.

(3) Each petition shall include the following statement signed by the petitioner or an authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(4) After receiving a petition for variance from a treatment standard, the cabinet may request any additional information or

samples which may be required to evaluate the petition. The cabinet may request additional copies of the complete petition [may be requested] as needed to send to affected states and the EPA.

(5) The cabinet shall make a tentative decision to grant or deny the petition for a variance. If the tentative decision is to deny, the cabinet shall notify the petitioner. The cabinet shall give public notice stating the intent to deny the petition for variance. The public notice shall allow at least forty-five (45) days for public comment. If the tentative decision is to grant the petition, the cabinet shall propose an amendment to the administrative regulations and provide an opportunity for public comment pursuant to KRS Chapter 13A. The final decision on a variance from a treatment standard shall be promulgated in a Kentucky administrative regulation. The cabinet shall not grant a petition without concurrence from the U.S. EPA.

(6) A generator, treatment facility, or disposal facility that is managing a waste covered by a variance from the treatment standards shall comply with the waste analysis requirements for restricted wastes found under Section 7 of 401 KAR 37:010.

(7) During the petition review process, the applicant is required to comply with all restrictions on land disposal under this chapter once the effective date for the waste has been reached.

(8) Where the treatment standard is expressed as a concentration in a waste or waste extract and a waste generated under conditions specific to only one (1) site cannot be treated to the specified level, or where the treatment technology is not appropriate to the waste, the generator or treatment facility may apply to the cabinet for a site-specific variance from a treatment standard. The applicant for a site-specific variance must demonstrate that because the physical or chemical properties of the waste differs significantly from the waste analyzed in developing the treatment standard, the waste cannot be treated to specified levels or by the specified methods.

(9) Each application for a site-specific variance from a treatment standard must include the information in Section 1 of 401 KAR 31:060. [\$260.20(b)(1)-(4).]

(10) After receiving an application for a site-specific variance from a treatment standard, the cabinet may request any additional information or samples which may be required to evaluate the application.

(11) A generator, treatment facility, or disposal facility that is managing a waste covered by a site-specific variance from a treatment standard must comply with the waste analysis requirements for restricted wastes found under Section 7 of 401 KAR 37:010. [\$260.7.]

(12) During the application review process, the applicant for a site-specific variance must comply with all restrictions on land disposal under this part once the effective date for the waste has been reached.

Section 5. Treatment Standards Expressed as Waste Concentrations. For the requirements previously found in this section and for treatment standards in Table CCW - Constituent Concentrations in Wastes, refer to Section 1 of this administrative regulation. [Table CCW identifies the restricted wastes and the concentrations of their associated hazardous constituents which may not be exceeded by the waste or treatment residual (not an extract of such waste or residual) for the allowable land disposal of such waste or residual. Compliance with these concentrations is required based upon grab samples unless otherwise noted in the following Table CCW.]

# ADMINISTRATIVE REGISTER - 889

Table CCW- Constituent Concentrations in Wastes

| Waste code   | Commercial chemical name | See also             | Regulated hazardous constituent | CAS number for regulated hazardous constituent | Wastewaters          |       | Nonwastewaters        |       |
|--|--------------------------|----------------------|---------------------------------|--|----------------------|-------|-----------------------|-------|
|  |                          |                      |                                 |  | Concentration (mg/l) | Notes | Concentration (mg/kg) | Notes |
| D003 (Reactive Cyanides Sub-category based on 261.23(a) (5)) | NA                       | NA                   | Cyanides (Total)                | 57-12-5  | (4)                  |       | 500                   | (3)   |
|  |                          |                      | Cyanides (Amenable)             | 57-12-5  | 0.86                 |       | 30                    |       |
| D004   | NA                       | Table CCWE in 268.41 | Arsenic                         | 7440-38-2                                      | 5.0                  |       | NA                    |       |
| D005   | NA                       | Table CCWE in 268.41 | Barium                          | 7440-39-3                                      | 100                  |       | NA                    |       |
| D006   | NA                       | Table CCWE in 268.41 | Cadmium                         | 7440-43-0                                      | 1.0                  |       | NA                    |       |
| D007   | NA                       | Table CCWE in 268.41 | Chromium (Total)                | 7440-47-3                                      | 5.0                  |       | NA                    |       |
| D008   | NA                       | Table CCWE in 268.41 | Lead                            | 7439-92-1                                      | 5.0                  |       | NA                    |       |
| D009   | NA                       | Table CCWE in 268.41 | Mercury                         | 7439-97-6                                      | 0.20                 |       | NA                    |       |
| D010   | NA                       | Table CCWE in 268.41 | Selenium                        | 7782-49-2                                      | 1.0                  |       | NA                    |       |
| D011   | NA                       | Table CCWE in 268.41 | Silver                          | 7440-22-4                                      | 5.0                  |       | NA                    |       |
| D012   | NA                       | Table 2 in 268.42    | Endrin                          | 720-20-8                                       | NA                   |       | 0.13                  | (7)   |
| D013   | NA                       | Table 2 in 268.42    | Lindane                         | 58-80-0  | NA                   |       | 0.066                 | (7)   |
| D014   | NA                       | Table 2 in 268.42    | Methoxychlor                    | 72-43-5  | NA                   |       | 0.18                  | (7)   |
| D015   | NA                       | Table 2 in 268.42    | Toxaphene                       | 8001-35-1                                      | NA                   |       | 1.3                   | (7)   |
| D016   | NA                       | Table 2 in 268.42    | 2,4-D                           | 94-75-7  | NA                   |       | 10.0                  | (7)   |
| D017   | NA                       | Table 2 in 268.42    | 2,4,5-TP (Silvex)               | 93-76-5  | NA                   |       | 7.0                   | (7)   |
| *F001-F006 spent solvents                                    | NA                       |                      | Acetone                         | 67-64-1  | 0.28                 |       | 160                   |       |
|  |                          |                      | Benzene                         | 71-43-2  | 0.070                |       | 3.7                   | (7)   |
|  |                          |                      | n-Butyl alcohol                 | 71-36-3  | 5.6                  |       | 2.6                   |       |

# ADMINISTRATIVE REGISTER - 892

|   |    |                      |                            |            |       |     |       |     |
|---|----|----------------------|----------------------------|------------|-------|-----|-------|-----|
| F025 (Light Ends Sub-category)                          | NA | NA                   | 1,2-Dichloroethane         | 107-06-2   | 0.014 | (*) | 0.014 | (*) |
|   |    |                      | 1,2-Dichloropropane        | 78-87-5    | 0.014 | (*) | 0.014 | (*) |
|   |    |                      | cis-1,3-Dichloropropene    | 10061-01-5 | 0.014 | (*) | 0.014 | (*) |
|   |    |                      | trans-1,3-Dichloropropene  | 10061-02-6 | 0.014 | (*) | 0.014 | (*) |
|   |    |                      | Bis(2-ethylhexyl)phthalate | 117-81-7   | 0.036 | (*) | 1.8   | (*) |
|   |    |                      | Hexachloroethane           | 67-72-1    | 0.036 | (*) | 1.8   | (*) |
|   |    |                      | Chromium (Total)           | 7440-47-2  | 0.36  |     | NA    |     |
|   |    |                      | Nickel                     | 7440-02-0  | 0.47  |     | NA    |     |
|   |    |                      | Chloroform                 | 67-66-3    | 0.046 | (2) | 6.2   | (*) |
|   |    |                      | 1,2-Dichloroethane         | 107-06-2   | 0.21  | (2) | 6.2   | (*) |
| F025 (Spent Filters or Aids and Decalcants Subcategory) | NA | NA                   | 1,1-Dichloroethylene       | 75-35-4    | 0.026 | (2) | 6.2   | (*) |
|   |    |                      | Methylene chloride         | 75-0-2     | 0.080 | (2) | 31    | (*) |
|   |    |                      | Carbon tetrachloride       | 56-23-5    | 0.057 | (2) | 6.2   | (*) |
|   |    |                      | 1,1,2-Trichloroethane      | 70-00-5    | 0.054 | (2) | 6.2   | (*) |
|   |    |                      | Trichloroethylene          | 70-01-6    | 0.054 | (2) | 5.6   | (*) |
|   |    |                      | Vinyl chloride             | 75-01-4    | 0.27  | (2) | 33    | (*) |
|   |    |                      | Chloroform                 | 67-66-3    | 0.046 | (2) | 6.2   | (*) |
|   |    |                      | Methylene chloride         | 75-0-2     | 0.080 | (2) | 31    | (*) |
|   |    |                      | Carbon tetrachloride       | 56-23-5    | 0.057 | (2) | 6.2   | (*) |
|   |    |                      | 1,1,2-Trichloroethane      | 70-00-5    | 0.054 | (2) | 6.2   | (*) |
| F027  | NA | Table GCWE in 268.41 | Trichloroethylene          | 70-01-6    | 0.054 | (2) | 5.6   | (*) |
|   |    |                      | Vinyl chloride             | 75-01-4    | 0.27  | (2) | 33    | (*) |
|   |    |                      | Hexachlorobenzene          | 118-74-1   | 0.055 | (2) | 37    | (*) |
|   |    |                      | Hexachlorobutadiene        | 87-68-3    | 0.055 | (2) | 28    | (*) |
|   |    |                      | Hexachloroethane           | 67-72-1    | 0.055 | (2) | 30    | (*) |
|   |    |                      | Acenaphthene               | 208-06-8   | 0.050 | (*) | NA    |     |
|   |    |                      | Anthracene                 | 120-12-7   | 0.050 | (*) | 28    | (*) |
|   |    |                      | Benzene                    | 71-43-2    | 0.14  | (*) | 44    | (*) |
|   |    |                      | Benzo(a)anthracene         | 50-32-8    | 0.050 | (*) | 20    | (*) |
|   |    |                      | Benzo(a)pyrene             | 117-81-7   | 0.061 | (*) | 12    | (*) |
|   |    |                      | Bis(2-ethylhexyl)phthalate | 75-15-0    | 0.28  | (*) | 7.3   | (*) |
|   |    |                      | Chrysene                   | 218-01-0   | 0.050 | (*) | 15    | (*) |
|   |    |                      | Di-n-butyl-phthalate       | 105-67-0   | 0.057 | (*) | 3.6   | (*) |
|   |    |                      | Ethylbenzene               | 100-41-4   | 0.057 | (*) | 14    | (*) |
|   |    |                      |                            |            |       |     |       |     |



# ADMINISTRATIVE REGISTER - 893

F038

NA

Table  
CCWE in  
268.41

|                                |            |       |     |       |     |
|--------------------------------|------------|-------|-----|-------|-----|
| Fluorene                       | 86-73-7    | 0.050 | (2) | NA    |     |
| Naphthalene                    | 91-20-3    | 0.050 | (2) | 42    | (2) |
| Phenanthrene                   | 85-01-8    | 0.050 | (2) | 34    | (2) |
| Phenol                         | 108-05-2   | 0.030 | (2) | 3.6   | (2) |
| Pyrene                         | 129-00-0   | 0.067 | (2) | 36    | (2) |
| Toluene                        | 108-88-3   | 0.08  | (2) | 14    | (2) |
| Xylene(s)                      |            | 0.22  | (2) | 22    | (2) |
| Cyanides (Total)               | 57-12-5    | 0.028 | (2) | 1.8   | (2) |
| Chromium (Total)               | 7440-47-32 | 0.2   |     | NA    |     |
| Lead                           | 7439-92-1  | 0.037 |     | NA    |     |
| Benzene                        | 71-43-2    | 0.14  | (2) | 14    | (2) |
| Benzo(a)pyrene                 | 50-32-8    | 0.061 | (2) | 12    | (2) |
| Bis(2-ethylhexyl)<br>phthalate | 117-81-7   | 0.28  | (2) | 7.3   | (2) |
| Chrysene                       | 218-01-0   | 0.050 | (2) | 15    | (2) |
| Di-n-butyl phthalate           | 84-74-2    | 0.057 | (2) | 3.6   | (2) |
| Ethylbenzene                   | 100-41-4   | 0.057 | (2) | 14    | (2) |
| Fluorene                       | 86-73-7    | 0.050 | (2) | NA    |     |
| Naphthalene                    | 91-20-3    | 0.050 | (2) | 42    | (2) |
| Phenanthrene                   | 85-01-8    | 0.050 | (2) | 34    | (2) |
| Phenol                         | 108-05-2   | 0.030 | (2) | 3.6   | (2) |
| Pyrene                         | 129-00-0   | 0.067 | (2) | 36    | (2) |
| Toluene                        | 108-88-3   | 0.080 | (2) | 14    | (2) |
| Xylene(s)                      |            | 0.22  | (2) | 22    | (2) |
| Cyanides (Total)               | 57-12-5    | 0.028 | (2) | 1.8   | (2) |
| Chromium (Total)               | 7440-47-32 | 0.2   |     | NA    |     |
| Lead                           | 7439-92-1  | 0.037 |     | NA    |     |
| Acetone                        | 67-64-1    | 0.28  | (2) | 160   | (2) |
| Acenaphthalene                 | 208-96-8   | 0.050 | (2) | 3.4   | (2) |
| Acenaphthene                   | 83-32-0    | 0.050 | (2) | 4.0   | (2) |
| Acetonitrile                   | 75-05-8    | 0.17  | (2) | NA    |     |
| Acetophenone                   | 96-86-2    | 0.010 | (2) | 0.7   |     |
| 2-Acetylaminofluorene          | 53-96-3    | 0.050 | (2) | 140   | (2) |
| Acrolein                       | 107-02-8   | 0.20  | (2) | NA    |     |
| Acrylonitrile                  | 107-13-1   | 0.24  | (2) | 84    | (2) |
| Aldrin                         | 309-00-2   | 0.021 | (2) | 0.066 | (2) |
| 4-Aminobiphenyl                | 92-67-1    | 0.13  | (2) | NA    |     |
| Aniline                        | 62-53-3    | 0.81  | (2) | 14    | (2) |
| Anthracene                     | 120-12-7   | 0.050 | (2) | 4.0   | (2) |

F039

NA

Table  
CCWE in  
268.41

# ADMINISTRATIVE REGISTER - 894

|                                    |            |         |     |       |     |
|------------------------------------|------------|---------|-----|-------|-----|
| Aramite                            | 140-67-8   | 0.36    | (2) | NA    |     |
| Aroclor 1016                       | 12674-11-2 | 0.013   | (2) | 0.02  | (*) |
| Aroclor 1221                       | 11104-28-2 | 0.014   | (2) | 0.02  | (*) |
| Aroclor 1232                       | 11141-16-6 | 0.013   | (2) | 0.02  | (*) |
| Aroclor 1242                       | 53460-21-0 | 0.017   | (2) | 0.02  | (*) |
| Aroclor 1248                       | 12672-20-6 | 0.013   | (2) | 0.02  | (*) |
| Aroclor 1254                       | 11097-60-1 | 0.014   | (2) | 1.8   | (*) |
| Aroclor 1260                       | 11096-82-6 | 0.014   | (2) | 1.8   | (*) |
| alpha-BHC                          | 310-84-6   | 0.00014 | (2) | 0.066 | (*) |
| beta-BHC                           | 310-85-7   | 0.00014 | (2) | 0.066 | (*) |
| delta-BHC                          | 310-86-8   | 0.023   | (2) | 0.066 | (*) |
| gamma-BHC                          | 58-89-0    | 0.0017  | (2) | 0.066 | (*) |
| Benzene                            | 71-43-2    | 0.14    | (2) | 36    | (*) |
| Benz(a)anthracene                  | 56-55-3    | 0.059   | (2) | 8.2   | (*) |
| Benzo(b)fluoranthene               | 205-09-2   | 0.055   | (2) | 3.4   | (*) |
| Benzo(k)fluoranthene               | 207-08-0   | 0.059   | (2) | 3.4   | (*) |
| Benzo(g,h,i)perylene               | 101-24-2   | 0.0055  | (2) | 1.5   | (*) |
| Benzo(a)pyrene                     | 50-32-8    | 0.061   | (2) | 8.2   | (*) |
| Bromodichloromethane               | 75-27-4    | 0.35    | (2) | 15    | (*) |
| Bromoform (Tribromo-<br>methane)   | 75-25-2    | 0.63    | (2) | 15    | (*) |
| Bromomethane (meth-<br>yl bromide) | 74-83-0    | 0.11    | (2) | 15    | (*) |
| 4-Bromophenyl-phenyl<br>ether      | 101-55-3   | 0.055   | (2) | 15    | (*) |
| n-Butyl alcohol                    | 71-36-3    | 5.6     | (2) | 2.6   | (*) |
| Butyl benzyl phthalate             | 85-68-7    | 0.017   | (2) | 7.0   | (*) |
| 2-sec-Butyl 4,6-dinitro-<br>phenol | 88-85-7    | 0.066   | (2) | 2.5   | (*) |
| Carbon tetrachloride               | 56-23-5    | 0.057   | (2) | 5.6   | (*) |
| Carbon disulfide                   | 75-15-0    | 0.014   | (2) | NA    |     |
| Chlordane                          | 57-74-0    | 0.0033  | (2) | 0.13  | (*) |
| p-Chloroaniline                    | 106-47-8   | 0.46    | (2) | 16    | (*) |
| Chlorobenzene                      | 108-90-7   | 0.057   | (2) | 5.7   | (*) |
| Chlorobenzilate                    | 510-15-6   | 0.10    | (2) | NA    |     |
| 2-Chloro-1,3-butadiene             | 126-00-8   | 0.057   | (2) | NA    |     |
| Chlorodibromo-<br>methane          | 124-48-1   | 0.057   | (2) | 15    | (*) |
| Chloroethane                       | 75-00-3    | 0.27    | (2) | 6.0   | (*) |
| bis(2-Chloroethoxy)<br>methane     | 111-81-1   | 0.036   | (2) | 7.2   | (*) |
| bis(2-Chloroethyl)<br>ether        | 111-44-4   | 0.033   | (2) | 7.2   | (*) |
| Chloroform                         | 67-66-3    | 0.046   | (2) | 5.6   | (*) |

## ADMINISTRATIVE REGISTER - 895

|  |            |        |     |       |     |
|--|------------|--------|-----|-------|-----|
| bis(2-Chloroisopropyl) ether           | 30638-32-0 | 0.055  | (2) | 7.2   | (7) |
| p-Chloro-m-cresol                      | 59-60-7    | 0.018  | (2) | 14    | (7) |
| Chloromethane (Methyl chloride)        | 74-87-3    | 0.10   | (2) | 33    | (7) |
| 2-Chloronaphthalene                    | 91-8-7     | 0.055  | (2) | 5.6   | (7) |
| 2-Chlorophenol                         | 95-67-8    | 0.044  | (2) | 5.7   | (7) |
| 3-Chloropropylene                      | 107-05-1   | 0.036  | (2) | 28    | (7) |
| Chrysene                               | 218-01-0   | 0.050  | (2) | 8.2   | (7) |
| o-Cresol                               | 95-48-7    | 0.11   | (2) | 5.6   | (7) |
| Cresol (m- and p-isomers)              |            | 0.77   | (2) | 3.2   | (7) |
| Cyclohexanone                          | 108-94-1   | 0.36   | (2) | NA    |     |
| 1,2-Dibromo-3-chloropropane            | 96-12-8    | 0.11   | (2) | 15    | (7) |
| 1,2-Dibromoethane (Ethylene dibromide) | 106-93-4   | 0.028  | (2) | 15    | (7) |
| Dibromomethane                         | 74-95-3    | 0.11   | (2) | 15    | (7) |
| 2,4-Dichlorophenoxyacetic acid (2,4-D) | 94-75-7    | 0.72   | (2) | 10    | (7) |
| o,p'-DDD                               | 53-10-0    | 0.023  | (2) | 0.087 | (7) |
| p,p'-DDD                               | 72-54-8    | 0.023  | (2) | 0.087 | (7) |
| o,p'-DDE                               | 3424-82-6  | 0.031  | (2) | 0.087 | (7) |
| p,p'-DDE                               | 72-55-0    | 0.031  | (2) | 0.087 | (7) |
| o,p'-DDT                               | 780-02-6   | 0.0030 | (2) | 0.087 | (7) |
| p,p'-DDT                               | 50-20-3    | 0.0030 | (2) | 0.087 | (7) |
| Dibenz(a,h)anthracene                  | 53-70-3    | 0.055  | (2) | 8.2   | (7) |
| Dibenzo(a,e)pyrene                     | 102-65-4   | 0.061  | (2) | NA    |     |
| m-Dichlorobenzene                      | 541-73-1   | 0.036  | (2) | 6.2   | (7) |
| o-Dichlorobenzene                      | 95-50-1    | 0.088  | (2) | 6.2   | (7) |
| p-Dichlorobenzene                      | 106-46-7   | 0.090  | (2) | 6.2   | (7) |
| Dichlorodifluoromethane                | 75-71-8    | 0.23   | (2) | 7.2   | (7) |
| 1,1-Dichloroethane                     | 75-34-3    | 0.050  | (2) | 7.2   | (7) |
| 1,2-Dichloroethane                     | 107-06-2   | 0.21   | (2) | 7.2   | (7) |
| 1,1-Dichloroethylene                   | 75-35-4    | 0.025  | (2) | 33    | (7) |
| trans-1,2-Dichloroethylene             |            | 0.054  | (2) | 33    | (7) |
| 2,4-Dichlorophenol                     | 120-83-2   | 0.044  | (2) | 14    | (7) |
| 2,6-Dichlorophenol                     | 87-65-0    | 0.044  | (2) | 14    | (7) |
| 1,2-Dichloropropane                    | 78-87-5    | 0.85   | (2) | 18    | (7) |
| cis-1,3-Dichloropropene                | 10061-01-5 | 0.036  | (2) | 18    | (7) |
| trans-1,3-Dichloropropene              | 10061-02-6 | 0.036  | (2) | 18    | (7) |

# ADMINISTRATIVE REGISTER - 896

|                             |           |          |     |       |     |
|-----------------------------|-----------|----------|-----|-------|-----|
| Dioldrin                    | 60-57-1   | 0.017    | (2) | 0.13  | (7) |
| Diethyl phthalate           | 84-66-2   | 0.20     | (2) | 28    | (7) |
| 2,4-Dimethyl-phenol         | 105-67-0  | 0.036    | (2) | 14    | (7) |
| Dimethyl phthalate          | 131-11-3  | 0.047    | (2) | 28    | (7) |
| Di-n-butyl-phthalate        | 84-74-2   | 0.057    | (2) | 28    | (7) |
| 1,4-Dinitrobenzene          | 100-25-4  | 0.32     | (2) | 2.3   | (7) |
| 4,6-Dinitro-o-cresol        | 534-52-1  | 0.28     | (2) | 160   | (7) |
| 2,4-Dinitrophenol           | 51-28-5   | 0.12     | (2) | 160   | (7) |
| 2,4-Dinitrotoluene          | 121-14-2  | 0.32     | (2) | 140   | (7) |
| 2,6-Dinitrotoluene          | 606-20-2  | 0.55     | (2) | 28    | (7) |
| Di-n-octyl-phthalate        | 117-84-0  | 0.017    | (2) | 28    | (7) |
| Di-n-propylnitroso-amine    | 621-64-7  | 0.40     | (2) | 14    | (7) |
| Diphenylamine               | 122-30-4  | 0.52     | (2) | NA    |     |
| 1,2-Diphenyl-hydrazine      | 122-66-7  | 0.087    | (2) | NA    |     |
| Diphenyl-nitrosamine        | 621-64-7  | 0.40     | (2) | NA    |     |
| 1,4-Dioxane                 | 123-01-1  | 0.12     | (2) | 170   | (7) |
| Disulfoton                  | 208-04-4  | 0.017    | (2) | 6.2   | (7) |
| Endosulfan-I                | 930-08-8  | 0.023    | (2) | 0.066 | (7) |
| Endosulfan-II               | 33213-6-5 | 0.020    | (2) | 0.13  | (7) |
| Endosulfan-sulfate          | 1031-07-8 | 0.020    | (2) | 0.13  | (7) |
| Endrin                      | 72-20-8   | 0.0028   | (2) | 0.13  | (7) |
| Endrin-aldehyde             | 7421-03-4 | 0.025    | (2) | 0.13  | (7) |
| Ethyl-acetate               | 141-78-6  | 0.34     | (2) | 33    | (7) |
| Ethyl-cyanide               | 107-12-0  | 0.24     | (2) | 360   | (7) |
| Ethyl-benzene               | 100-41-4  | 0.057    | (2) | 6.0   | (7) |
| Ethyl-ether                 | 60-29-7   | 0.12     | (2) | 160   | (7) |
| bis(2-Ethylhexyl)-phthalate | 117-81-7  | 0.28     | (2) | 28    | (7) |
| Ethyl-methacrylate          | 97-63-2   | 0.14     | (2) | 160   | (7) |
| Ethylene-oxide              | 75-21-8   | 0.12     | (2) | NA    |     |
| Famphur                     | 52-85-7   | 0.017    | (2) | 15    | (7) |
| Fluoranthene                | 206-44-0  | 0.068    | (2) | 8.2   | (7) |
| Fluorene                    | 86-73-7   | 0.050    | (2) | 4.0   | (7) |
| Fluorotrichloromethane      | 75-69-4   | 0.020    | (2) | 33    | (7) |
| Heptachlor                  | 76-44-8   | 0.0012   | (2) | 0.066 | (7) |
| Heptachlor-epoxide          | 1024-57-3 | 0.016    | (2) | 0.066 | (7) |
| Hexachlorobenzene           | 118-74-1  | 0.055    | (2) | 37    | (7) |
| Hexachlorobutadiene         | 87-68-3   | 0.055    | (2) | 28    | (7) |
| Hexachlorocyclopentadiene   | 77-47-4   | 0.057    | (2) | 3.6   | (7) |
| Hexachlorodibenzofuran      |           | 0.000063 | (2) | 0.001 | (7) |

# ADMINISTRATIVE REGISTER - 897

|                                     |            |              |     |       |     |
|-------------------------------------|------------|--------------|-----|-------|-----|
| Hexachlorodibenzo-p-dioxine         |            | 0.00006<br>3 | (2) | 0.001 | (7) |
| Hexachloroethane                    | 67-72-1    | 0.055        | (2) | 28    | (7) |
| Hexachloropropene                   | 1888-71-7  | 0.035        | (2) | 28    | (7) |
| Indeno(1,2,3-c,d)-pyrene            | 102-30-6   | 0.0055       | (2) | 8.2   | (7) |
| Iodomethane                         | 74-88-4    | 0.10         | (2) | 65    | (7) |
| Isobutanol                          | 78-83-1    | 5.6          | (2) | 170   | (7) |
| Iodrin                              | 465-73-6   | 0.021        | (2) | 0.066 | (7) |
| Isoaforel                           | 120-58-1   | 0.081        | (2) | 2.6   | (7) |
| Kepene                              | 143-50-8   | 0.0011       | (2) | 0.13  | (7) |
| Methacrylonitrile                   | 126-98-7   | 0.24         | (2) | 84    | (7) |
| Methanol                            | 67-56-1    | 5.6          | (2) | NA    |     |
| Methapyrilone                       | 81-80-5    | 0.081        | (2) | 1.5   | (7) |
| Methoxychlor                        | 72-43-5    | 0.25         | (2) | 0.18  | (7) |
| 3-Methylcholanthrene                | 56-40-5    | 0.0055       | (2) | 15    | (7) |
| 4,4-Methylene-bis-(2-chloroaniline) | 101-14-4   | 0.50         | (2) | 35    | (7) |
| Methylene-chloride                  | 75-09-2    | 0.080        | (2) | 33    | (7) |
| Methyl-ethyl-ketone                 | 78-03-3    | 0.28         | (2) | 36    | (7) |
| Methyl-isobutyl-ketone              | 108-10-1   | 0.14         | (2) | 33    | (7) |
| Methyl-methacrylate                 | 80-62-6    | 0.14         | (2) | 160   | (7) |
| Methyl-methanesulfonate             | 66-27-3    | 0.018        | (2) | NA    |     |
| Methyl-parathion                    | 298-00-0   | 0.014        | (2) | 4.6   | (7) |
| Naphthalene                         | 81-20-3    | 0.050        | (2) | 3.1   | (7) |
| 2-Naphthylamine                     | 81-59-8    | 0.52         | (2) | NA    |     |
| p-Nitroaniline                      | 100-01-6   | 0.028        | (2) | 28    | (7) |
| Nitrobenzene                        | 98-05-3    | 0.068        | (2) | 14    | (7) |
| 5-Nitro-o-toluidine                 | 90-55-8    | 0.32         | (2) | 28    | (7) |
| 4-Nitrophenol                       | 100-02-7   | 0.12         | (2) | 20    | (7) |
| N-Nitrosodiethylamine               | 65-18-5    | 0.40         | (2) | 28    | (7) |
| N-Nitrosodimethylamine              | 62-75-0    | 0.40         | (2) | NA    |     |
| N-Nitroso-di-n-butylamine           | 924-16-3   | 0.40         | (2) | 17    | (7) |
| N-Nitrosomethylthylamine            | 10595-05-6 | 0.40         | (2) | 2.3   | (7) |
| N-Nitrosomorpholine                 | 50-89-2    | 0.40         | (2) | 2.3   | (7) |
| N-Nitrosopiperidine                 | 100-75-4   | 0.013        | (2) | 36    | (7) |
| N-Nitrosopyrrolidine                | 930-55-2   | 0.013        | (2) | 36    | (7) |
| Parathion                           | 56-38-2    | 0.014        | (2) | 4.6   | (7) |
| Pentachlorobenzene                  | 608-03-5   | 0.055        | (2) | 37    | (7) |
| Pentachlorodibenzo-furane           |            | 0.00006<br>3 | (2) | 0.001 | (7) |

# ADMINISTRATIVE REGISTER - 898

|                                       |            |              |     |       |     |
|---------------------------------------|------------|--------------|-----|-------|-----|
| Pentachlorodibenzo-p-dioxins          |            | 0.00006<br>3 | (2) | 0.001 | (7) |
| Pentachloronitrobenzene               | 82-68-8    | 0.055        | (2) | 4.8   | (7) |
| Pentachlorophenol                     | 87-86-5    | 0.080        | (2) | 7.4   | (7) |
| Phenacetin                            | 62-44-2    | 0.081        | (2) | 16    | (7) |
| Phenanthrene                          | 85-01-8    | 0.059        | (2) | 3.1   | (7) |
| Phenol                                | 108-95-2   | 0.030        | (2) | 6.2   | (7) |
| Phorate                               | 298-02-2   | 0.021        | (2) | 4.6   | (7) |
| Phthalic anhydride                    | 85-44-9    | 0.069        | (2) | NA    |     |
| Pronamide                             | 23050-68-6 | 0.093        | (2) | 1.5   | (7) |
| Pyrene                                | 129-00-0   | 0.067        | (2) | 8.2   | (7) |
| Pyridine                              | 110-86-1   | 0.014        | (2) | 16    | (7) |
| Safrole                               | 94-59-7    | 0.081        | (2) | 22    | (7) |
| Silvex (2,4,5-TP)                     | 93-72-1    | 0.72         | (2) | 7.9   | (7) |
| 2,4,5-T                               | 93-76-5    | 0.72         | (2) | 7.9   | (7) |
| 1,2,4,5-Tetrachlorobenzene            | 95-94-3    | 0.055        | (2) | 19    | (7) |
| Tetrachlorodibenzofurane              |            | 0.00006<br>3 | (2) | 0.001 | (7) |
| Tetrachlorodibenzo-p-dioxins          |            | 0.00006<br>3 | (2) | 0.001 | (7) |
| 1,1,1,2-Tetrachloroethane             | 630-20-6   | 0.057        | (2) | 42    | (7) |
| 1,1,2,2-Tetrachloroethane             | 79-34-6    | 0.057        | (2) | 42    | (7) |
| Tetrachloroethylene                   | 127-18-4   | 0.056        | (2) | 5.6   | (7) |
| 2,3,4,6-Tetrachlorophenol             | 58-00-2    | 0.030        | (2) | 37    | (7) |
| Toluene                               | 108-88-3   | 0.080        | (2) | 28    | (7) |
| Toxaphene                             | 8001-35-1  | 0.0095       | (2) | 1.3   | (7) |
| 1,2,4-Trichlorobenzene                | 120-82-1   | 0.055        | (2) | 19    | (7) |
| 1,1,1-Trichloroethane                 | 71-55-6    | 0.054        | (2) | 5.6   | (7) |
| 1,1,2-Trichloroethane                 | 79-00-5    | 0.054        | (2) | 5.6   | (7) |
| Trichloroethylene                     | 79-01-6    | 0.054        | (2) | 5.6   | (7) |
| 2,4,5-Trichlorophenol                 | 95-95-4    | 0.18         | (2) | 37    | (7) |
| 2,4,6-Trichlorophenol                 | 88-06-2    | 0.035        | (2) | 37    | (7) |
| 1,2,3-Trichloropropane                | 96-18-4    | 0.85         | (2) | 28    | (7) |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1    | 0.057        | (2) | 28    | (7) |
| Tris(2,3-dibromopropyl)phosphate      | 126-72-7   | 0.11         | (2) | NA    |     |
| Vinyl chloride                        | 75-01-4    | 0.27         | (2) | 32    | (7) |
| Xylene(s)                             |            | 0.32         | (2) | 28    | (7) |
| Cyanides (Total)                      | 57-12-5    | 1.2          | (2) | 1.8   | (7) |

# ADMINISTRATIVE REGISTER - 899

|      |    |                            |                   |            |       |     |     |     |
|------|----|----------------------------|-------------------|------------|-------|-----|-----|-----|
| K001 | NA | Table<br>CCWE in<br>268.44 | Fluoride          | 16064-48-8 | 35    | (2) | NA  | (7) |
|      |    |                            | Sulfide           | 8406-25-8  | 14    | (2) | NA  |     |
|      |    |                            | Antimony          | 7440-36-0  | 1.0   | (2) | NA  |     |
|      |    |                            | Arsenic           | 7440-38-2  | 1.4   | (2) | NA  |     |
|      |    |                            | Barium            | 7440-38-3  | 1.2   | (2) | NA  |     |
|      |    |                            | Beryllium         | 7440-41-7  | 0.82  | (2) | NA  |     |
|      |    |                            | Cadmium           | 7440-43-0  | 0.20  | (2) | NA  |     |
|      |    |                            | Chromium (Total)  | 7440-47-32 | 0.37  | (2) | NA  |     |
|      |    |                            | Copper            | 7440-50-8  | 1.3   | (2) | NA  |     |
|      |    |                            | Lead              | 7439-92-1  | 0.28  | (2) | NA  |     |
|      |    |                            | Mercury           | 7439-97-6  | 0.15  | (2) | NA  |     |
|      |    |                            | Nickel            | 7440-02-0  | 0.55  | (2) | NA  |     |
|      |    |                            | Selenium          | 7782-40-2  | 0.82  | (2) | NA  |     |
|      |    |                            | Silver            | 7440-22-4  | 0.29  | (2) | NA  |     |
|      |    |                            | Thallium          | 7440-28-0  | 1.4   | (2) | NA  |     |
|      |    |                            | Vanadium          | 7440-62-2  | 0.042 | (2) | NA  |     |
|      |    |                            | Zinc              | 7440-68-6  | 1.0   | (2) | NA  |     |
|      |    |                            | Naphthalene       | 91-20-3    | 0.031 | (7) | 1.5 |     |
|      |    |                            | Pentachlorophenol | 87-86-5    | 0.18  | (7) | 7.4 |     |
|      |    |                            | Phenanthrene      | 85-01-8    | 0.031 | (7) | 1.5 |     |
| K002 | NA | Table<br>CCWE in<br>268.44 | Pyrene            | 129-00-0   | 0.028 | (7) | 1.5 | (7) |
|      |    |                            | Toluene           | 108-88-3   | 0.028 | (7) | 28  | (7) |
|      |    |                            | Xylenes (Total)   |            | 0.032 | (7) | 33  | (7) |
|      |    |                            | Lead              | 7439-92-1  | 0.037 |     | NA  |     |
| K003 | NA | Table<br>CCWE in<br>268.44 | Chromium (Total)  | 7440-47-32 | 0.0   | (2) | NA  |     |
|      |    |                            | Lead              | 7439-92-1  | 3.4   | (2) | NA  |     |
| K004 | NA | Table<br>CCWE in<br>268.44 | Chromium (Total)  | 7440-47-32 | 0.0   | (2) | NA  | @   |
|      |    |                            | Lead              | 7439-92-1  | 3.4   | (2) | NA  |     |
| K005 | NA | Table<br>CCWE in<br>268.44 | Chromium (Total)  | 7440-47-32 | 0.0   | (2) | NA  |     |
|      |    |                            | Lead              | 7439-92-1  | 3.4   | (2) | NA  |     |
| K006 | NA | Table<br>CCWE in<br>268.44 | Cyanides (Total)  | 57-12-5    | 0.74  | (2) | (4) |     |
|      |    |                            | Chromium (Total)  | 7440-47-32 | 0.0   | 3.4 | (2) | NA  |



# ADMINISTRATIVE REGISTER - 900

|       |    |                            |  |            |       |       |      |     |
|-------|----|----------------------------|--|------------|-------|-------|------|-----|
| K007  | NA | Table<br>GCWE in<br>268.44 | Lead   | 7430-02-1  |       |       | (2)  | NA  |
|       |    |                            | Chromium (Total)                                       | 7440-47-32 | 0.0   | (2)   | NA   |     |
|       |    |                            | Lead   | 7430-02-1  | 3.4   | (2)   | NA   |     |
|       |    |                            | Cyanides (Total)                                       | 57-12-5    | 0.74  | (2)   | (4)  |     |
| K008  | NA | Table<br>GCWE in<br>268.44 | Chromium (Total)                                       | 7440-47-32 | 0.0   | (2)   | NA   |     |
|       |    |                            | Lead   | 7430-02-1  | 3.4   | (2)   | NA   |     |
| K009  | NA | NA                         | Chloroform   | 67-66-3    | 0.1   |       | 6.0  | (*) |
| K010  | NA | NA                         | Chloroform   | 67-66-3    | 0.1   |       | 6.0  | (*) |
| K011  | NA | NA                         | Acetonitrile   | 75-05-8    | 38    |       | 1.8  | (*) |
|       |    |                            | Acrylonitrile  | 107-13-1   | 0.06  |       | 1.4  | (*) |
|       |    |                            | Acrylamide   | 79-06-1    | 10    |       | 23   | (*) |
|       |    |                            | Benzene  | 71-43-2    | 0.02  |       | 0.03 | (*) |
|       |    |                            | Cyanide (Total)  | 57-12-5    | 21    |       | 67   |     |
| K013  | NA | NA                         | Acetonitrile   | 75-05-8    | 38    |       | 1.8  | (*) |
|       |    |                            | Acrylonitrile  | 107-13-1   | 0.06  |       | 1.4  | (*) |
|       |    |                            | Acrylamide   | 79-06-1    | 10    |       | 23   | (*) |
|       |    |                            | Benzene  | 71-43-2    | 0.02  |       | 0.03 | (*) |
|       |    |                            | Cyanide (Total)  | 57-12-5    | 21    |       | 67   |     |
| K014  | NA | NA                         | Acetonitrile   | 75-05-8    | 38    |       | 1.8  | (*) |
|       |    |                            | Acrylonitrile  | 107-13-1   | 0.06  |       | 1.4  | (*) |
|       |    |                            | Acrylamide   | 79-06-1    | 10    |       | 23   | (*) |
|       |    |                            | Benzene  | 71-43-2    | 0.02  |       | 0.03 | (*) |
|       |    |                            | Cyanide (Total)  | 57-12-5    | 21    |       | 67   |     |
| *K015 | NA | Table<br>GCWE in<br>268.44 | Anthracene   | 120-12-7   | 0.050 |       | 3.4  | (*) |
|       |    |                            | Benzal Chloride  | 98-87-3    | 0.28  |       | 6.2  | (*) |
|       |    |                            | Sum of Benzo(b) fluoranthene and Benzo(k) fluoranthene | 207-08-0   | 0.055 |       | 3.4  |     |
|       |    |                            | Phenanthrene   | 85-01-8    | 0.050 |       | 3.4  | (*) |
|       |    |                            | Toluene  | 108-88-3   | 0.08  |       | 6.0  | (*) |
|       |    |                            | Chromium (Total)                                       | 7440-47-32 | 0.32  |       | NA   |     |
|       |    |                            | Nickel   | 7440-02-0  | 0.44  |       | NA   |     |
| *K016 | NA |                            | Hexachlorobenzene                                      | 118-74-1   | 0.055 |       | 28   | (*) |
|       |    |                            | Hexachlorobutadiene                                    | 87-68-3    | 0.055 |       | 5.6  | (*) |
|       |    |                            | Hexachlorocyclopentadiene                              | 77-47-4    | 0.057 |       | 5.6  | (*) |
|       |    |                            | Hexachloroethane                                       | 67-72-1    | 0.055 |       | 28   | (*) |
|       |    |                            | Tetrachloroethene                                      | 127-18-4   | 0.056 |       | 6.0  | (*) |
| K017  | NA | NA                         | 1,2-Dichloropropane                                    | 78-87-5    | 0.85  | (1,2) | 18   | (*) |

# ADMINISTRATIVE REGISTER - 901

|       |    |                            |   |            |       |       |       |     |
|-------|----|----------------------------|---|------------|-------|-------|-------|-----|
| *K018 | NA |                            | 1,2,3-Trichloropropane                          | 06-18-4    | 0.85  | (1,2) | 28    | (7) |
|       |    |                            | Bis(2-chloroethyl)ether                         | 111-44-4   | 0.033 | (1,2) | 7.2   | (7) |
|       |    |                            | Chloroethane                                    | 76-00-3    | 0.27  |       | 6.0   | (7) |
|       |    |                            | Chloromethane                                   | 74-87-3    | 0.10  |       | NA    |     |
|       |    |                            | 1,1-Dichloroethane                              | 75-34-3    | 0.050 |       | 6.0   | (7) |
|       |    |                            | 1,2-Dichloroethane                              | 107-06-2   | 0.21  |       | 6.0   | (7) |
|       |    |                            | Hexachlorobenzene                               | 118-74-1   | 0.055 |       | 28    | (7) |
|       |    |                            | Hexachlorobutadiene                             | 87-68-3    | 0.055 |       | 5.6   | (7) |
|       |    |                            | Pentachloroethane                               | 76-01-7    | NA    |       | 5.6   |     |
|       |    |                            | 1,1,1-Trichloroethane                           | 71-55-6    | 0.054 |       | 6.0   |     |
| *K019 | NA |                            | Hexachloroethane                                | 67-72-1    | 0.055 |       | 28    | (7) |
|       |    |                            | Bis(2-chloroethyl)-ether                        | 111-44-4   | 0.033 |       | 5.6   | (7) |
|       |    |                            | Chlorobenzene                                   | 108-90-7   | 0.057 |       | 6.0   | (7) |
|       |    |                            | Chloroform                                      | 67-66-3    | 0.046 |       | 6.0   | (7) |
|       |    |                            | p-Dichlorobenzene                               | 106-46-7   | 0.00  |       | NA    |     |
|       |    |                            | 1,2-Dichloroethane                              | 107-06-2   | 0.21  |       | 6.0   | (7) |
|       |    |                            | Fluorene  | 86-73-7    | 0.050 |       | NA    |     |
|       |    |                            | Hexachloroethane                                | 67-72-1    | 0.055 |       | 28    | (7) |
|       |    |                            | Naphthalene                                     | 91-20-3    | 0.050 |       | 5.6   | (7) |
|       |    |                            | Phenanthrene                                    | 85-01-8    | 0.050 |       | 5.6   | (7) |
| *K020 | NA |                            | 1,2,4,5-Tetrachlorobenzene                      | 95-04-3    | 0.055 |       | NA    |     |
|       |    |                            | Tetrachloroethene                               | 127-18-4   | 0.056 |       | 6.0   | (7) |
|       |    |                            | 1,2,4-Trichlorobenzene                          | 120-82-1   | 0.055 |       | 10    | (7) |
|       |    |                            | 1,1,1-Trichloroethane                           | 71-55-6    | 0.054 |       | 6.0   | (7) |
|       |    |                            | 1,2-Dichloroethane                              | 106-93-4   | 0.21  |       | 6.0   | (7) |
|       |    |                            | 1,1,2,2-Tetrachloroethane                       | 70-34-6    | 0.057 |       | 5.6   | (7) |
|       |    |                            | Tetrachloroethene                               | 127-18-4   | 0.056 |       | 6.0   | (7) |
|       |    |                            | Chloroform                                      | 67-66-3    | 0.046 | (2)   | 6.2   | (7) |
|       |    |                            | Carbon tetrachloride                            | 56-23-5    | 0.057 | (2)   | 6.2   | (7) |
|       |    |                            | Antimony  | 7440-36-0  | 0.60  | (2)   | NA    | (7) |
| K021  | NA | Table<br>CCWE in<br>268.41 | Toluene   | 108-88-3   | 0.080 | (2)   | 0.034 | (7) |
|       |    |                            | Acetophenone                                    | 96-86-2    | 0.010 |       | 10    | (7) |
|       |    |                            | Diphenylamine                                   | 22-39-4    | 0.52  | (2)   | NA    |     |
|       |    |                            | Diphenylnitrosamine                             | 86-30-6    | 0.40  | (2)   | NA    |     |
|       |    |                            | Sum of Diphenylamine<br>and Diphenylnitrosamine |            | NA    |       | 13    | (7) |
|       |    |                            | Phenol  | 108-95-2   | 0.030 |       | 12    | (7) |
|       |    |                            | Chromium (Total)                                | 7440-47-32 | 0.35  |       | NA    |     |
| K022  | NA | Table<br>CCWE in<br>268.41 |   |            |       |       |       |     |
|       |    |                            |   |            |       |       |       |     |
|       |    |                            |   |            |       |       |       |     |
|       |    |                            |   |            |       |       |       |     |
|       |    |                            |   |            |       |       |       |     |
|       |    |                            |   |            |       |       |       |     |
|       |    |                            |   |            |       |       |       |     |
|       |    |                            |   |            |       |       |       |     |
|       |    |                            |   |            |       |       |       |     |
|       |    |                            |   |            |       |       |       |     |

# ADMINISTRATIVE REGISTER - 902

|       |    |                            |   |            |       |      |     |
|-------|----|----------------------------|---|------------|-------|------|-----|
| *K023 | NA |                            | Nickel  | 7440-02-0  | 0.47  | NA   |     |
|       |    |                            | Phthalic anhydride<br>(measured as Phthalic acid) | 85-44-9    | 0.069 | 28   | (*) |
| *K024 | NA |                            | Phthalic anhydride<br>(measured as Phthalic acid) | 85-44-9    | 0.069 | 28   | (*) |
| *K028 | NA | Table<br>CCWE in<br>268.41 | 1,1-Dichloroethane<br>trans 1,2-                  | 75-34-3    | 0.069 | 6.0  | (*) |
|       |    |                            | Dichloroethane                                    |            | 0.054 | 6.0  | (*) |
|       |    |                            | Hexachlorobutadiene                               | 87-68-3    | 0.055 | 5.6  | (*) |
|       |    |                            | Hexachloroethane                                  | 67-72-1    | 0.055 | 28   | (*) |
|       |    |                            | Pentachloroethane                                 | 76-01-7    | NA    | 5.6  | (*) |
|       |    |                            | 1,1,1,2-Tetrachloroethane                         | 630-20-6   | 0.057 | 5.6  | (*) |
|       |    |                            | 1,1,2,2-Tetrachloroethane                         | 70-34-6    | 0.057 | 5.6  | (*) |
|       |    |                            | 1,1,1-Trichloroethane                             | 71-55-6    | 0.054 | 6.0  | (*) |
|       |    |                            | 1,1,2-Trichloroethane                             | 70-00-5    | 0.054 | 6.0  | (*) |
|       |    |                            | Tetrachloroethylene                               | 127-18-4   | 0.056 | 6.0  | (*) |
|       |    |                            | Cadmium   | 7440-43-0  | 6.4   | NA   |     |
|       |    |                            | Chromium (Total)                                  | 7440-47-32 | 0.35  | NA   |     |
|       |    |                            | Lead  | 7439-92-1  | 0.037 | NA   |     |
|       |    |                            | Nickel  | 7440-02-0  | 0.47  | NA   |     |
| K029  | NA | NA                         | Chloroform  | 67-66-3    | 0.046 | 6.0  | (*) |
|       |    |                            | 1,2-Dichloroethane                                | 107-06-2   | 0.21  | 6.0  | (*) |
|       |    |                            | 1,1-Dichloroethylene                              | 75-35-4    | 0.025 | 6.0  | (*) |
|       |    |                            | 1,1,1-Trichloroethane                             | 71-55-6    | 0.054 | 6.0  | (*) |
|       |    |                            | Vinyl chloride                                    | 75-01-4    | 0.27  | 6.0  | (*) |
| *K030 | NA |                            | o-Dichlorobenzene                                 | 95-50-1    | 0.088 | NA   |     |
|       |    |                            | p-Dichlorobenzene                                 | 106-46-7   | 0.09  | NA   |     |
|       |    |                            | Hexachlorobutadiene                               | 87-68-3    | 0.055 | 5.6  | (*) |
|       |    |                            | Hexachloroethane                                  | 67-72-1    | 0.055 | 28   | (*) |
|       |    |                            | Hexachloropropene                                 | 1888-71-7  | NA    | 10   | (*) |
|       |    |                            | Pentachlorobenzene                                | 608-03-5   | NA    | 28   | (*) |
|       |    |                            | Pentachloroethane                                 | 76-01-7    | NA    | 5.6  | (*) |
|       |    |                            | 1,2,4,5-Tetrachlorobenzene                        | 95-94-3    | 0.055 | 14   | (*) |
|       |    |                            | Tetrachloroethene                                 | 127-18-4   | 0.056 | 6.0  | (*) |
|       |    |                            | 1,2,4-Trichlorobenzene                            | 120-82-1   | 0.055 | 10   | (*) |
| *K030 | NA |                            | 2,4-Dichlorophenol                                | 120-83-2   | 0.044 | 0.38 | (*) |
|       |    |                            | 2,6-Dichlorophenol                                | 187-65-0   | 0.044 | 0.34 | (*) |
|       |    |                            | 2,4,5-Trichlorophenol                             | 95-95-4    | 0.18  | 8.2  | (*) |
|       |    |                            | 2,4,6-Trichlorophenol                             | 88-06-2    | 0.035 | 7.6  | (*) |

# ADMINISTRATIVE REGISTER - 903

|      |    |                            |                               |           |              |     |       |     |
|------|----|----------------------------|-------------------------------|-----------|--------------|-----|-------|-----|
|      |    |                            | Tetrachlorophenols<br>(Total) |           | NA           |     | 0.68  | (*) |
|      |    |                            | Pentachlorophenol             | 87-86-5   | 0.089        |     | 1.0   | (*) |
|      |    |                            | Tetrachloroethene             | 79-01-6   | 0.056        |     | 1.7   | (*) |
|      |    |                            | Hexachlorodibenzo-p-dioxins   |           | 0.00006<br>3 |     | 0.001 | (*) |
|      |    |                            | Hexachlorodibenzo-furans      |           | 0.00006<br>3 |     | 0.001 | (*) |
|      |    |                            | Pentachlorodibenzo-p-dioxins  |           | 0.00006<br>3 |     | 0.001 | (*) |
|      |    |                            | Pentachlorodibenzo-furans     |           | 0.00006<br>3 |     | 0.001 | (*) |
|      |    |                            | Tetrachlorodibenzo-p-dioxins  |           | 0.00006<br>3 |     | 0.001 | (*) |
|      |    |                            | Tetrachlorodibenzo-furans     |           | 0.00006<br>3 |     | 0.001 | (*) |
| K031 | NA | Table<br>CCWE in<br>268.41 | Aroclor                       | 7440-38-2 | 0.79         |     | NA    | (*) |
| K032 | NA | NA                         | Hexachlorocyclopentadiene     | 77-47-4   | 0.057        | (2) | 2.4   | (*) |
|      |    |                            | Chlordane                     | 57-74-9   | 0.0033       | (2) | 0.26  | (*) |
|      |    |                            | Heptachlor                    | 76-44-8   | 0.0012       | (2) | 0.066 | (*) |
|      |    |                            | Heptachlor-epoxide            | 1024-57-3 | 0.016        | (2) | 0.066 | (*) |
| K033 | NA | NA                         | Hexachlorocyclopentadiene     | 77-47-4   | 0.057        | (2) | 2.4   | (*) |
| K034 | NA | NA                         | Hexachlorocyclopentadiene     | 77-47-4   | 0.057        | (2) | 2.4   | (*) |
| K035 | NA | NA                         | Acenaphthene                  | 83-32-9   | NA           |     | 3.4   | (*) |
|      |    |                            | Anthracene                    | 120-12-7  | NA           |     | 3.4   | (*) |
|      |    |                            | Benz(a)anthracene             | 56-55-3   | 0.059        | (2) | 3.4   | (*) |
|      |    |                            | Benzo(a)pyrene                | 50-32-8   | NA           |     | 3.4   | (*) |
|      |    |                            | Chrysene                      | 218-01-9  | 0.059        | (2) | 3.4   | (*) |
|      |    |                            | Dibenz(a,h)anthracene         | 53-70-3   | NA           |     | 3.4   | (*) |
|      |    |                            | Fluoranthene                  | 206-44-0  | 0.068        | (2) | 3.4   | (*) |
|      |    |                            | Fluorene                      | 86-73-7   | NA           |     | 3.4   | (*) |
|      |    |                            | Indeno(1,2,3-cd)pyrene        | 103-39-5  | NA           |     | 3.4   | (*) |
|      |    |                            | Cresols (m and p isomers)     |           | 0.77         | (2) | NA    |     |
|      |    |                            | Naphthalene                   | 91-20-3   | 0.059        | (2) | 3.4   | (*) |
|      |    |                            | o-cresol                      | 95-48-7   | 0.11         | (2) | NA    |     |
|      |    |                            | Phenanthrene                  | 85-01-8   | 0.059        | (2) | 3.4   | (*) |
|      |    |                            | Phenol                        | 108-95-2  | 0.039        |     | NA    |     |
|      |    |                            | Pyrene                        | 129-00-0  | 0.067        | (2) | 8.2   | (*) |
| K036 | NA | NA                         | Disulfoton                    | 298-04-4  | 0.025        | (2) | 0.1   | (*) |
| K037 | NA | NA                         | Disulfoton                    | 298-04-4  | 0.025        | (2) | 0.1   | (*) |
|      |    |                            | Toluene                       | 108-88-3  | 0.080        | (2) | 28    | (*) |

# ADMINISTRATIVE REGISTER - 904

|      |    |                            |                              |           |        |     |       |     |
|------|----|----------------------------|------------------------------|-----------|--------|-----|-------|-----|
| K038 | NA | NA                         | Phorate                      | 208-02-2  | 0.025  | (2) | 0.1   | (*) |
| K040 | NA | NA                         | Phorate                      | 208-02-2  | 0.025  | (2) | 0.1   | (*) |
| K041 | NA | NA                         | Texaphene                    | 8001-35-1 | 0.0095 | (2) | 2.6   | (*) |
| K042 | NA | NA                         | 1,2,4,5-Tetrachlorobenzene   | 95-04-3   | 0.055  | (2) | 4.4   | (*) |
|      |    |                            | o-Dichlorobenzene            | 95-50-1   | 0.088  | (2) | 4.4   | (*) |
|      |    |                            | p-Dichlorobenzene            | 106-46-7  | 0.090  | (2) | 4.4   | (*) |
|      |    |                            | Pentachlorobenzene           | 608-03-6  | 0.055  | (2) | 4.4   | (*) |
|      |    |                            | 1,2,4-Trichlorobenzene       | 120-82-1  | 0.055  | (2) | 4.4   | (*) |
| K043 | NA | NA                         | 2,4-Dichlorophenol           | 120-83-2  | 0.040  | (*) | 0.28  | (*) |
|      |    |                            | 2,6-Dichlorophenol           | 87-65-0   | 0.013  | (*) | 0.24  | (*) |
|      |    |                            | 2,4,5-Trichlorophenol        | 95-05-4   | 0.016  | (*) | 8.2   | (*) |
|      |    |                            | 2,4,6-Trichlorophenol        | 88-06-2   | 0.030  | (*) | 7.6   | (*) |
|      |    |                            | Tetrachlorophenols (Total)   |           | 0.018  | (*) | 0.68  | (*) |
|      |    |                            | Pentachlorophenol            | 87-86-5   | 0.022  | (*) | 1.0   | (*) |
|      |    |                            | Tetrachloroethene            | 70-01-6   | 0.006  | (*) | 1.7   | (*) |
|      |    |                            | Hexachlorodibenzo-p-dioxine  |           | 0.001  | (*) | 0.001 | (*) |
|      |    |                            | Hexachlorodibenzo-furane     |           | 0.001  | (*) | 0.001 | (*) |
|      |    |                            | Pentachlorodibenzo-p-dioxine |           | 0.001  | (*) | 0.001 | (*) |
|      |    |                            | Pentachlorodibenzo-furane    |           | 0.001  | (*) | 0.001 | (*) |
|      |    |                            | Tetrachlorodibenzo-p-dioxine |           | 0.001  | (*) | 0.001 | (*) |
|      |    |                            | Tetrachlorodibenzo-furane    |           | 0.001  | (*) | 0.001 | (*) |
| K046 | NA | Table<br>GCWE in<br>268.41 | Lead                         | 7430-02-1 | 0.37   |     | NA    |     |
| K048 | NA | Table<br>GCWE in<br>268.41 | Benzene                      | 71-43-2   | 0.14   | (*) | 14    | (*) |
|      |    |                            | Benzo(a)pyrene               | 50-32-8   | 0.061  | (*) | 12    | (*) |
|      |    |                            | Bis(2-ethylhexyl) phthalate  | 117-81-7  | 0.28   | (*) | 7.3   | (*) |
|      |    |                            | Chrysene                     | 218-01-9  | 0.050  | (*) | 16    | (*) |
|      |    |                            | Di-n-butyl phthalate         | 84-74-2   | 0.057  | (*) | 3.6   | (*) |
|      |    |                            | Ethylbenzene                 | 100-41-4  | 0.057  | (*) | 14    | (*) |
|      |    |                            | Fluorene                     | 86-73-7   | 0.050  | (*) | NA    |     |
|      |    |                            | Naphthalene                  | 91-20-3   | 0.050  | (*) | 42    | (*) |
|      |    |                            | Phenanthrene                 | 85-01-8   | 0.050  | (*) | 34    | (*) |
|      |    |                            | Phenol                       | 108-05-2  | 0.030  | (*) | 3.6   | (*) |
|      |    |                            | Pyrene                       | 129-00-0  | 0.067  | (*) | 36    | (*) |
|      |    |                            | Toluene                      | 108-88-3  | 0.080  | (*) | 14    | (*) |

# ADMINISTRATIVE REGISTER - 905

|       |    |                            |                                |            |       |   |     |   |
|-------|----|----------------------------|--------------------------------|------------|-------|---|-----|---|
| *K049 | NA | Table<br>CCWE in<br>268.41 | Xylene(s)                      |            | 0.32  | † | 22  | † |
|       |    |                            | Cyanides (Total)               | 57-12-5    | 0.028 | † | 1.8 | † |
|       |    |                            | Chromium (Total)               | 7440-47-32 | 0.2   |   | NA  |   |
|       |    |                            | Lead                           | 7439-92-1  | 0.037 |   | NA  |   |
|       |    |                            | Anthracene                     | 120-12-7   | 0.050 | † | 28  | † |
|       |    |                            | Benzene                        | 71-43-2    | 0.14  | † | 14  | † |
|       |    |                            | Benzo(a)pyrene                 | 117-81-7   | 0.061 | † | 12  | † |
|       |    |                            | Bis(2-ethylhexyl)<br>phthalate | 75-15-0    | 0.28  | † | 7.3 | † |
|       |    |                            | Carbon disulfide               | 75-15-0    | 0.014 | † | NA  |   |
|       |    |                            | Chrysene                       | 2218-01-0  | 0.050 | † | 15  | † |
|       |    |                            | 2,4-Dimethyl phenol            | 105-67-0   | 0.036 | † | NA  |   |
|       |    |                            | Ethylbenzene                   | 100-41-4   | 0.057 | † | 14  | † |
|       |    |                            | Naphthalene                    | 91-20-3    | 0.050 | † | 42  | † |
|       |    |                            | Phenanthrene                   | 85-01-8    | 0.050 | † | 34  | † |
|       |    |                            | Phenol                         | 108-95-2   | 0.030 | † | 3.6 | † |
|       |    |                            | Pyrene                         | 129-00-0   | 0.067 | † | 36  | † |
|       |    |                            | Toluene                        | 108-88-3   | 0.08  | † | 14  | † |
|       |    |                            | Xylene(s)                      |            | 0.32  | † | 22  | † |
|       |    |                            | Cyanides (Total)               | 56-12-5    | 0.028 | † | 1.8 | † |
|       |    |                            | Chromium (Total)               | 7440-47-32 | 0.2   |   | NA  |   |
| *K050 | NA | Table<br>CCWE in<br>268.41 | Lead                           | 7439-92-1  | 0.037 |   | NA  |   |
|       |    |                            | Benzo(a)pyrene                 | 50-32-8    | 0.061 | † | 12  | † |
|       |    |                            | Phenol                         | 108-95-2   | 0.030 | † | 3.6 | † |
|       |    |                            | Cyanides (Total)               | 57-12-5    | 0.028 | † | 1.8 | † |
|       |    |                            | Chromium (Total)               | 7440-47-32 | 0.2   |   | NA  |   |
|       |    |                            | Lead                           | 7439-20-1  | 0.037 |   | NA  |   |
|       |    |                            | Acenaphthene                   | 83-32-9    | 0.050 | † | NA  |   |
| *K051 | NA | Table<br>CCWE in<br>268.41 | Anthracene                     | 120-12-7   | 0.050 | † | 28  | † |
|       |    |                            | Benzene                        | 71-43-2    | 0.14  | † | 14  | † |
|       |    |                            | Benzo(a)anthracene             | 50-32-8    | 0.050 | † | 20  | † |
|       |    |                            | Benzo(a)pyrene                 | 117-81-7   | 0.061 | † | 12  | † |
|       |    |                            | Bis(2-ethylhexyl)<br>phthalate | 75-15-0    | 0.28  | † | 7.3 | † |
|       |    |                            | Chrysene                       | 2218-01-0  | 0.050 | † | 15  | † |
|       |    |                            | Di-n-butyl-phthalate           | 105-67-0   | 0.057 | † | 3.6 | † |
|       |    |                            | Ethylbenzene                   | 100-41-4   | 0.057 | † | 14  | † |
|       |    |                            | Fluorene                       | 86-73-7    | 0.050 | † | NA  |   |
|       |    |                            | Naphthalene                    | 91-20-3    | 0.050 | † | 42  | † |

# ADMINISTRATIVE REGISTER - 906

|      |    |  |                    |            |       |       |       |     |
|------|----|--|--------------------|------------|-------|-------|-------|-----|
| K062 | NA | Table<br>CCWE in<br>268.41                             | Phenanthrene       | 85-01-8    | 0.059 | (*)   | 34    | (*) |
|      |    |  | Phenol             | 108-05-2   | 0.039 | (*)   | 3.6   | (*) |
|      |    |  | Pyrene             | 129-00-0   | 0.067 | (*)   | 36    | (*) |
|      |    |  | Toluene            | 108-88-3   | 0.08  | (*)   | 14    | (*) |
|      |    |  | Xylene(s)          |            | 0.32  | (*)   | 22    | (*) |
|      |    |  | Cyanides (Total)   | 57-12-5    | 0.028 | (*)   | 1.8   | (*) |
|      |    |  | Chromium (Total)   | 7440-47-32 | 0.2   |       | NA    |     |
|      |    |  | Lead               | 7439-02-1  | 0.037 |       | NA    |     |
|      |    |  | Benzene            | 71-43-2    | 0.14  | (*)   | 14    | (*) |
|      |    |  | Benzo(a)pyrene     | 50-32-8    | 0.061 | (*)   | 12    | (*) |
|      |    |  | o-Cresol           | 95-48-7    | 0.11  | (*)   | 6.2   | (*) |
|      |    |  | p-Cresol           | 106-44-5   | 0.77  | (*)   | 6.2   | (*) |
|      |    |  | 2,4-Dimethylphenol | 105-67-0   | 0.036 | (*)   | NA    |     |
|      |    |  | Ethylbenzene       | 100-41-4   | 0.057 | (*)   | 14    | (*) |
|      |    |  | Naphthalene        | 91-20-3    | 0.059 | (*)   | 42    | (*) |
|      |    |  | Phenanthrene       | 85-01-8    | 0.059 | (*)   | 34    | (*) |
|      |    |  | Phenol             | 108-05-2   | 0.039 | (*)   | 3.6   | (*) |
|      |    |  | Toluene            | 108-88-3   | 0.08  | (*)   | 14    | (*) |
|      |    |  | Xylenes            |            | 0.32  | (*)   | 22    | (*) |
|      |    |  | Cyanides (Total)   | 56-12-5    | 0.028 | (*)   | 1.8   | (*) |
| K060 | NA | NA   | Chromium (Total)   | 7440-47-32 | 0.2   |       | NA    |     |
|      |    |  | Lead               | 7439-02-1  | 0.037 |       | NA    |     |
|      |    |  | Benzene            | 71-43-2    | 0.17  | (1,2) | 0.071 | (*) |
|      |    |  | Benzo(a)pyrene     | 50-32-8    | 0.035 | (1,2) | 3.6   | (*) |
|      |    |  | Naphthalene        | 91-20-3    | 0.028 | (1,2) | 3.4   | (*) |
|      |    |  | Phenol             | 108-05-2   | 0.042 | (1,2) | 3.4   | (*) |
|      |    |  | Cyanides (Total)   | 57-12-5    | 1.0   |       | 1.2   |     |
| K061 | NA | Table<br>CCWE in<br>268.41                             | Cadmium            | 7440-43-0  | 1.61  |       | NA    |     |
|      |    |  | Chromium (Total)   | 7440-47-32 | 0.82  |       | NA    |     |
|      |    |  | Lead               | 7439-02-1  | 0.51  |       | NA    |     |
|      |    |  | Nickel             | 7440-02-0  | 0.44  |       | NA    |     |
| K062 | NA | Table<br>CCWE in<br>268.41                             | Chromium (Total)   | 7440-47-32 | 0.32  |       | NA    |     |
|      |    |  | Lead               | 7439-02-1  | 0.04  |       | NA    |     |
|      |    |  | Nickel             | 7440-02-0  | 0.44  |       | NA    |     |
| K060 | NA | Table<br>CCWE in<br>268.41 and<br>Table 2 in<br>268.42 | Cadmium            | 7440-43-0  | 1.6   |       | NA    |     |



# ADMINISTRATIVE REGISTER - 907

|              |    |                            |  |            |       |     |      |     |
|--------------|----|----------------------------|--|------------|-------|-----|------|-----|
| K074         | NA | Table<br>CCWE in<br>268.44 | Lead   | 7439-02-1  | 0.51  |     | NA   |     |
|              |    |                            | Mercury  | 7439-07-6  | 0.030 |     | NA   |     |
| K073         | NA | NA                         | Carbon tetrachloride                                 | 56-23-5    | 0.057 | (2) | 6.2  | (*) |
|              |    |                            | Chloroform   | 67-66-3    | 0.046 | (2) | 6.2  | (*) |
|              |    |                            | Hexachloroethane                                     | 67-72-1    | 0.055 | (2) | 30   | (*) |
|              |    |                            | Tetrachloroethane                                    | 127-18-4   | 0.056 | (2) | 6.2  | (*) |
|              |    |                            | 1,1,1 Trichloroethane                                | 71-55-6    | 0.054 | (2) | 6.2  | (*) |
|              |    |                            | Benzene  | 71-43-2    | 0.14  | (2) | 6.6  | (*) |
| K083         | NA | Table<br>CCWE in<br>268.44 | Aniline  | 62-53-3    | 0.91  |     | 14   | (*) |
|              |    |                            | Diphenylamine  | 22-30-4    | 0.52  | (2) | NA   |     |
|              |    |                            | Diphenylnitrosamine                                  | 86-30-6    | 0.40  | (2) | NA   |     |
|              |    |                            | Sum of Diphenylamine<br>and Diphenylnitros-<br>amine |            | NA    |     | 14   | (*) |
|              |    |                            | Nitrobenzene   | 98-05-3    | 0.068 | (2) | 14   | (*) |
|              |    |                            | Phenol   | 108-05-2   | 0.030 |     | 5.6  | (*) |
|              |    |                            | Cyclohexanone  | 108-04-1   | 0.36  |     | NA   |     |
|              |    |                            | Nickel   | 7440-02-0  | 0.47  |     | NA   |     |
|              |    |                            | Arsenic  | 7440-38-2  | 0.70  |     | NA   |     |
|              |    |                            | Benzene  | 71-43-2    | 0.14  | (2) | 4.4  | (*) |
| K084<br>K085 | NA | NA                         | Chlorobenzene  | 108-90-7   | 0.057 | (2) | 4.4  | (*) |
|              |    |                            | o-Dichlorobenzene                                    | 95-50-1    | 0.088 | (2) | 4.4  | (*) |
|              |    |                            | m-Dichlorobenzene                                    | 541-73-1   | 0.036 | (2) | 4.4  | (*) |
|              |    |                            | p-Dichlorobenzene                                    | 106-46-7   | 0.090 | (2) | 4.4  | (*) |
|              |    |                            | 1,2,4 Trichlorobenzene                               | 120-82-1   | 0.055 | (2) | 4.4  | (*) |
|              |    |                            | 1,2,4,5-Tetrachloro-<br>benzene                      | 95-04-3    | 0.055 | (2) | 4.4  | (*) |
|              |    |                            | Pentachlorobenzene                                   | 608-03-5   | 0.055 | (2) | 4.4  | (*) |
|              |    |                            | Hexachlorobenzene                                    | 118-74-1   | 0.055 | (2) | 4.4  | (*) |
|              |    |                            | Aroclor 1016   | 12674-11-2 | 0.013 | (2) | 0.02 | (*) |
|              |    |                            | Aroclor 1221   | 11104-28-2 | 0.014 | (2) | 0.02 | (*) |
|              |    |                            | Aroclor 1232   | 11141-16-5 | 0.013 | (2) | 0.02 | (*) |
|              |    |                            | Aroclor 1242   | 53460-21-0 | 0.017 | (2) | 0.02 | (*) |
|              |    |                            | Aroclor 1248   | 12672-20-6 | 0.013 | (2) | 0.02 | (*) |
|              |    |                            | Aroclor 1254   | 11097-60-1 | 0.014 | (2) | 1.8  | (*) |
|              |    |                            | Aroclor 1260   | 11096-82-5 | 0.014 | (2) | 1.8  | (*) |
|              |    |                            | Acetone  | 67-64-1    | 0.28  |     | 160  | (*) |
|              |    |                            | Acetophenone   | 96-86-2    | 0.010 |     | 9.7  | (*) |
| K086         | NA | Table<br>CCWE in<br>268.44 |  |            |       |     |      |     |

# ADMINISTRATIVE REGISTER - 908

|       |    |                            |  |            |        |     |       |     |
|-------|----|----------------------------|--|------------|--------|-----|-------|-----|
| *K087 | NA | Table<br>CCWE in<br>268.44 | Bis(2-ethylhexyl)<br>phthalate                       | 117-81-7   | 0.28   | (2) | 28    | (*) |
|       |    |                            | n-Butyl alcohol                                      | 71-36-3    | 5.6    |     | 2.6   | (*) |
|       |    |                            | Butylbenzylphthalate                                 | 85-68-7    | 0.017  | (2) | 7.0   | (*) |
|       |    |                            | Cyclohexanone  | 108-04-1   | 0.36   |     | NA    |     |
|       |    |                            | 1,2-Dichlorobenzene                                  | 95-50-1    | 0.088  |     | 6.2   | (*) |
|       |    |                            | Diethyl-phthalate                                    | 84-66-2    | 0.20   | (2) | 28    | (*) |
|       |    |                            | Dimethyl-phthalate                                   | 131-11-3   | 0.047  | (2) | 28    | (*) |
|       |    |                            | Di-n-butyl-phthalate                                 | 84-74-2    | 0.057  | (2) | 28    | (*) |
|       |    |                            | Di-n-octyl-phthalate                                 | 117-84-0   | 0.017  | (2) | 28    | (*) |
|       |    |                            | Ethyl acetate  | 141-78-6   | 0.34   | (2) | 33    | (*) |
|       |    |                            | Ethylbenzene   | 100-41-4   | 0.057  | (2) | 6.0   | (*) |
|       |    |                            | Methanol   | 67-56-1    | 5.6    | (2) | NA    |     |
|       |    |                            | Methyl-isobutyl ketone                               | 108-10-1   | 0.14   |     | 33    | (*) |
|       |    |                            | Methyl-ethyl ketone                                  | 78-03-3    | 0.28   |     | 36    | (*) |
|       |    |                            | Methylene chloride                                   | 75-09-2    | 0.080  | (2) | 33    | (*) |
|       |    |                            | Naphthalene  | 91-20-3    | 0.050  | (2) | 3.4   | (*) |
|       |    |                            | Nitrobenzene   | 98-05-3    | 0.068  | (2) | 14    | (*) |
|       |    |                            | Toluene  | 108-88-3   | 0.080  | (2) | 28    | (*) |
|       |    |                            | 1,1,1-Trichloroethane                                | 71-55-6    | 0.054  | (2) | 5.6   | (*) |
|       |    |                            | Trichloroethylene                                    | 79-01-6    | 0.054  | (2) | 5.6   | (*) |
|       |    |                            | Xylenes (Total)                                      |            | 0.32   | (2) | 28    | (*) |
|       |    |                            | Cyanides (Total)                                     | 57-12-5    | 1.0    |     | 1.5   | (*) |
|       |    |                            | Chromium (Total)                                     | 7440-47-32 | 0.32   |     | NA    |     |
|       |    |                            | Lead   | 7439-92-1  | 0.037  |     | NA    |     |
|       |    |                            | Acenaphthalene                                       | 208-06-8   | 0.050  | (*) | 3.4   |     |
|       |    |                            | Benzene  | 71-43-2    | 0.14   | (*) | 0.074 | (*) |
|       |    |                            | Chrysene   | 218-01-0   | 0.050  | (*) | 3.4   | (*) |
|       |    |                            | Fluoranthene   | 206-44-0   | 0.068  | (*) | 3.4   | (*) |
|       |    |                            | Indeno (1,2,3-cd) py-<br>rene                        | 103-30-5   | 0.0055 | (*) | 3.4   | (*) |
|       |    |                            | Naphthalene  | 91-20-3    | 0.050  | (*) | 3.4   | (*) |
|       |    |                            | Phenanthrene   | 85-01-8    | 0.050  | (*) | 3.4   | (*) |
|       |    |                            | Toluene  | 108-88-3   | 0.08   | (*) | 0.65  | (*) |
|       |    |                            | Xylenes  |            | 0.32   | (*) | 0.07  | (*) |
|       |    |                            | Lead   | 7439-92-1  | 0.037  |     | NA    |     |
| *K093 | NA |                            | Phthalic anhydride<br>(measured as Phthalic<br>acid) | 85-44-0    | 0.060  |     | 28    | (*) |
| *K094 | NA |                            | Phthalic anhydride<br>(measured as Phthalic<br>acid) | 85-44-0    | 0.060  |     | 28    | (*) |

# ADMINISTRATIVE REGISTER - 909

|      |    |                            |                                |            |        |     |       |     |
|------|----|----------------------------|--------------------------------|------------|--------|-----|-------|-----|
| K095 | NA | NA                         | 1,1,1,2-Tetrachloroethane      | 630-20-6   | 0.067  |     | 5.6   | (*) |
|      |    |                            | 1,1,2,2-Tetrachloroethane      | 70-34-6    | 0.067  |     | 5.6   | (*) |
|      |    |                            | Tetrachloroethene              | 127-18-4   | 0.066  |     | 6.0   | (*) |
|      |    |                            | 1,1,2-Trichloroethane          | 70-00-5    | 0.054  |     | 6.0   | (*) |
|      |    |                            | Trichloroethylene              | 70-01-6    | 0.054  |     | 5.6   | (*) |
|      |    |                            | Hexachloroethane               | 67-72-1    | 0.055  |     | 28    | (*) |
|      |    |                            | Pentachloroethane              | 76-01-7    | 0.055  |     | 5.6   | (*) |
| K096 | NA | NA                         | 1,1,1,2-Tetrachloroethane      | 630-20-6   | 0.067  |     | 5.6   | (*) |
|      |    |                            | 1,1,2,2-Tetrachloroethane      | 70-34-6    | 0.067  |     | 5.6   | (*) |
|      |    |                            | Tetrachloroethene              | 127-18-4   | 0.056  |     | 6.0   | (*) |
|      |    |                            | 1,1,2-Trichloroethane          | 70-00-5    | 0.054  |     | 6.0   | (*) |
|      |    |                            | Trichloroethene                | 70-01-6    | 0.054  |     | 5.6   | (*) |
|      |    |                            | Trichloroethylene              | 70-01-6    | 0.054  |     | 5.6   | (*) |
|      |    |                            | 1,3-Dichlorobenzene            | 541-73-1   | 0.036  |     | 5.6   | (*) |
|      |    |                            | Pentachloroethane              | 76-01-7    | 0.055  |     | 5.6   | (*) |
|      |    |                            | 1,2,4-Trichlorobenzene         | 120-82-1   | 0.055  |     | 10    | (*) |
| K097 | NA | NA                         | Hexachlorocyclopentadiene      | 77-47-4    | 0.057  | (2) | 2.4   | (*) |
|      |    |                            | Chlordane                      | 57-74-0    | 0.0033 | (2) | 0.26  | (*) |
|      |    |                            | Heptachlor                     | 76-44-8    | 0.0012 | (2) | 0.066 | (*) |
|      |    |                            | Heptachlor-epoxide             | 1024-57-3  | 0.016  | (2) | 0.066 | (*) |
| K098 | NA | NA                         | Texaphene                      | 8001-35-1  | 0.0005 | (2) | 2.6   | (*) |
| K099 | NA | NA                         | 2,4-Dichlorophenoxyacetic acid | 94-75-7    | 1.0    | (*) | 1.0   | (*) |
|      |    |                            | Hexachlorodibenzo-p-dioxine    |            | 0.001  | (*) | 0.001 | (*) |
|      |    |                            | Hexachlorodibenzo-furane       |            | 0.001  | (*) | 0.001 | (*) |
|      |    |                            | Pentachlorodibenzo-p-dioxine   |            | 0.001  | (*) | 0.001 | (*) |
|      |    |                            | Pentachlorodibenzo-furane      |            | 0.001  | (*) | 0.001 | (*) |
|      |    |                            | Tetrachlorodibenzo-p-dioxine   |            | 0.001  | (*) | 0.001 | (*) |
|      |    |                            | Tetrachlorodibenzo-furane      |            | 0.001  | (*) | 0.001 | (*) |
| K100 | NA | Table<br>CGWE in<br>269.41 | Cadmium                        | 7440-43-0  | 1.6    |     | NA    |     |
|      |    |                            | Chromium (Total)               | 7440-47-32 | 0.32   |     | NA    |     |
|      |    |                            | Lead                           | 7439-92-1  | 0.51   |     | NA    |     |
| K101 | NA | NA                         | o-Nitroaniline                 |            | 0.27   | (*) | 14    | (*) |
|      |    |                            | Arsenic                        | 7440-38-2  | 0.70   |     | NA    |     |

# ADMINISTRATIVE REGISTER - 910

|      |    |  |                       |           |       |     |     |     |
|------|----|--|-----------------------|-----------|-------|-----|-----|-----|
| K102 | NA | Table<br>CCWE in<br>268.41                             | Cadmium               | 7440-43-0 | 0.24  | (*) | NA  | (*) |
|      |    |  | Lead                  | 7439-02-1 | 0.17  |     | NA  |     |
|      |    |  | Mercury               | 7439-07-6 | 0.082 |     | NA  |     |
|      |    |  | o-Nitrophenol         |           | 0.028 |     | 13  |     |
|      |    |  | Arsenic               | 7440-38-2 | 0.70  |     | NA  |     |
|      |    |  | Cadmium               | 7440-43-0 | 0.24  |     | NA  |     |
| K103 | NA | NA   | Lead                  | 7439-02-1 | 0.17  |     | NA  |     |
|      |    |  | Mercury               | 7439-07-6 | 0.082 |     | NA  |     |
|      |    |  | Aniline               | 62-53-3   | 4.5   |     | 5.6 |     |
|      |    |  | Benzene               | 71-43-2   | 0.15  |     | 6.0 |     |
|      |    |  | 2,4-Dinitrophenol     | 51-28-5   | 0.61  |     | 5.6 |     |
|      |    |  | Nitrobenzene          | 98-05-3   | 0.073 |     | 5.6 |     |
| K104 | NA | NA   | Phenol                | 108-05-2  | 1.4   |     | 5.6 |     |
|      |    |  | Aniline               | 62-53-3   | 4.5   |     | 5.6 |     |
|      |    |  | Benzene               | 71-43-2   | 0.15  |     | 6.0 |     |
|      |    |  | 2,4-Dinitrophenol     | 51-28-5   | 0.61  |     | 5.6 |     |
|      |    |  | Nitrobenzene          | 98-05-3   | 0.073 |     | 5.6 |     |
|      |    |  | Phenol                | 108-05-2  | 1.4   |     | 5.6 |     |
| K105 | NA | NA   | Cyanides (Total)      | 57-12-5   | 2.7   |     | 1.8 |     |
|      |    |  | Benzene               | 71-43-2   | 0.14  |     | 4.4 |     |
|      |    |  | Chlorobenzene         | 108-00-7  | 0.057 |     | 4.4 |     |
|      |    |  | o-Dichlorobenzene     | 95-50-1   | 0.088 |     | 4.4 |     |
|      |    |  | p-Dichlorobenzene     | 106-46-7  | 0.090 |     | 4.4 |     |
|      |    |  | 2,4,5-Trichlorophenol | 95-95-4   | 0.18  |     | 4.4 |     |
| K106 | NA | Table<br>CCWE in<br>268.41 and<br>Table 2 in<br>268.42 | 2,4,6-Trichlorophenol | 88-06-2   | 0.035 |     | 4.4 |     |
|      |    |  | 2-Chlorophenol        | 95-57-8   | 0.044 |     | 4.4 |     |
|      |    |  | Phenol                | 108-05-2  | 0.039 |     | 4.4 |     |
|      |    |  | Mercury               | 7439-07-6 | 0.039 |     | NA  |     |
|      |    |  | 2,4-Dinitrotoluene    | 121-14-2  | 0.32  |     | 140 |     |
|      |    |  | 2,6-Dinitrotoluene    | 606-20-2  | 0.55  |     | 28  |     |
| K114 | NA | Table<br>CCWE in<br>268.41                             | Nickel                | 7440-02-0 | 0.47  |     | NA  |     |
|      |    |  | Ethylene dibromide    | 106-93-4  | 0.028 |     | 15  |     |
|      |    |  | Methyl bromide        | 74-83-0   | 0.11  |     | 15  |     |
| K115 | NA |  | Chloroform            | 67-66-3   | 0.046 |     | 5.6 |     |
|      |    |  | Ethylene dibromide    | 106-93-4  | 0.028 |     | 15  |     |
|      |    |  | Methyl bromide        | 74-83-0   | 0.11  |     | 15  |     |
| K116 | NA |  | Chloroform            | 67-66-3   | 0.046 |     | 5.6 |     |
|      |    |  | Ethylene dibromide    | 106-93-4  | 0.028 |     | 15  |     |

# ADMINISTRATIVE REGISTER - 911

|       |  |                            |  |            |        |     |       |     |
|-------|--|----------------------------|--|------------|--------|-----|-------|-----|
| *K131 | NA                                       |                            | Methyl-bromide                           | 74-83-0    | 0.11   |     | 15    | (*) |
| *K132 | NA                                       |                            | Methyl-bromide                           | 74-83-0    | 0.11   |     | 15    | (*) |
| *K136 | NA                                       |                            | Ethylene-dibromide                       | 106-93-4   | 0.028  |     | 15    | (*) |
|       |  |                            | Methyl-bromide                           | 74-83-0    | 0.11   |     | 15    | (*) |
|       |  |                            | Chloroform                               | 67-66-3    | 0.046  |     | 5.6   | (*) |
| P004  | Aldrin                                   | NA                         | Aldrin                                   | 300-00-2   | 0.021  | (2) | 0.066 | (*) |
| P010  | Arsenic acid                             | Table<br>CCWE in<br>268.41 | Arsenic                                  | 7440-38-2  | 0.70   |     | NA    |     |
| P011  | Arsenic pentoxide                        | Table<br>CCWE in<br>268.41 | Arsenic                                  | 7440-38-2  | 0.70   |     | NA    |     |
| P012  | Arsenic trioxide                         | Table<br>CCWE in<br>268.41 | Arsenic                                  | 7440-38-2  | 0.70   |     | NA    |     |
| P013  | Barium cyanide                           | Table<br>CCWE in<br>268.41 | Cyanides (Total)                         | 57-12-5    | 1.0    |     | 110   |     |
|       |  |                            | Cyanides (Amenable)                      | 57-12-5    | 0.1    |     | 0.1   |     |
| P020  | 2-sec-Butyl 4,6-dinitro-phenol (Dinoseb) | NA                         | 2-sec-Butyl 4,6-dinitro-phenol (Dinoseb) | 88-85-7    | 0.066  |     | 2.5   | (*) |
| P021  | Calcium cyanide                          | NA                         | Cyanides (Total)                         | 57-12-5    | 1.0    |     | 110   |     |
|       |  |                            | Cyanides (Amenable)                      | 57-12-5    | 0.1    |     | 0.1   |     |
| P022  | Carbon disulfide                         | Table 2 in<br>268.42       | Carbon disulfide                         | 75-15-0    | 0.014  |     | NA    |     |
| P024  | p-Chloroaniline                          | NA                         | p-Chloroaniline                          | 106-47-8   | 0.46   |     | 16    | (*) |
| P029  | Copper cyanide                           | NA                         | Cyanides (Total)                         | 57-12-5    | 1.0    |     | 110   |     |
|       |  |                            | Cyanides (Amenable)                      | 57-12-5    | 0.1    |     | 0.1   |     |
| P030  | Cyanides (soluble salts and complexes)   | NA                         | Cyanides (Total)                         | 57-12-5    | 1.0    |     | 110   |     |
|       |  |                            | Cyanides (Amenable)                      | 57-12-5    | 0.1    |     | 0.1   |     |
| P036  | Dichlorophenylarsine                     | Table<br>CCWE in<br>268.41 | Arsenic                                  | 7440-38-2  | 0.70   |     | NA    |     |
| P037  | Dieldrin                                 | NA                         | Dieldrin                                 | 60-57-1    | 0.017  | (2) | 0.13  | (*) |
| P038  | Diethylarsine                            | Table<br>CCWE in<br>268.41 | Arsenic                                  | 7440-38-2  | 0.70   |     | NA    |     |
| P039  | Disulfoton                               | NA                         | Disulfoton                               | 298-04-4   | 0.017  |     | 0.1   | (*) |
| P047  | 4,6-Dinitro o-cresol                     | NA                         | 4,6-Dinitro o-cresol                     | 534-52-1   | 0.28   | (2) | 160   | (*) |
| P048  | 2,4-Dinitrophenol                        | NA                         | 2,4-Dinitrophenol                        | 51-28-5    | 0.12   | (2) | 160   | (*) |
| P050  | Endosulfan                               | NA                         | Endosulfan-I                             | 930-08-8   | 0.023  | (2) | 0.066 | (*) |
|       |  |                            | Endosulfan-II                            | 33213-6-5  | 0.020  | (2) | 0.13  | (*) |
|       |  |                            | Endosulfan-sulfate                       | 1031-07-8  | 0.020  | (2) | 0.13  | (*) |
| P051  | Endrin                                   | NA                         | Endrin                                   | 72-20-8    | 0.0028 | (2) | 0.13  | (*) |
|       |  |                            | Endrin aldehyde                          | 7421-83-4  | 0.025  | (2) | 0.13  | (*) |
| P056  | Fluoride                                 | Table 2 in<br>268.42       | Fluoride                                 | 16964-48-8 | 35     |     | NA    |     |

# ADMINISTRATIVE REGISTER - 912

|      |                                     |  |                                     |           |        |     |       |     |
|------|-------------------------------------|--|-------------------------------------|-----------|--------|-----|-------|-----|
| P060 | Heptachlor                          | NA   | Heptachlor                          | 76-44-8   | 0.0012 | (2) | 0.066 | (*) |
|      |                                     |  | Heptachlor epoxide                  | 1024-57-3 | 0.016  | (2) | 0.066 | (*) |
| P060 | Isodrin                             | NA   | Isodrin                             | 466-73-6  | 0.021  | (2) | 0.066 | (*) |
| P063 | Hydrogen cyanide                    | NA   | Cyanides (Total)                    | 57-12-5   | 1.0    |     | 110   |     |
|      |                                     |  | Cyanides (Amenable)                 | 57-12-5   | 0.10   |     | 0.1   |     |
| P065 | Mercury fulminate                   | Table<br>CCWE in<br>268.41 and<br>Table 2 in<br>268.42 | Mercury                             | 7439-97-6 | 0.030  |     | NA    |     |
| P071 | Methyl parathion                    | NA   | Methyl parathion                    | 298-00-0  | 0.025  |     | 0.1   | (*) |
| P073 | Nickel carbonyl                     | Table<br>CCWE in<br>268.41                             | Nickel                              | 7440-02-0 | 0.44   |     | NA    |     |
| P074 | Nickel cyanide                      | Table<br>CCWE in<br>268.41                             | Cyanides (Total)                    | 57-12-5   | 1.0    |     | 110   |     |
|      |                                     |  | Cyanides (Amenable)                 | 57-12-5   | 0.10   |     | 0.1   |     |
|      |                                     |  | Nickel                              | 7440-02-0 | 0.44   |     | NA    |     |
| P077 | p-Nitroaniline                      | NA   | p-Nitroaniline                      | 100-01-6  | 0.028  | (2) | 28    | (*) |
| P082 | N-Nitrosedimethylamine              | Table 2 in<br>268.42                                   | N-Nitrosedimethyl-<br>amine         | 62-75-0   | 0.40   | (2) | NA    |     |
| P080 | Parathion                           | NA   | Parathion                           | 56-38-2   | 0.025  |     | 0.1   | (*) |
| P092 | Phenylmercury acetate               | Table<br>CCWE in<br>268.41 and<br>Table 2 in<br>268.42 | Mercury                             | 7439-97-6 | 0.030  |     | NA    |     |
| P094 | Phorate                             | NA   | Phorate                             | 298-02-2  | 0.025  |     | 0.1   | (*) |
| P097 | Famphur                             | NA   | Famphur                             | 52-85-7   | 0.025  |     | 0.1   | (*) |
| P098 | Potassium cyanide                   | NA   | Cyanides (Total)                    | 57-12-5   | 1.0    |     | 110   |     |
|      |                                     |  | Cyanides (Amenable)                 | 57-12-5   | 0.10   |     | 0.1   |     |
| P099 | Potassium silver cyanide            | Table<br>CCWE in<br>268.41                             | Cyanides (Total)                    | 57-12-5   | 1.0    |     | 110   |     |
|      |                                     |  | Cyanides (Amenable)                 | 57-12-5   | 0.1    |     | 0.1   |     |
|      |                                     |  | Silver                              | 7440-22-4 | 0.20   |     | NA    |     |
| P101 | Ethyl cyanide (Propane-<br>nitrile) | NA   | Ethyl cyanide (Pro-<br>panenitrile) | 107-12-0  | 0.24   | (2) | 360   | (*) |
| P103 | Selenourea                          | Table<br>CCWE in<br>268.41                             | Selenium                            | 7782-49-2 | 1.0    | (2) | NA    |     |
| P104 | Silver cyanide                      | Table<br>CCWE in<br>268.41                             | Cyanides (Total)                    | 57-12-5   | 1.0    |     | 110   |     |
|      |                                     |  | Cyanides (Amenable)                 | 57-12-5   | 0.10   |     | 0.1   |     |
|      |                                     |  | Silver                              | 7440-22-4 | 0.20   |     | NA    |     |
| P106 | Sodium cyanide                      | NA   | Cyanides (Total)                    | 57-12-5   | 1.0    |     | 110   |     |
|      |                                     |  | Cyanides (Amenable)                 | 57-12-5   | 0.10   |     | 0.1   |     |

# ADMINISTRATIVE REGISTER - 913

|      |                                  |  |                                    |            |        |     |      |     |
|------|----------------------------------|--|------------------------------------|------------|--------|-----|------|-----|
| P110 | Tetraethyl lead                  | Table<br>CCWE in<br>268.41 and<br>Table 2 in<br>268.42 | Lead                               | 7439-92-1  | 0.040  |     | NA   |     |
| P113 | Thallio-oxide                    | Table 2 in<br>268.42                                   | Thallium                           | 7440-28-0  | 0.14   | (2) | NA   |     |
| P114 | Thallium-selenite                | Table<br>CCWE in<br>268.41                             | Selenium                           | 7782-40-2  | 1.0    |     | NA   |     |
| P115 | Thallium(I)sulfate               | Table 2 in<br>268.42                                   | Thallium                           | 7440-28-0  | 0.14   | (2) | NA   |     |
| P119 | Ammonia-vandate                  | Table 2 in<br>268.42                                   | Vanadium                           | 7440-62-2  | 28     | (2) | NA   |     |
| P120 | Vanadium-pentoxide               | Table 2 in<br>268.42                                   | Vanadium                           | 7440-62-2  | 28     | (2) | NA   |     |
| P121 | Zinc-cyanide                     | NA   | Cyanides-Total)                    | 57-12-5    | 1.0    |     | 110  |     |
|      |                                  |  | Cyanides (Amenable)                | 57-12-5    | 0.10   |     | 9.1  |     |
| P123 | Toxaphene                        | NA   | Toxaphene                          | 8001-35-1  | 0.0005 | (2) | 1.3  | (*) |
| U002 | Acetone                          | NA   | Acetone                            | 67-64-1    | 0.28   |     | 160  | (*) |
| U003 | Acetonitrile                     | Table 2 in<br>268.42                                   | Acetonitrile                       | 75-05-8    | 0.17   |     | NA   |     |
| U004 | Acetophenone                     | NA   | Acetophenone                       | 98-96-2    | 0.010  | (*) | 9.7  | (*) |
| U005 | 2-Acetylaminofluorene            | NA   | 2-Acetylaminofluorene              | 53-06-3    | 0.050  | (2) | 140  | (*) |
| U009 | Acrylonitrile                    | NA   | Acrylonitrile                      | 107-13-1   | 0.24   | (2) | 84   | (*) |
| U012 | Aniline                          | NA   | Aniline                            | 62-53-3    | 0.81   |     | 14   | (*) |
| U018 | Benz(a)anthracene                | NA   | Benz(a)anthracene                  | 56-55-3    | 0.050  | (2) | 8.2  | (*) |
| U019 | Benzene                          | NA   | Benzene                            | 71-43-2    | 0.14   | (2) | 36   | (*) |
| U022 | Benzo(a)pyrene                   | NA   | Benzo(a)pyrene                     | 50-32-8    | 0.061  | (2) | 8.2  | (*) |
| U024 | Bis(2-chloroethoxy)-meth-<br>ane | NA   | Bis(2-chloroethoxy)-<br>methane    | 111-01-1   | 0.036  |     | 7.2  | (*) |
| U025 | Bis(2-chloroethyl)ether          | NA   | Bis(2-chloroethyl)ether            | 111-44-4   | 0.033  |     | 7.2  | (*) |
| U027 | Bis(2-chloroisopropyl)-<br>ether | NA   | Bis(2-chloroisopropyl)-<br>ether   | 39638-32-0 | 0.055  | (2) | 7.2  | (*) |
| U028 | Bis(2-ethylhexyl)-phthal-<br>ate | NA   | Bis(2-ethylhexyl)-<br>phthalate    | 117-81-7   | 0.28   |     | 28   | (*) |
| U029 | Bromomethane (Methyl<br>bromide) | NA   | Bromomethane (Meth-<br>yl bromide) | 74-83-9    | 0.11   | (*) | 15   | (*) |
| U030 | 4-Bromophenyl-phenyl<br>ether    | NA   | 4-Bromophenyl-phenyl<br>ether      | 101-55-3   | 0.055  | (*) | 15   | (*) |
| U031 | n-Butyl-alcohol                  | NA   | n-Butyl-alcohol                    | 71-36-3    | 5.6    |     | 2.6  | (*) |
| U032 | Calcium-chromate                 | Table<br>CCWE in<br>268.41                             | Chromium (Total)                   | 7440-47-32 | 0.32   |     | NA   |     |
| U036 | Chlordane (alpha and<br>gamma)   | NA   | Chlordane (alpha and<br>gamma)     | 57-74-0    | 0.0032 | (2) | 0.13 | (*) |
| U037 | Chlorobenzene                    | NA   | Chlorobenzene                      | 108-90-7   | 0.057  | (2) | 5.7  | (*) |
| U038 | Chlorobenzilate                  | Table 2 in<br>268.42                                   | Chlorobenzilate                    | 510-15-6   | 0.10   | (2) | NA   |     |
| U039 | p-Chloro-m-cresol                | NA   | p-Chloro-m-cresol                  | 50-50-7    | 0.018  | (2) | 14   | (*) |

# ADMINISTRATIVE REGISTER - 914

|      |   |                      |   |           |        |     |       |     |
|------|---|----------------------|---|-----------|--------|-----|-------|-----|
| U043 | Vinyl chloride                          | NA                   | Vinyl chloride                          | 75-01-4   | 0.27   | (2) | 33    | (*) |
| U044 | Chloroform                              | NA                   | Chloroform                              | 67-66-3   | 0.046  | (2) | 5.6   | (*) |
| U045 | Chloromethane (Methyl chloride)         | NA                   | Chloromethane (Methyl chloride)         | 74-87-3   | 0.10   | (2) | 33    | (*) |
| U047 | 2-Chloronaphthalene                     | NA                   | 2-Chloronaphthalene                     | 91-58-7   | 0.055  | (2) | 5.6   | (*) |
| U048 | 2-Chlorophenol                          | NA                   | 2-Chlorophenol                          | 95-57-8   | 0.044  | (2) | 5.7   | (*) |
| U050 | Chrysene                                | NA                   | Chrysene                                | 218-01-0  | 0.050  | (2) | 8.2   | (*) |
| U051 | Creosote                                | Table CCWE in 268.41 | Naphthalene                             | 91-20-3   | 0.031  |     | 1.5   | (*) |
|      |   |                      | Pentachlorophenol                       | 87-86-5   | 0.18   |     | 7.4   | (*) |
|      |   |                      | Phenanthrene                            | 85-01-8   | 0.031  |     | 1.5   | (*) |
|      |   |                      | Pyrene                                  | 129-00-0  | 0.028  |     | 1.5   | (*) |
|      |   |                      | Toluene                                 | 108-88-3  | 0.028  |     | 28    | (*) |
|      |   |                      | Xylenes (Total)                         |           | 0.032  |     | 33    | (*) |
|      |   |                      | Lead                                    | 7439-92-1 | 0.037  |     | NA    |     |
| U052 | Creosols (Creosylic acid)               | NA                   | o-Cresol                                | 95-48-7   | 0.11   | (2) | 5.6   | (*) |
|      |   |                      | Creosols (m- and p-isomers)             |           | 0.77   | (2) | 3.2   | (*) |
| U057 | Cyclohexanone                           | Table 2 in 268.42    | Cyclohexanone                           | 108-04-1  | 0.36   |     | NA    |     |
| U060 | DDD                                     | NA                   | o,p'-DDD                                | 53-10-0   | 0.023  |     | 0.087 | (*) |
|      |   |                      | p,p'-DDD                                | 72-54-8   | 0.023  |     | 0.087 | (*) |
| U061 | DDT                                     | NA                   | o,p'-DDT                                | 789-02-6  | 0.0030 | (2) | 0.087 | (*) |
|      |   |                      | p,p'-DDT                                | 50-20-3   | 0.0030 | (2) | 0.087 | (*) |
|      |   |                      | o,p'-DDD                                | 53-10-0   | 0.023  | (2) | 0.087 | (*) |
|      |   |                      | p,p'-DDD                                | 72-54-8   | 0.023  | (2) | 0.087 | (*) |
|      |   |                      | o,p'-DDE                                | 3424-82-6 | 0.031  | (2) | 0.087 | (*) |
|      |   |                      | p,p'-DDE                                | 72-55-0   | 0.031  | (2) | 0.087 | (*) |
| U063 | Dibenzo(a,h)anthracene                  | NA                   | Dibenzo(a,h)anthracene                  | 53-70-3   | 0.055  | (2) | 8.2   | (*) |
| U066 | 1,2-Dibromo-3-chloropropane             | NA                   | 1,2-Dibromo-3-chloropropane             | 96-12-8   | 0.11   | (2) | 15    | (*) |
| U067 | 1,2-Dibromomethane (Ethylene dibromide) | NA                   | 1,2-Dibromomethane (Ethylene dibromide) | 106-03-4  | 0.028  | (2) | 15    | (*) |
| U068 | Dibromomethane                          | NA                   | Dibromomethane                          | 74-95-3   | 0.11   | (2) | 15    | (*) |
| U069 | Di-n-butyl phthalate                    |                      | Di-n-butyl phthalate                    | 84-74-2   | 0.057  |     | 28    | (*) |
| U070 | o-Dichlorobenzene                       | NA                   | o-Dichlorobenzene                       | 95-50-1   | 0.088  | (2) | 6.2   | (*) |
| U071 | m-Dichlorobenzene                       | NA                   | m-Dichlorobenzene                       | 541-73-1  | 0.036  |     | 6.2   | (*) |
| U072 | p-Dichlorobenzene                       | NA                   | p-Dichlorobenzene                       | 104-46-7  | 0.090  | (2) | 6.2   | (*) |
| U075 | Dichlorodifluoromethane                 | NA                   | Dichlorodifluoromethane                 | 75-71-8   | 0.23   | (2) | 7.2   | (*) |
| U076 | 1,1-Dichloroethane                      | NA                   | 1,1-Dichloroethane                      | 75-34-3   | 0.050  | (2) | 7.2   | (*) |
| U077 | 1,2-Dichloroethane                      | NA                   | 1,2-Dichloroethane                      | 107-06-2  | 0.21   | (2) | 7.2   | (*) |
| U078 | 1,1-Dichloroethylene                    | NA                   | 1,1-Dichloroethylene                    | 75-35-4   | 0.025  | (2) | 33    | (*) |



# ADMINISTRATIVE REGISTER - 915

|      |                            |                      |                             |            |         |     |      |     |
|------|----------------------------|----------------------|-----------------------------|------------|---------|-----|------|-----|
| U079 | 1,2-Dichloroethylene       | NA                   | trans-1,2-Dichloroethylene  | 156-60-5   | 0.054   | (2) | 33   | (7) |
| U080 | Methylene chloride         | NA                   | Methylene chloride          | 75-09-2    | 0.089   | (2) | 33   | (7) |
| U081 | 2,4-Dichlorophenol         | NA                   | 2,4-Dichlorophenol          | 120-83-2   | 0.044   | (2) | 14   | (7) |
| U082 | 2,6-Dichlorophenol         | NA                   | 2,6-Dichlorophenol          | 87-65-0    | 0.044   | (2) | 14   | (7) |
| U083 | 1,2-Dichloropropane        | NA                   | 1,2-Dichloropropane         | 78-87-5    | 0.85    | (2) | 18   | (7) |
| U084 | 1,3-Dichloropropane        | NA                   | cis-1,3-Dichloropropylene   | 10061-01-6 | 0.036   | (2) | 18   | (7) |
|      |                            |                      | trans-1,3-Dichloropropylene | 10061-02-6 | 0.036   | (2) | 18   | (7) |
| U088 | Diethyl phthalate          |                      | Diethyl phthalate           | 84-66-2    | 0.2     |     | 28   | (7) |
| U093 | p-Dimethylamineazo-benzene | Table 2 in 268.42    | p-Dimethylamineazo-benzene  | 60-11-7    | 0.13    | (2) | NA   |     |
| U101 | 2,4-Dimethylphenol         | NA                   | 2,4-Dimethylphenol          | 105-67-0   | 0.036   | (2) | 14   | (7) |
| U102 | Dimethyl phthalate         |                      | Dimethyl phthalate          | 131-11-3   | 0.047   |     | 28   | (7) |
| U105 | 2,4-Dinitrotoluene         | NA                   | 2,4-Dinitrotoluene          | 121-14-2   | 0.32    | (2) | 140  | (7) |
| U106 | 2,6-Dinitrotoluene         | NA                   | 2,6-Dinitrotoluene          | 606-20-2   | 0.55    | (2) | 28   | (7) |
| U107 | Di-n-octyl-phthalate       |                      | Di-n-octyl-phthalate        | 117-84-0   | 0.017   |     | 28   | (7) |
| U108 | 1,4-Dioxane                | NA                   | 1,4-Dioxane                 | 123-01-1   | 0.12    | (2) | 170  | (7) |
| U111 | Di-n-propylnitrosoamine    | NA                   | Di-n-propylnitrosoamine     | 621-64-7   | 0.40    | (2) | 14   | (7) |
| U112 | Ethyl acetate              | NA                   | Ethyl acetate               | 141-78-6   | 0.34    | (2) | 33   | (7) |
| U117 | Ethyl ether                | NA                   | Ethyl ether                 | 60-29-7    | 0.12    | (2) | 160  | (7) |
| U118 | Ethyl methacrylate         | NA                   | Ethyl methacrylate          | 97-63-2    | 0.14    | (2) | 160  | (7) |
| U120 | Fluoranthene               | NA                   | Fluoranthene                | 206-44-0   | 0.068   | (2) | 8.2  | (7) |
| U121 | Trichloromonofluoromethane | NA                   | Trichloromonofluoromethane  | 75-60-4    | 0.020   | (2) | 33   | (7) |
| U127 | Hexachlorobenzene          | NA                   | Hexachlorobenzene           | 118-74-1   | 0.055   | (2) | 37   | (7) |
| U128 | Hexachlorobutadiene        | NA                   | Hexachlorobutadiene         | 87-68-3    | 0.055   | (2) | 28   | (7) |
| U129 | Lindane                    | NA                   | alpha-BHC                   | 310-84-6   | 0.00014 | (2) | 0.66 | (7) |
|      |                            |                      | beta-BHC                    | 310-85-7   | 0.00014 | (2) | 0.66 | (7) |
|      |                            |                      | Delta-BHC                   | 310-86-8   | 0.023   | (2) | 0.66 | (7) |
|      |                            |                      | gamma-BHC (Lindane)         | 58-89-0    | 0.0017  | (2) | 0.66 | (7) |
| U130 | Hexachlorocyclopentadiene  | NA                   | Hexachlorocyclopentadiene   | 77-47-7    | 0.057   | (2) | 3.6  | (7) |
| U131 | Hexachloroethane           | NA                   | Hexachloroethane            | 67-72-1    | 0.055   | (2) | 28   | (7) |
| U134 | Hydrogen fluoride          | Table 2 in 268.42    | Fluoride                    | 16964-48-8 | 35      |     | NA   |     |
| U136 | Gayedylle acid             | Table CCWE in 268.41 | Arsenic                     | 7440-38-2  | 0.79    |     | NA   |     |
| U137 | Indene(1,2,3-c,d)pyrene    | NA                   | Indene(1,2,3-c,d)pyrene     | 103-30-5   | 0.0055  | (2) | 8.2  | (7) |
| U138 | Iodomethane                | NA                   | Iodomethane                 | 74-88-4    | 0.10    | (2) | 65   | (7) |
| U140 | Isobutyl alcohol           | NA                   | Isobutyl alcohol            | 78-83-1    | 5.6     |     | 170  | (7) |
| U141 | Isoctafrole                | NA                   | Isoctafrole                 | 120-58-1   | 0.081   |     | 2.6  | (7) |

# ADMINISTRATIVE REGISTER - 916

|      |  |  |  |            |        |     |      |     |
|------|--|--|--|------------|--------|-----|------|-----|
| U142 | Kepene   | NA   | Kepene   | 143-50-8   | 0.0011 |     | 0.13 | (*) |
| U144 | Lead acetate                                   | Table<br>CCWE in<br>268.41                             | Lead   | 7439-02-1  | 0.040  |     | NA   |     |
| U145 | Lead phosphate                                 | Table<br>CCWE in<br>268.41                             | Lead   | 7439-02-1  | 0.040  |     | NA   |     |
| U146 | Lead subacetate                                | Table<br>CCWE in<br>268.41                             | Lead   | 7439-02-1  | 0.040  |     | NA   |     |
| U151 | Mercury  | Table<br>CCWE in<br>268.41 and<br>Table 2 in<br>268.42 | Mercury  | 7439-07-6  | 0.030  |     | NA   |     |
| U152 | Methacrylonitrile                              | NA   | Methacrylonitrile                              | 126-98-7   | 0.24   | (2) | 84   | (*) |
| U154 | Methanol                                       | See also<br>Table 2 in<br>268.42                       | Methanol                                       | 67-56-1    | 5.6    |     | NA   |     |
| U155 | Methapyrilene                                  | NA   | Methapyrilene                                  | 91-80-5    | 0.081  |     | 1.5  | (*) |
| U157 | 3-Methyleholanthrene                           | NA   | 3-Methyleholanthrene                           | 56-40-5    | 0.0055 | (2) | 15   | (*) |
| U158 | 4,4'-Methylenobis(2-chloroaniline)             | NA   | 4,4'-Methylenobis(2-chloroaniline)             | 101-14-4   | 0.50   | (2) | 35   | (*) |
| U159 | Methyl-ethyl-ketone                            | NA   | Methyl-ethyl-ketone                            | 78-03-3    | 0.28   |     | 36   | (*) |
| U161 | Methyl-isobutyl-ketone                         | NA   | Methyl-isobutyl-ketone                         | 108-10-1   | 0.14   |     | 33   | (*) |
| U162 | Methyl-methacrylate                            | NA   | Methyl-methacrylate                            | 80-62-6    | 0.14   |     | 160  | (*) |
| U165 | Naphthalene                                    | NA   | Naphthalene                                    | 91-20-3    | 0.050  | (2) | 3.1  | (*) |
| U168 | 2-Naphthylamine                                | Table 2 in<br>268.42                                   | 2-Naphthylamine                                | 91-59-8    | 0.52   | (2) | NA   |     |
| U169 | Nitrobenzene                                   | NA   | Nitrobenzene                                   | 98-05-3    | 0.068  | (2) | 14   | (*) |
| U170 | 4-Nitrophenol                                  | NA   | 4-Nitrophenol                                  | 100-02-7   | 0.12   | (2) | 20   | (*) |
| U172 | N-Nitrosodi-n-butylamine                       | NA   | N-Nitrosodi-n-butylamine                       | 924-16-3   | 0.40   | (2) | 17   | (*) |
| U174 | N-Nitrosodiethylamine                          | NA   | N-Nitrosodiethylamine                          | 55-18-5    | 0.40   | (2) | 28   | (*) |
| U179 | N-Nitrosopiperidine                            | NA   | N-Nitrosopiperidine                            | 100-75-4   | 0.013  | (2) | 35   | (*) |
| U180 | N-Nitrosopyrrolidine                           | NA   | N-Nitrosopyrrolidine                           | 930-55-2   | 0.013  | (2) | 35   | (*) |
| U181 | 5-Nitro-o-toluidine                            | NA   | 5-Nitro-o-toluidine                            | 99-55-8    | 0.32   | (2) | 28   | (*) |
| U183 | Pentachlorobenzene                             | NA   | Pentachlorobenzene                             | 608-03-5   | 0.055  | (2) | 37   | (*) |
| U185 | Pentachloronitrobenzene                        | NA   | Pentachloronitrobenzene                        | 82-68-8    | 0.055  | (2) | 4.8  | (*) |
| U187 | Phenacetin                                     | NA   | Phenacetin                                     | 62-44-2    | 0.081  |     | 16   | (*) |
| U188 | Phenol   | NA   | Phenol   | 108-05-2   | 0.030  |     | 6.2  | (*) |
| U190 | Phthalic anhydride (measured as Phthalic acid) |  | Phthalic anhydride (measured as Phthalic acid) | 85-44-0    | 0.060  |     | 28   | (*) |
| U192 | Prenamide                                      | NA   | Prenamide                                      | 23950-58-5 | 0.003  |     | 1.5  | (*) |
| U196 | Pyridine                                       | NA   | Pyridine                                       | 110-86-1   | 0.014  | (2) | 16   | (*) |
| U203 | Safrole  | NA   | Safrole  | 94-59-7    | 0.081  |     | 22   | (*) |

# ADMINISTRATIVE REGISTER - 917

|      |                                    |                      |                                    |           |       |     |      |     |
|------|------------------------------------|----------------------|------------------------------------|-----------|-------|-----|------|-----|
| U204 | Selenium dioxide                   | Table CCWE in 268.41 | Selenium                           | 7782-40-2 | 1.0   |     | NA   |     |
| U205 | Selenium sulfide                   | Table CCWE in 268.41 | Selenium                           | 7782-40-2 | 1.0   |     | NA   |     |
| U207 | 1,2,4,5-Tetrachlorobenzene         | NA                   | 1,2,4,5-Tetrachlorobenzene         | 95-04-3   | 0.055 | (2) | 10   | (*) |
| U208 | 1,1,1,2-Tetrachloroethane          | NA                   | 1,1,1,2-Tetrachloroethane          | 630-20-6  | 0.057 |     | 42   | (*) |
| U209 | 1,1,2,2-Tetrachloroethane          | NA                   | 1,1,2,2-Tetrachloroethane          | 70-34-5   | 0.057 | (2) | 42   | (*) |
| U210 | Tetrachloroethylene                | NA                   | Tetrachloroethylene                | 127-18-4  | 0.056 | (2) | 5.6  | (*) |
| U211 | Carbon tetrachloride               | NA                   | Carbon tetrachloride               | 56-23-5   | 0.057 | (2) | 5.6  | (*) |
| U214 | Thallium(I)acetate                 | Table 2 in 268.42    | Thallium                           | 7440-28-0 | 0.14  | (2) | NA   |     |
| U215 | Thallium(I) carbonate              | Table 2 in 268.42    | Thallium                           | 7440-28-0 | 0.14  | (2) | NA   |     |
| U216 | Thallium(I)chloride                | Table 2 in 268.42    | Thallium                           | 7440-28-0 | 0.14  | (2) | NA   |     |
| U217 | Thallium(I)nitrate                 | Table 2 in 268.42    | Thallium                           | 7440-28-0 | 0.14  | (2) | NA   |     |
| U220 | Toluene                            | NA                   | Toluene                            | 108-88-3  | 0.080 | (2) | 28   | (*) |
| U225 | Tribromomethane (Bromoform)        | NA                   | Tribromomethane (Bromoform)        | 75-26-2   | 0.63  | (2) | 15   | (*) |
| U226 | 1,1,1-Trichloroethane              | NA                   | 1,1,1-Trichloroethane              | 71-55-6   | 0.054 | (2) | 5.6  | (*) |
| U227 | 1,1,2-Trichloroethane              | NA                   | 1,1,2-Trichloroethane              | 70-00-5   | 0.054 | (2) | 5.6  | (*) |
| U228 | Trichloroethylene                  | NA                   | Trichloroethylene                  | 70-01-6   | 0.054 | (2) | 5.6  | (*) |
| U235 | tris-(2,3-Dibromopropyl) phosphate | NA                   | tris-(2,3-Dibromopropyl) phosphate | 126-72-7  | 0.025 |     | 0.10 | (*) |
| U239 | Xylenes                            | NA                   | Xylenes                            |           | 0.32  | (2) | 28   | (*) |
| U240 | 2,4-Dichlorophenoxyacetic acid     | NA                   | 2,4-Dichlorophenoxyacetic acid     | 94-75-7   | 0.72  |     | 10   | (*) |
| U243 | Hexachloropropene                  | NA                   | Hexachloropropene                  | 1888-71-7 | 0.035 | (2) | 28   |     |
| U247 | Methoxychlor                       | NA                   | Methoxychlor                       | 72-43-5   | 0.25  | (2) | 0.18 | (*) |

FOOTNOTE: \*Treatment standards for this organic constituent were established based upon incineration in units operated in accordance with the technical requirements of 40 CFR 264 Subpart O or Part 265 Subpart O, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may certify compliance with these treatment standards according to provisions in 40 CFR Section 268.7.

FOOTNOTE: <sup>2</sup>Based on analysis of composite samples.

FOOTNOTE: <sup>3</sup>As analyzed using SW 846 Method 9010 or 9012; sample size 10 gram; distillation time: one hour and fifteen minutes.

FOOTNOTE: <sup>4</sup>Reserved.

Note: NA means Not Applicable.

No land disposal for:

K005 Nonwastewaters generated by the process described in the waste listing description, and disposed after June 8, 1989, and not

generated in the course of treating wastewater forms of these wastes (Based on No Generation)

K007 Nonwastewaters generated by the process described in the waste listing description, and disposed after June 8, 1989, and not generated in the course of treating wastewater forms of these wastes (Based on No Generation)

K021 Nonwastewater forms of these wastes generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes (Based on No Generation)

K025 Nonwastewater forms of these wastes generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes (Based on No Generation)

K036 Nonwastewater forms of these wastes generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes (Based on No Generation)

~~K044 (Based on Reactivity)~~

~~K045 (Based on Reactivity)~~

~~K047 (Based on Reactivity)~~

~~K060 Nonwastewater forms of these wastes generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes (Based on No Generation)~~

~~K061 Nonwastewater High Zinc Subcategory (greater than or equal to fifteen (15) percent total zinc) (Based on Recycling); effective 8/8/90~~

~~K069 Noncalcium Sulfate Subcategory Nonwastewater forms of these wastes generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes (Based on Recycling)~~

~~K100 Nonwastewater forms of these wastes generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes (Based on No Generation)~~

~~(b) When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue must meet the lowest treatment standard for the constituent of concern.~~

~~(e) Notwithstanding the prohibitions specified in paragraph (a) of this subsection, treatment and disposal facilities may demonstrate (and certify pursuant to §268.7(b)(5)) compliance with the treatment standards for organic constituents specified by a footnote in Table CGW in this section, provided the following conditions are satisfied:~~

~~1. The treatment standards for the organic constituents were established based on incineration in units operated in accordance with the technical requirements of 40 CFR part 264, subpart O, or part 265, subpart O, or based on combustion in fuel substitution units operating in accordance with applicable technical requirements;~~

~~2. The treatment or disposal facility has used the methods referenced in subparagraph 1 of this paragraph to treat the organic constituents; and~~

~~(3) The treatment or disposal facility has been unable to detect the organic constituents despite using its best good faith efforts as defined by applicable agency guidance or standards. Until such guidance or standards are developed, the treatment or disposal facility may demonstrate such good faith efforts by achieving detection limits for the regulated organic constituents that do not exceed an order of magnitude of the treatment standards specified in this section.]~~

Section 6. Treatment Standards for Hazardous Debris. (1) Treatment standards. Hazardous debris shall be treated prior to land disposal as follows unless cabinet determines under Section 3(5)(b) of 401 KAR 31:010 that the debris is no longer contaminated with hazardous waste or the debris is treated to the waste-specific treatment standard provided in this administrative regulation for the waste contaminating the debris:

(a) General. Hazardous debris shall be treated for each "contaminant subject to treatment" defined by subsection (2) of this section using the technology or technologies identified in Table 1 of this section.

(b) Characteristic debris. Hazardous debris that exhibits the characteristic of ignitability, corrosivity, or reactivity identified under Sections 2,3, and 4 of 401 KAR 31:030, respectively, shall be deactivated by treatment using one (1) of the technologies identified in Table 1 of this section.

(c) Mixtures of debris types. The treatment standards of Table 1 in this section shall be achieved for each type of debris contained in a mixture of debris types. If an immobilization technology is used in a treatment train, it shall be the last treatment technology used.

(d) Mixtures of contaminant types. Debris that is contaminated with two (2) or more contaminants subject to treatment identified

under subsection (2) of this section shall be treated for each contaminant using one (1) or more treatment technologies identified in Table 1 of this section. If an immobilization technology is used in a treatment train, it shall be the last treatment technology used.

(e) Waste PCBs. Hazardous debris that is also a waste PCB under 40 CFR part 761 is subject to the requirements of either 40 CFR part 761 or the requirements of this section, whichever are more stringent.

(2) Contaminants subject to treatment. Hazardous debris shall be treated for each "contaminant subject to treatment." The contaminants subject to treatment shall be determined as follows:

(a) Toxicity characteristic debris. The contaminants subject to treatment for debris that exhibits the Toxicity Characteristic (TC) by Section 5 of 401 KAR 31:030 are those constituents for which the debris exhibits the TC toxicity characteristic.

(b) Debris contaminated with listed waste. The contaminants subject to treatment for debris that is contaminated with a prohibited listed hazardous waste are those constituents or wastes for which treatment standards are established for the waste under Section 1 of this administrative regulation.

(c) Cyanide reactive debris. Hazardous debris that is reactive because of cyanide shall be treated for cyanide.

(3) Conditioned exclusion of treated debris. Hazardous debris that has been treated using one (1) of the specified extraction or destruction technologies in Table 1 of this section and that does not exhibit a characteristic of hazardous waste identified under 401 KAR 31:030 after treatment is not a hazardous waste and need not be managed in a hazardous waste facility. Hazardous debris contaminated with a listed waste that is treated by an immobilization technology specified in Table 1 is a hazardous waste and shall be managed in a hazardous waste facility.

(4) Treatment residuals.

(a) General requirements. Except as provided by subsection (4)(b) and (d) of this section:

1. Residue from the treatment of hazardous debris shall be separated from the treated debris using simple physical or mechanical means; and

2. Residue from the treatment of hazardous debris is subject to the waste-specific treatment standards provided by this administrative regulation for the waste contaminating the debris.

(b) Nontoxic debris. Residue from the deactivation of ignitable, corrosive, or reactive characteristic hazardous debris (other than cyanide-reactive) that is not contaminated with a contaminant subject to treatment defined by subsection (2) of this section, shall be deactivated prior to land disposal and is not subject to the waste-specific treatment standards of this administrative regulation.

(c) Cyanide-reactive debris. Residue from the treatment of debris that is reactive because of cyanide shall meet the standards for D003 under Section 1 of this administrative regulation.

(d) Ignitable nonwastewater residue. Ignitable nonwastewater residue containing equal to or greater than ten (10) percent total organic carbon is subject to the technology-based standards for D001: "Ignitable Liquids based on Section 2(1)(a) of 401 KAR 31:030" under Section 1 of this administrative regulation.

(e) Residue from spalling. Layers of debris removed by spalling are hazardous debris that remain subject to the treatment standards of this section.

# ADMINISTRATIVE REGISTER - 919

Table 1.-Alternative Treatment Standards For Hazardous Debris<sup>1</sup>

| Technology description  | Performance and design and operating standard  | Contaminant restrictions <sup>2</sup>   |
|---|--|---|
| <b>A. Extraction Technologies:</b>  |  |   |
| <b>1. Physical Extraction</b>   |  |   |
| a. Abrasive Blasting: Removal of contaminated debris surface layers using water and air pressure to propel a solid media (e.g., steel shot, aluminum oxide grit, plastic beads).  | Glass, Metal, Plastic, Rubber: Treatment to a clean debris surface. <sup>3</sup><br>Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Removal of at least 0.6 cm of the surface layer; treatment to a clean debris surface. <sup>3</sup>  | All Debris: None.   |
| b. Scarification, Grinding, and Planing: Process utilizing striking piston heads, saws, or rotating grinding wheels such that contaminated debris surface layers are removed.   | Same as above  | Same as above   |
| c. Spalling: Drilling or chipping holes at appropriate locations and depth in the contaminated debris surface and applying a tool which exerts a force on the sides of those holes such that the surface layer is removed. The surface layer removed remains hazardous debris subject to the debris treatment standards.  | Same as above  | Same as above   |
| d. Vibratory Finishing: Process utilizing scrubbing media, flushing fluid, and oscillating energy such that hazardous contaminants or contaminated debris surface layers are removed. <sup>4</sup>  | Same as above  | Same as above   |
| e. High Pressure Steam and Water Sprays: Application of water or steam sprays of sufficient temperature, pressure, residence time, agitation, surfactants, and detergents to remove hazardous contaminants from debris surfaces or to remove contaminated debris surface layers   | Same as above  | Same as above.  |
| <b>2. Chemical Extraction</b>   |  |   |
| a. Water Washing and Spraying: Application of water sprays or water baths of sufficient temperature, pressure, residence time, agitation, surfactants, acids, bases, and detergents to remove hazardous contaminants from debris surfaces and surface pores or to remove contaminated debris surface layers.  | All Debris: Treatment to a clean debris surface <sup>3</sup> ; Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm ( 1/2 inch) in one dimension (that is, thickness limit, <sup>5</sup> except that this thickness limit may be waived under an "Equivalent Technology" approval under Section 3(2) of this administrative regulation; <sup>6</sup> debris surfaces must be in contact with water solution for at least 15 minutes | Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Contaminant must be soluble to at least 5% by weight in water solution or 5% by weight in emulsion; if debris is contaminated with a dioxin-listed waste, <sup>5</sup> an "Equivalent Technology" approval under Section 3(2) of this administrative regulation must be obtained. <sup>6</sup> |
| b. Liquid Phase Solvent Extraction: Removal of hazardous contaminants from debris surfaces and surface pores by applying a nonaqueous liquid or liquid solution which causes the hazardous contaminants to enter the liquid phase and be flushed away from the debris along with the liquid or liquid solution while using appropriate agitation, temperature, and residence time. <sup>4</sup> | Same as above  | Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Same as above, except that contaminant must be soluble to at least 5% by weight in the solvent.  |
| c. Vapor Phase Solvent Extraction: Application of an organic vapor using sufficient agitation, residence time, and temperature to cause hazardous contaminants on contaminated debris surfaces and surface pores to enter the vapor phase and be flushed away with the organic vapor. <sup>4</sup>  | Same as above, except that brick, cloth, concrete, paper, pavement, rock and wood surfaces must be in contact with the organic vapor for at least 60 minutes.  | Same as above.  |
| <b>3. Thermal Extraction</b>  |  |   |
| a. High Temperature Metals Recovery: Application of sufficient heat, residence time, mixing, fluxing agents, and carbon in a smelting, melting, or refining furnace to separate metals from debris.   | For refining furnaces, treated debris must be separated from treatment residuals using simple physical or mechanical means, <sup>7</sup> and, prior to further treatment, such residuals must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris.   | Debris contaminated with a dioxin-listed waste: <sup>5</sup> Obtain an "Equivalent Technology" approval under Section 3(2) of this administrative regulation. <sup>6</sup>  |

## ADMINISTRATIVE REGISTER - 920

b. Thermal Desorption: Heating in an enclosed chamber under either oxidizing or nonoxidizing atmospheres at sufficient temperature and residence time to vaporize hazardous contaminants from contaminated surfaces and surface pores and to remove the contaminants from the heating chamber in a gaseous exhaust gas.<sup>7</sup>

All Debris: Obtain an "Equivalent Technology" approval under Section 3(2) of this administrative regulation;<sup>8</sup> treated debris must be separated from treatment residuals using simple physical or mechanical means,<sup>9</sup> and, prior to further treatment, such residue must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 10 cm (4 inches) in one dimension (that is, thickness limit),<sup>5</sup> except that this thickness limit may be waived under the "Equivalent Technology" approval

All Debris: Metals other than mercury.

### B. Destruction Technologies:

1. Biological Destruction (Biodegradation): Removal of hazardous contaminants from debris surfaces and surface pores in an aqueous solution and biodegradation of organic or nonmetallic inorganic compounds (that is, inorganics that contain phosphorus, nitrogen, or sulfur) in units operated under either aerobic or anaerobic conditions.

All Debris: Obtain an "Equivalent Technology" approval under Section 3(2) of this administrative regulation;<sup>8</sup> treated debris must be separated from treatment residuals using simple physical or mechanical means,<sup>9</sup> and, prior to further treatment, such residue must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm ( 1/2 inch) in one dimension (that is, thickness limit),<sup>5</sup> except that this thickness limit may be waived under the "Equivalent Technology" approval

All Debris: Metal contaminants.

### 2. Chemical Destruction

a. Chemical Oxidation: Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combination of reagents: (1) hypochlorite (e.g., bleach); (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (ultraviolet light) assisted ozone; (5) peroxides; (6) persulfates; (7) perchlorates; (8) permanganates; and (9) other oxidizing reagents of equivalent destruction efficiency.<sup>4</sup> Chemical oxidation specifically includes what is referred to as alkaline chlorination.

All Debris: Obtain an "Equivalent Technology" approval under Section 3(2) of this administrative regulation;<sup>8</sup> treated debris must be separated from treatment residuals using simple physical or mechanical means,<sup>9</sup> and, prior to further treatment, such residue must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm ( 1/2 inch) in one dimension (that is, thickness limit),<sup>5</sup> except that this thickness limit may be waived under the "Equivalent Technology" approval

All Debris: Metal contaminants.

b. Chemical Reduction: Chemical reaction utilizing the following reducing reagents (or waste reagents) or combination of reagents: (1) sulfur dioxide; (2) sodium, potassium, or alkali salts of sulfites, bisulfites, and metabisulfites, and polyethylene glycols (e.g., NaPEG and KPEG); (3) sodium hydrosulfide; (4) ferrous salts; and (5) other reducing reagents of equivalent efficiency.<sup>4</sup>

Same as above

Same as above.

3. Thermal Destruction: Treatment in an incinerator operating in accordance with 401 KAR 34:240 or 401 KAR 35:240; a boiler or industrial furnace operating in accordance with 401 KAR 36:020, or other thermal treatment unit operated in accordance with 401 KAR 34:250 or 401 KAR 35:250, but excluding for purposes of these debris treatment standards Thermal Desorption units.

Treated debris must be separated from treatment residuals using simple physical or mechanical means,<sup>9</sup> and, prior to further treatment, such residue must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris.

Brick, Concrete, Glass, Metal, Pavement, Rock, Metal: Metals other than mercury, except that there are no metal restrictions for vitrification. Debris contaminated with a dioxin-listed waste.<sup>6</sup> Obtain an "Equivalent Technology" approval under Section 3(2) of this administrative regulation,<sup>8</sup> except that this requirement does not apply to vitrification.

### C. Immobilization Technologies:

1. Macroencapsulation: Application of surface coating materials such as polymeric organics (e.g., resins and plastics) or use of a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media.

Encapsulating material must completely encapsulate debris and be resistant to degradation by the debris and its contaminants and materials into which it may come into contact after placement (leachate, other waste, microbes).

None.

2. Microencapsulation: Stabilization of the debris with the following reagents (or waste reagents) such that the leachability of the hazardous contaminants is reduced: (1) Portland cement; or (2) lime/ pozzolans (e.g., fly ash and cement kiln dust). Reagents (e.g., iron salts, silicates, and clays) may be added to enhance the set/cure time and compressive strength, or to reduce the leachability of the hazardous constituents.<sup>5</sup>

Leachability of the hazardous contaminants must be reduced.

None.

# ADMINISTRATIVE REGISTER - 921

3. Sealing: Application of an appropriate material which adheres tightly to the debris surface to avoid exposure of the surface to potential leaching media. When necessary to effectively seal the surface, sealing entails pretreatment of the debris surface to remove foreign matter and to clean and roughen the surface. Sealing materials include epoxy, silicone, and urethane compounds, but paint may not be used as a sealant

Sealing must avoid exposure of the debris surface to potential leaching media and sealant must be resistant to degradation by the debris and its contaminants and materials into which it may come into contact after placement (leachate, other waste, microbes).

None.

FOOTNOTE: <sup>1</sup>Hazardous debris must be treated by either these standards or the waste-specific treatment standards for the waste contaminating the debris. The treatment standards must be met for each type of debris contained in a mixture of debris types, unless the debris is converted into treatment residue as a result of the treatment process. Debris treatment residuals are subject to the waste-specific treatment standards for the waste contaminating the debris.

FOOTNOTE: <sup>2</sup>Contaminant restriction means that the technology is not BDAT for that contaminant. If debris containing a restricted contaminant is treated by the technology, the contaminant must be subsequently treated by a technology for which it is not restricted in order to be land disposed (and excluded from hazardous waste regulation).

FOOTNOTE: <sup>3</sup>"Clean debris surface" means the surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except that residual staining from soil and waste consisting of light shadows, slight streaks, or minor discolorations, and soil and waste in cracks, crevices, and pits may be present provided that such staining and waste and soil in cracks, crevices, and pits shall be limited to no more than five (5) percent of each square inch of surface area.

FOOTNOTE: <sup>4</sup>Acids, solvents, and chemical reagents may react with some debris and contaminants to form hazardous compounds. For example, acid washing of cyanide-contaminated debris could result in the formation of hydrogen cyanide. Some acids may also react violently with some debris and contaminants, depending on the concentration of the acid and the type of debris and contaminants. Debris treaters should refer to the safety precautions specified in Material Safety Data Sheets for various acids to avoid applying an incompatible acid to a particular debris or contaminant combination. For example, concentrated sulfuric acid may react violently with certain organic compounds, such as acrylonitrile.

FOOTNOTE: <sup>5</sup>If reducing the particle size of debris to meet the treatment standards results in material that no longer meets the sixty (60) mm minimum particle size limit for debris, such material is subject to the waste-specific treatment standards for the waste contaminating the material, unless the debris has been cleaned and separated from contaminated soil and waste prior to size reduction. At a minimum, simple physical or mechanical means must be used to provide such cleaning and separation of nondebris materials to ensure that the debris surface is free of caked soil, waste, or other nondebris material.

FOOTNOTE: <sup>6</sup>Dioxin-listed wastes are EPA Hazardous Waste numbers FO20, FO21, FO22, FO23, FO26, and FO27.

FOOTNOTE: <sup>7</sup>Thermal desorption is distinguished from thermal destruction in that the primary purpose of thermal desorption is to volatilize contaminants and to remove them from the treatment chamber for subsequent destruction or other treatment.

FOOTNOTE: <sup>8</sup>The demonstration "Equivalent Technology" under Section 3(2) of this administrative regulation must document that the technology treats contaminants subject to treatment to a level equivalent to that required by the performance and design and operating standards for other technologies in this table such that residual levels of hazardous contaminants will not pose a hazard to human health and the environment absent management controls.

FOOTNOTE: <sup>9</sup>Any soil, waste, and other nondebris material that remains on the debris surface (or remains mixed with the debris) after treatment is considered a treatment residual that must be separated from the debris using, at a minimum, simple physical or mechanical means. Examples of simple physical or mechanical means are vibratory or trommel screening or water washing. The debris surface need not be cleaned to a "clean debris surface" as defined in note 3 when separating treated debris from residue; rather, the surface must be free of caked soil, waste, or other nondebris material. Treatment residuals are subject to the waste-specific treatment standards for the waste contaminating the debris.

Section 7. Alternative Treatment Standards Based on HTMR. For the treatment standards previously found in this section, refer to Section 1 of this administrative regulation.

Section 8. Universal Treatment Standards. (1) Table UTS identifies the hazardous constituents, along with the nonwastewater and wastewater treatment standard levels, that are used to regulate most prohibited hazardous wastes with numerical limits. For determining compliance with treatment standards for underlying hazardous constituents, these treatment standards may not be exceeded. Compliance with these treatment standards is measured by an analysis of grab samples, unless otherwise noted in the following Table UTS.

Table UTS-Universal Treatment Standards

| Regulated constituent-common name | CAS <sup>1</sup> No. | Wastewater<br>Concentration in<br>mg/l <sup>2</sup> | Nonwastewater standard.<br>Concentration in mg/kg <sup>3</sup><br>unless noted as "mg/l TCLP" |
|-----------------------------------|----------------------|---|---|
| <u>Acenaphthylene</u>             | <u>208-96-8</u>      | <u>0.059</u>  | <u>3.4</u>  |
| <u>Acenaphthene</u>               | <u>83-32-9</u>       | <u>0.059</u>  | <u>3.4</u>  |
| <u>Acetone</u>                    | <u>67-64-1</u>       | <u>0.28</u>   | <u>160</u>  |
| <u>Acetonitrile</u>               | <u>75-05-8</u>       | <u>5.6</u>  | <u>1.8</u>  |
| <u>Acetophenone</u>               | <u>96-86-2</u>       | <u>0.010</u>  | <u>9.7</u>  |
| <u>2-Acetylaminofluorene</u>      | <u>53-96-3</u>       | <u>0.059</u>  | <u>140</u>  |
| <u>Acrolein</u>                   | <u>107-02-8</u>      | <u>0.29</u>   | <u>NA</u>   |
| <u>Acrylamide</u>                 | <u>79-06-1</u>       | <u>19</u>   | <u>23</u>   |
| <u>Acrylonitrile</u>              | <u>107-13-1</u>      | <u>0.24</u>   | <u>84</u>   |

# ADMINISTRATIVE REGISTER - 922

|  |                  |                |                       |
|--|------------------|----------------|-----------------------|
| <u>Aldrin</u>  | <u>309-00-2</u>  | <u>0.021</u>   | <u>0.066</u>          |
| <u>4-Aminobiphenyl</u>   | <u>92-67-1</u>   | <u>0.13</u>    | <u>NA</u>             |
| <u>Aniline</u>   | <u>62-53-3</u>   | <u>0.81</u>    | <u>14</u>             |
| <u>Anthracene</u>  | <u>120-12-7</u>  | <u>0.059</u>   | <u>3.4</u>            |
| <u>Aramite</u>   | <u>140-57-8</u>  | <u>0.36</u>    | <u>NA</u>             |
| <u>alpha-BHC</u>   | <u>319-84-6</u>  | <u>0.00014</u> | <u>0.066</u>          |
| <u>beta-BHC</u>  | <u>319-85-7</u>  | <u>0.00014</u> | <u>0.066</u>          |
| <u>delta-BHC</u>   | <u>319-86-8</u>  | <u>0.023</u>   | <u>0.066</u>          |
| <u>gamma-BH</u>  | <u>C58-89-9</u>  | <u>0.0017</u>  | <u>0.066</u>          |
| <u>Benzene</u>   | <u>71-43-2</u>   | <u>0.14</u>    | <u>10</u>             |
| <u>Benz(a)anthracene</u>   | <u>56-55-3</u>   | <u>0.059</u>   | <u>3.4</u>            |
| <u>Benzal chloride</u>   | <u>98-87-3</u>   | <u>0.055</u>   | <u>6.0</u>            |
| <u>Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)</u> | <u>205-99-2</u>  | <u>0.11</u>    | <u>6.8</u>            |
| <u>Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)</u> | <u>207-08-9</u>  | <u>0.11</u>    | <u>6.8</u>            |
| <u>Benzo(g,h,i)perylene</u>  | <u>191-24-2</u>  | <u>0.0055</u>  | <u>1.8</u>            |
| <u>Benzo(a)pyrene</u>  | <u>50-32-8</u>   | <u>0.061</u>   | <u>3.4</u>            |
| <u>Bromodichloromethane</u>  | <u>75-27-4</u>   | <u>0.35</u>    | <u>15</u>             |
| <u>Methyl bromide (Bromomethane)</u>   | <u>74-83-9</u>   | <u>0.11</u>    | <u>15</u>             |
| <u>4-Bromophenyl phenyl ether</u>  | <u>101-55-3</u>  | <u>0.055</u>   | <u>15</u>             |
| <u>n-Butyl alcohol</u>   | <u>71-36-3</u>   | <u>5.6</u>     | <u>2.6</u>            |
| <u>Butyl benzyl phthalate</u>  | <u>85-68-7</u>   | <u>0.017</u>   | <u>28</u>             |
| <u>2-sec-Butyl-4,6-dinitrophenol (Dinoseb)</u>                                   | <u>88-85-7</u>   | <u>0.066</u>   | <u>2.5</u>            |
| <u>Carbon disulfide</u>  | <u>75-15-0</u>   | <u>3.8</u>     | <u>4.8 mg/l TCLP</u>  |
| <u>Carbon tetrachloride</u>  | <u>56-23-5</u>   | <u>0.057</u>   | <u>6.0</u>            |
| <u>Chlordane (alpha and gamma isomers)</u>                                       | <u>57-74-9</u>   | <u>0.0033</u>  | <u>0.26</u>           |
| <u>p-Chloroaniline</u>   | <u>106-47-8</u>  | <u>0.46</u>    | <u>16</u>             |
| <u>Chlorobenzene</u>   | <u>108-90-7</u>  | <u>0.057</u>   | <u>6.0</u>            |
| <u>Chlorobenzilate</u>   | <u>510-15-6</u>  | <u>0.10</u>    | <u>NA</u>             |
| <u>2-Chloro-1,3-butadiene</u>  | <u>126-99-8</u>  | <u>0.057</u>   | <u>0.28</u>           |
| <u>Chlorodibromomethane</u>  | <u>124-48-1</u>  | <u>0.057</u>   | <u>15</u>             |
| <u>Chloroethane</u>  | <u>75-00-3</u>   | <u>0.27</u>    | <u>6.0</u>            |
| <u>bis(2-Chloroethoxy)methane</u>  | <u>111-91-1</u>  | <u>0.036</u>   | <u>7.2</u>            |
| <u>bis(2-Chloroethyl)ether</u>   | <u>111-44-4</u>  | <u>0.033</u>   | <u>6.0</u>            |
| <u>Chloroform</u>  | <u>67-66-3</u>   | <u>0.046</u>   | <u>6.0</u>            |
| <u>bis(2-Chloroisopropyl)ether</u>   | <u>108-60-1</u>  | <u>0.055</u>   | <u>7.2</u>            |
| <u>p-Chloro-m-cresol</u>   | <u>59-50-7</u>   | <u>0.018</u>   | <u>14</u>             |
| <u>2-Chloroethyl vinyl ether</u>   | <u>110-75-8</u>  | <u>0.062</u>   | <u>NA</u>             |
| <u>Chloromethane (Methyl chloride)</u>   | <u>74-87-3</u>   | <u>0.19</u>    | <u>30</u>             |
| <u>2-Chloronaphthalene</u>   | <u>91-58-7</u>   | <u>0.055</u>   | <u>5.6</u>            |
| <u>2-Chlorophenol</u>  | <u>95-57-8</u>   | <u>0.044</u>   | <u>5.7</u>            |
| <u>3-Chloropropylene</u>   | <u>107-05-1</u>  | <u>0.036</u>   | <u>30</u>             |
| <u>Chrysene</u>  | <u>218-01-9</u>  | <u>0.059</u>   | <u>3.4</u>            |
| <u>o-Cresol</u>  | <u>95-48-7</u>   | <u>0.11</u>    | <u>5.6</u>            |
| <u>m-Cresol (difficult to distinguish from p-cresol)</u>                         | <u>108-39-4</u>  | <u>0.77</u>    | <u>5.6</u>            |
| <u>p-Cresol (difficult to distinguish from m-cresol)</u>                         | <u>106-44-5</u>  | <u>0.77</u>    | <u>5.6</u>            |
| <u>Cyclohexanone</u>   | <u>108-94-1</u>  | <u>0.36</u>    | <u>0.75 mg/l TCLP</u> |
| <u>1,2-Dibromo-3-chloropropane</u>   | <u>96-12-8</u>   | <u>0.11</u>    | <u>15</u>             |
| <u>Ethylene dibromide (1,2-Dibromoethane)</u>                                    | <u>106-93-4</u>  | <u>0.028</u>   | <u>15</u>             |
| <u>Dibromomethane</u>  | <u>74-95-3</u>   | <u>0.11</u>    | <u>15</u>             |
| <u>2,4-D (2,4-Dichlorophenoxyacetic acid)</u>                                    | <u>94-75-7</u>   | <u>0.72</u>    | <u>10</u>             |
| <u>o,p'-DDD</u>  | <u>53-19-0</u>   | <u>0.023</u>   | <u>0.087</u>          |
| <u>p,p'-DDD</u>  | <u>72-54-8</u>   | <u>0.023</u>   | <u>0.087</u>          |
| <u>o,p'-DDE</u>  | <u>3424-82-6</u> | <u>0.031</u>   | <u>0.087</u>          |
| <u>p,p'-DDE</u>  | <u>72-55-9</u>   | <u>0.031</u>   | <u>0.087</u>          |
| <u>o,p'-DDT</u>  | <u>789-02-6</u>  | <u>0.0039</u>  | <u>0.087</u>          |
| <u>p,p'-DDT</u>  | <u>50-29-3</u>   | <u>0.0039</u>  | <u>0.087</u>          |
| <u>Dibenz(a,h)anthracene</u>   | <u>53-70-3</u>   | <u>0.055</u>   | <u>8.2</u>            |
| <u>Dibenz(a,e)pyrene</u>   | <u>192-65-4</u>  | <u>0.061</u>   | <u>NA</u>             |
| <u>m-Dichlorobenzene</u>   | <u>541-73-1</u>  | <u>0.036</u>   | <u>6.0</u>            |
| <u>o-Dichlorobenzene</u>   | <u>95-50-1</u>   | <u>0.088</u>   | <u>6.0</u>            |
| <u>p-Dichlorobenzene</u>   | <u>106-46-7</u>  | <u>0.090</u>   | <u>6.0</u>            |
| <u>Dichlorodifluoromethane</u>   | <u>75-71-8</u>   | <u>0.23</u>    | <u>7.2</u>            |
| <u>1,1-Dichloroethane</u>  | <u>75-34-3</u>   | <u>0.059</u>   | <u>6.0</u>            |



# ADMINISTRATIVE REGISTER - 923

|  |                        |                 |                       |
|--|------------------------|-----------------|-----------------------|
| <u>1,2-Dichloroethane</u>  | <u>107-06-2</u>        | <u>0.21</u>     | <u>6.0</u>            |
| <u>1,1-Dichloroethylene</u>  | <u>75-35-4</u>         | <u>0.025</u>    | <u>6.0</u>            |
| <u>trans-1,2-Dichloroethylene</u>  | <u>156-60-5</u>        | <u>0.054</u>    | <u>30</u>             |
| <u>2,4-Dichlorophenol</u>  | <u>120-83-2</u>        | <u>0.044</u>    | <u>14</u>             |
| <u>2,6-Dichlorophenol</u>  | <u>87-65-0</u>         | <u>0.044</u>    | <u>14</u>             |
| <u>1,2-Dichloropropane</u>   | <u>78-87-5</u>         | <u>0.85</u>     | <u>18</u>             |
| <u>cis-1,3-Dichloropropylene</u>   | <u>10061-01-50.036</u> | <u>18</u>       |                       |
| <u>trans-1,3-Dichloropropylene</u>   | <u>10061-02-6</u>      | <u>0.036</u>    | <u>18</u>             |
| <u>Dieldrin</u>  | <u>60-57-1</u>         | <u>0.017</u>    | <u>0.13</u>           |
| <u>Diethyl phthalate</u>   | <u>84-66-2</u>         | <u>0.20</u>     | <u>28</u>             |
| <u>2-4-Dimethyl phenol</u>   | <u>105-67-9</u>        | <u>0.036</u>    | <u>14</u>             |
| <u>Dimethyl phthalate</u>  | <u>131-11-3</u>        | <u>0.047</u>    | <u>28</u>             |
| <u>Di-n-butyl phthalate</u>  | <u>84-74-2</u>         | <u>0.057</u>    | <u>28</u>             |
| <u>1,4-Dinitrobenzene</u>  | <u>100-25-4</u>        | <u>0.32</u>     | <u>2.3</u>            |
| <u>4,6-Dinitro-o-cresol</u>  | <u>534-52-1</u>        | <u>0.28</u>     | <u>160</u>            |
| <u>2,4-Dinitrophenol</u>   | <u>51-28-5</u>         | <u>0.12</u>     | <u>160</u>            |
| <u>2,4-Dinitrotoluene</u>  | <u>121-14-2</u>        | <u>0.32</u>     | <u>140</u>            |
| <u>2,6-Dinitrotoluene</u>  | <u>606-20-2</u>        | <u>0.55</u>     | <u>28</u>             |
| <u>Di-n-octyl phthalate</u>  | <u>117-84-0</u>        | <u>0.017</u>    | <u>28</u>             |
| <u>p-Dimethylaminoazobenzene</u>   | <u>60-11-7</u>         | <u>0.13</u>     | <u>NA</u>             |
| <u>Di-n-propylnitrosamine</u>  | <u>621-64-7</u>        | <u>0.40</u>     | <u>14</u>             |
| <u>1,4-Dioxane</u>   | <u>123-91-1</u>        | <u>NA</u>       | <u>170</u>            |
| <u>Diphenylamine (difficult to distinguish<br/>from diphenylnitrosamine)</u> | <u>122-39-4</u>        | <u>0.92</u>     | <u>13</u>             |
| <u>Diphenylnitrosamine (difficult to distinguish<br/>from diphenylamine)</u> | <u>86-30-6</u>         | <u>0.92</u>     | <u>13</u>             |
| <u>1,2-Diphenylhydrazine</u>   | <u>122-66-7</u>        | <u>0.087</u>    | <u>NA</u>             |
| <u>Disulfoton</u>  | <u>298-04-4</u>        | <u>0.017</u>    | <u>6.2</u>            |
| <u>Endosulfan I</u>  | <u>939-98-8</u>        | <u>0.023</u>    | <u>0.066</u>          |
| <u>Endosulfan II</u>   | <u>33213-6-5</u>       | <u>0.029</u>    | <u>0.13</u>           |
| <u>Endosulfan sulfate</u>  | <u>1-31-07-8</u>       | <u>0.029</u>    | <u>0.13</u>           |
| <u>Endrin</u>  | <u>72-20-8</u>         | <u>0.0028</u>   | <u>0.13</u>           |
| <u>Endrin aldehyde</u>   | <u>7421-93-4</u>       | <u>0.025</u>    | <u>0.13</u>           |
| <u>Ethyl acetate</u>   | <u>141-78-6</u>        | <u>0.34</u>     | <u>33</u>             |
| <u>Ethyl cyanide (Propanenitrile)</u>  | <u>107-12-0</u>        | <u>0.24</u>     | <u>360</u>            |
| <u>Ethyl benzene</u>   | <u>100-41-4</u>        | <u>0.057</u>    | <u>10</u>             |
| <u>Ethyl ether</u>   | <u>60-29-7</u>         | <u>0.12</u>     | <u>160</u>            |
| <u>bis(2-Ethylhexyl) phthalate</u>   | <u>117-81-7</u>        | <u>0.28</u>     | <u>28</u>             |
| <u>Ethyl methacrylate</u>  | <u>97-63-2</u>         | <u>0.14</u>     | <u>160</u>            |
| <u>Ethylene oxide</u>  | <u>75-21-8</u>         | <u>0.12</u>     | <u>NA</u>             |
| <u>Famphur</u>   | <u>52-85-7</u>         | <u>0.017</u>    | <u>15</u>             |
| <u>Fluoranthene</u>  | <u>206-44-0</u>        | <u>0.068</u>    | <u>3.4</u>            |
| <u>Fluorene</u>  | <u>86-73-7</u>         | <u>0.059</u>    | <u>3.4</u>            |
| <u>Heptachlor</u>  | <u>76-44-8</u>         | <u>0.0012</u>   | <u>0.066</u>          |
| <u>Heptachlor epoxide</u>  | <u>1024-57-3</u>       | <u>0.016</u>    | <u>0.066</u>          |
| <u>Hexachlorobenzene</u>   | <u>118-74-1</u>        | <u>0.055</u>    | <u>10</u>             |
| <u>Hexachlorobutadiene</u>   | <u>87-68-3</u>         | <u>0.055</u>    | <u>5.6</u>            |
| <u>Hexachlorocyclopentadiene</u>   | <u>77-47-4</u>         | <u>0.057</u>    | <u>2.4</u>            |
| <u>HxCDDs (All Hexachlorodibenzo-p-dioxins)</u>                              | <u>NA</u>              | <u>0.000063</u> | <u>0.001</u>          |
| <u>HxCDFs (All Hexachlorodibenzofurans)</u>                                  | <u>NA</u>              | <u>0.000063</u> | <u>0.001</u>          |
| <u>Hexachloroethane</u>  | <u>67-72-1</u>         | <u>0.055</u>    | <u>30</u>             |
| <u>Hexachloropropylene</u>   | <u>1888-71-7</u>       | <u>0.035</u>    | <u>30</u>             |
| <u>Indeno (1,2,3-c,d) pyrene</u>   | <u>193-39-5</u>        | <u>0.0055</u>   | <u>3.4</u>            |
| <u>Iodomethane</u>   | <u>74-88-4</u>         | <u>0.19</u>     | <u>65</u>             |
| <u>Isobutyl alcohol</u>  | <u>78-83-1</u>         | <u>5.6</u>      | <u>170</u>            |
| <u>Isodrin</u>   | <u>465-73-6</u>        | <u>0.021</u>    | <u>0.066</u>          |
| <u>Isosafrole</u>  | <u>120-58-1</u>        | <u>0.081</u>    | <u>2.6</u>            |
| <u>Kepone</u>  | <u>143-50-8</u>        | <u>0.0011</u>   | <u>0.13</u>           |
| <u>Methacrylonitrile</u>   | <u>126-98-7</u>        | <u>0.24</u>     | <u>84</u>             |
| <u>Methanol</u>  | <u>67-56-1</u>         | <u>5.6</u>      | <u>0.75 mg/l TCLP</u> |
| <u>Methapyrilene</u>   | <u>91-80-5</u>         | <u>0.081</u>    | <u>1.5</u>            |
| <u>Methoxychlor</u>  | <u>72-43-5</u>         | <u>0.25</u>     | <u>0.18</u>           |
| <u>3-Methylcholanthrene</u>  | <u>56-49-5</u>         | <u>0.0055</u>   | <u>15</u>             |
| <u>4,4-Methylene bis(2-chloroaniline)</u>                                    | <u>101-14-4</u>        | <u>0.50</u>     | <u>30</u>             |
| <u>Methylene chloride</u>  | <u>75-09-2</u>         | <u>0.089</u>    | <u>30</u>             |
| <u>Methyl ethyl ketone</u>   | <u>78-93-3</u>         | <u>0.28</u>     | <u>36</u>             |
| <u>Methyl isobutyl ketone</u>  | <u>108-10-1</u>        | <u>0.14</u>     | <u>33</u>             |

# ADMINISTRATIVE REGISTER - 924

|  |                   |                 |                        |
|--|-------------------|-----------------|------------------------|
| <u>Methyl methacrylate</u>   | <u>80-62-6</u>    | <u>0.14</u>     | <u>160</u>             |
| <u>Methyl methansulfonate</u>  | <u>66-27-3</u>    | <u>0.018</u>    | <u>NA</u>              |
| <u>Methyl parathion</u>  | <u>298-00-0</u>   | <u>0.014</u>    | <u>4.6</u>             |
| <u>Naphthalene</u>   | <u>91-20-3</u>    | <u>0.059</u>    | <u>5.6</u>             |
| <u>2-Naphthylamine</u>   | <u>91-59-8</u>    | <u>0.52</u>     | <u>NA</u>              |
| <u>o-Nitroaniline</u>  | <u>88-74-4</u>    | <u>0.27</u>     | <u>14</u>              |
| <u>p-Nitroaniline</u>  | <u>100-01-6</u>   | <u>0.028</u>    | <u>28</u>              |
| <u>Nitrobenzene</u>  | <u>98-95-3</u>    | <u>0.068</u>    | <u>14</u>              |
| <u>5-Nitro-o-toluidine</u>   | <u>99-55-8</u>    | <u>0.32</u>     | <u>28</u>              |
| <u>o-Nitrophenol</u>   | <u>88-75-5</u>    | <u>0.028</u>    | <u>13</u>              |
| <u>p-Nitrophenol</u>   | <u>100-02-7</u>   | <u>0.12</u>     | <u>29</u>              |
| <u>N-Nitrosodiethylamine</u>   | <u>55-18-5</u>    | <u>0.40</u>     | <u>28</u>              |
| <u>N-Nitrosodimethylamine</u>  | <u>62-75-9</u>    | <u>0.40</u>     | <u>2.3</u>             |
| <u>N-Nitroso-di-n-butylamine</u>   | <u>924-16-3</u>   | <u>0.40</u>     | <u>17</u>              |
| <u>N-Nitrosomethylethylamine</u>   | <u>10595-95-6</u> | <u>0.40</u>     | <u>2.3</u>             |
| <u>N-Nitrosomorpholine</u>   | <u>59-89-2</u>    | <u>0.40</u>     | <u>2.3</u>             |
| <u>N-Nitrosopiperidine</u>   | <u>100-75-4</u>   | <u>0.013</u>    | <u>35</u>              |
| <u>N-Nitrosopyrrolidine</u>  | <u>930-55-2</u>   | <u>0.013</u>    | <u>35</u>              |
| <u>Parathion</u>   | <u>56-38-2</u>    | <u>0.014</u>    | <u>4.6</u>             |
| <u>Total PCBs (sum of all PCB isomers,<br/>or all Aroclors)</u>              | <u>1336-36-3</u>  | <u>0.10</u>     | <u>10</u>              |
| <u>Pentachlorobenzene</u>  | <u>608-93-5</u>   | <u>0.055</u>    | <u>10</u>              |
| <u>PeCDDs (All Pentachlorodibenzo-p-dioxins)</u>                             | <u>NA</u>         | <u>0.000063</u> | <u>0.001</u>           |
| <u>PeCDFs (All Pentachlorodibenzofurans)</u>                                 | <u>NA</u>         | <u>0.000035</u> | <u>0.001</u>           |
| <u>Pentachloroethane</u>   | <u>76-01-7</u>    | <u>0.055</u>    | <u>6.0</u>             |
| <u>Pentachloronitrobenzene</u>   | <u>82-68-8</u>    | <u>0.055</u>    | <u>4.8</u>             |
| <u>Pentachlorophenol</u>   | <u>87-86-5</u>    | <u>0.089</u>    | <u>7.4</u>             |
| <u>Phenacetin</u>  | <u>62-44-2</u>    | <u>0.081</u>    | <u>16</u>              |
| <u>Phenanthrene</u>  | <u>85-01-8</u>    | <u>0.059</u>    | <u>5.6</u>             |
| <u>Phenol</u>  | <u>108-95-2</u>   | <u>0.039</u>    | <u>6.2</u>             |
| <u>Phorate</u>   | <u>298-02-2</u>   | <u>0.021</u>    | <u>4.6</u>             |
| <u>Phthalic acid</u>   | <u>100-21-0</u>   | <u>0.055</u>    | <u>28</u>              |
| <u>Phthalic anhydride</u>  | <u>85-44-9</u>    | <u>0.055</u>    | <u>28</u>              |
| <u>Pronamide</u>   | <u>23950-58-5</u> | <u>0.093</u>    | <u>1.5</u>             |
| <u>Pyrene</u>  | <u>129-00-0</u>   | <u>0.067</u>    | <u>8.2</u>             |
| <u>Pyridine</u>  | <u>110-86-1</u>   | <u>0.014</u>    | <u>16</u>              |
| <u>Safrole</u>   | <u>94-59-7</u>    | <u>0.081</u>    | <u>22</u>              |
| <u>Silvex (2,4,5-TP)</u>   | <u>93-72-1</u>    | <u>0.72</u>     | <u>7.9</u>             |
| <u>2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)</u>                           | <u>93-76-5</u>    | <u>0.72</u>     | <u>7.9</u>             |
| <u>1,2,4,5-Tetrachlorobenzene</u>  | <u>95-94-3</u>    | <u>0.055</u>    | <u>14</u>              |
| <u>TCDDs (All Tetrachlorodibenzo-p-dioxins)</u>                              | <u>NA</u>         | <u>0.000063</u> | <u>0.001</u>           |
| <u>TCDFs (All Tetrachlorodibenzofurans)</u>                                  | <u>NA</u>         | <u>0.000063</u> | <u>0.001</u>           |
| <u>1,1,1,2-Tetrachloroethane</u>   | <u>630-20-6</u>   | <u>0.057</u>    | <u>6.0</u>             |
| <u>1,1,2,2-Tetrachloroethane</u>   | <u>79-34-6</u>    | <u>0.057</u>    | <u>6.0</u>             |
| <u>Tetrachloroethylene</u>   | <u>127-18-4</u>   | <u>0.056</u>    | <u>6.0</u>             |
| <u>2,3,4,6-Tetrachlorophenol</u>   | <u>58-90-2</u>    | <u>0.030</u>    | <u>7.4</u>             |
| <u>Toluene</u>   | <u>108-88-3</u>   | <u>0.080</u>    | <u>10</u>              |
| <u>Toxaphene</u>   | <u>8001-35-2</u>  | <u>0.0095</u>   | <u>2.6</u>             |
| <u>Bromoform (Tribromomethane)</u>   | <u>75-25-2</u>    | <u>0.63</u>     | <u>15</u>              |
| <u>1,2,4-Trichlorobenzene</u>  | <u>120-82-1</u>   | <u>0.055</u>    | <u>19</u>              |
| <u>1,1,1-Trichloroethane</u>   | <u>71-55-6</u>    | <u>0.054</u>    | <u>6.0</u>             |
| <u>1,1,2-Trichloroethane</u>   | <u>79-00-5</u>    | <u>0.054</u>    | <u>6.0</u>             |
| <u>Trichloroethylene</u>   | <u>79-01-6</u>    | <u>0.054</u>    | <u>6.0</u>             |
| <u>Trichloromonofluoromethane</u>  | <u>75-69-4</u>    | <u>0.020</u>    | <u>30</u>              |
| <u>2,4,5-Trichlorophenol</u>   | <u>95-95-4</u>    | <u>0.18</u>     | <u>7.4</u>             |
| <u>2,4,6-Trichlorophenol</u>   | <u>88-06-2</u>    | <u>0.035</u>    | <u>7.4</u>             |
| <u>1,2,3-Trichloropropane</u>  | <u>96-18-4</u>    | <u>0.85</u>     | <u>30</u>              |
| <u>1,1,2-Trichloro-1,2,2-trifluoroethane</u>                                 | <u>76-13-1</u>    | <u>0.057</u>    | <u>30</u>              |
| <u>tris-(2,3-Dibromopropyl) phosphate</u>                                    | <u>126-72-7</u>   | <u>0.11</u>     | <u>0.10</u>            |
| <u>Vinyl chloride</u>  | <u>75-01-4</u>    | <u>0.27</u>     | <u>6.0</u>             |
| <u>Xylenes-mixed isomers (sum of o-,m-,<br/>and p-xylene concentrations)</u> | <u>1330-20-7</u>  | <u>0.32</u>     | <u>30</u>              |
| <u>Antimony</u>  | <u>7440-36-0</u>  | <u>1.9</u>      | <u>2.1 mg/l TCLP</u>   |
| <u>Arsenic</u>   | <u>7440-38-2</u>  | <u>1.4</u>      | <u>5.0 mg/l TCLP</u>   |
| <u>Barium</u>  | <u>7440-39-3</u>  | <u>1.2</u>      | <u>7.6 mg/l TCLP</u>   |
| <u>Beryllium</u>   | <u>7440-41-7</u>  | <u>0.82</u>     | <u>0.014 mg/l TCLP</u> |
| <u>Cadmium</u>   | <u>7440-43-9</u>  | <u>0.69</u>     | <u>0.19 mg/l TCLP</u>  |

|                                   |            |      |                 |
|-----------------------------------|------------|------|-----------------|
| Chromium (Total)                  | 7440-47-3  | 2.77 | 0.86 mg/l TCLP  |
| Cyanides (Total) <sup>4</sup>     | 57-12-5    | 1.2  | 590             |
| Cyanides (Amenable) <sup>4</sup>  | 57-12-5    | 0.86 | 30              |
| Fluoride                          | 16964-48-8 | 35   | NA              |
| Lead                              | 7439-92-1  | 0.69 | 0.37 mg/l TCLP  |
| Mercury-Nonwastewater from Retort | 7439-97-6  | NA   | 0.20 mg/l TCLP  |
| Mercury-All Others                | 7439-97-6  | 0.15 | 0.025 mg/l TCLP |
| Nickel                            | 7440-02-0  | 3.98 | 5.0 mg/l TCLP   |
| Selenium                          | 7782-49-2  | 0.82 | 0.16 mg/l TCLP  |
| Silver                            | 7440-22-4  | 0.43 | 0.30 mg/l TCLP  |
| Sulfide                           | 8496-25-8  | 14   | NA              |
| Thallium                          | 7440-28-0  | 1.4  | 0.078 mg/l TCLP |
| Vanadium                          | 7440-62-2  | 4.3  | 0.23 mg/l TCLP  |
| Zinc <sup>5</sup>                 | 7440-66-6  | 2.61 | 5.3 mg/l TCLP   |

<sup>1</sup> CAS means Chemical Abstract Services. When the waste code or regulated constituents are described as a combination of a chemical with its salts or esters, the CAS number is given for the parent compound only.

<sup>2</sup> Concentration standards for wastewaters are expressed in mg/l are based on analysis of composite samples.

<sup>3</sup> Except for Metals (EP or TCLP) and Cyanides (Total and Amenable) the nonwastewater treatment standards expressed as a concentration were established, in part, based upon incineration in units operated in accordance with the technical requirements of 401 KAR 34:240 and 35:240, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may comply with these treatment standards according to provisions in Section 1 of this administrative regulation. All concentration standards for nonwastewaters are based on analysis of grab samples.

<sup>4</sup> Both Cyanides (Total) and Cyanides (Amenable) for nonwastewaters are to be analyzed using Method 9010 or 9012, found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, incorporated by reference in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010, with a sample size of 10 grams and a distillation time of one hour and 15 minutes.

<sup>5</sup> Vanadium and Zinc are not "underlying hazardous constituents" in characteristic wastes, according to the definition at 401 KAR 37:005.

Note: NA means not applicable.

Section 7. Repeal of Regulation. 401 KAR 37:100 is hereby repealed.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an

electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators who treat hazardous waste prior to land disposal.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff will have an increased workload in order to process the newly regulated entities. The increase in workload will also increase costs.

2. Continuing costs or savings: Once the new entities are processed, there should not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues:

There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The public health and environmental welfare will improve across the commonwealth with the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, detrimental effects could occur without the implementation of this regulation.

c. If detrimental effect would result, explain detrimental effect: The environment and public health could be seriously harmed without the implementation of this regulation. If an untreated waste got into a land disposal site, then the waste could affect the air, land, and water.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was applied. This administrative regulation applies to owners and operators of facilities that treat hazardous waste, prior to land disposal. Tiering is applied to all of Kentucky's waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to treatment standards for hazardous wastes. These changes are necessary to maintain consistency between state and federal programs. The numerous additions and exclusions clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that treats hazardous waste prior to land disposal.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. Any state, county, or local government office that treats hazardous waste prior to land disposal will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 37:050. Prohibitions on storage.

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 CFR 268 Subpart E

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-505, 224.46-520, 224.46-530

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-505, 224.46-520, and 224.46-530 and to establish prohibitions on storage of restricted wastes.

Section 1. Prohibitions on Storage of Restricted Waste. (1) Except as provided in this section, the storage of hazardous wastes restricted from land disposal under 401 KAR 37:030 or KRS 224.46-520 is prohibited, unless the following conditions are met:

(a) A generator stores such wastes in tanks, ~~or~~ containers, or containment buildings on site solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and the generator complies with the requirements in section 5 of 401 KAR 32:030 and 401 KAR Chapters 34 and 35. ~~[A generator who is in existence on the effective date of this administrative regulation and who stores hazardous wastes for longer than ninety (90) days due to the administrative regulations under this chapter becomes an owner or operator of a storage facility and shall obtain a hazardous waste site or facility permit. Such a facility may qualify for interim status upon compliance with the administrative regulations governing interim status under Section 1 of 401 KAR 38:020.]~~

(b) An owner or operator of a hazardous waste treatment,

storage, or disposal facility stores such wastes in tanks, ~~or~~ containers, or containment buildings solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and:

1. Each container is clearly labeled with the words "Hazardous Waste," marked to identify its contents and the date each period of accumulation begins;

2. Each tank is clearly labeled with the words "Hazardous Waste," marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility. Regardless of whether the tank itself is marked, an owner/operator shall comply with the operating record requirements specified in Section 4 of 401 KAR 34:050 or Section 4 of 401 KAR 35:050.

(c) A transporter stores manifested shipments of such wastes at a transfer facility for ten (10) days or less.

(2) An owner or operator of a treatment, storage or disposal facility may store such wastes for up to one (1) year unless the cabinet can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(3) An owner or operator of a treatment, storage or disposal facility may store such wastes beyond one (1) year, however, the owner or operator bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(4) If a generator's waste is exempt from a prohibition on the type of land disposal utilized for the waste (for example, because of an approved case-by-case extension under Section 5 of 401 KAR 37:010, an approved Section 6 of 401 KAR 37:010 petition, or a national capacity variance under 401 KAR 37:030), the prohibition in subsection (1) of this section does not apply during the period of such exemption.

(5) The prohibition in subsection (1) of this section does not apply to hazardous wastes that meet the treatment standards specified in 401 KAR 37:040 or the treatment standards specified under the variance in Section 4 of 401 KAR 37:040 or, where treatment standards have not been specified, is in compliance with the applicable prohibitions specified in Section 3 of 401 KAR 37:030 or KRS 224.46-520.

(6) Liquid hazardous waste containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to fifty (50) ppm shall be stored at a facility that meets the requirements of 40 CFR 761.65(b) ~~{4009}~~ and shall be removed from storage and treated or disposed as required by this chapter within one (1) year of the date when such wastes are first placed into storage. The provisions of subsection (3) of this section do not apply to such PCB wastes prohibited under Section 3 of 401 KAR 37:030.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for

payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

## REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste disposal and storage facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received:

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff will have an increased workload in order to process the newly regulated entities. The increase in workload will also increase costs.

2. Continuing costs or savings: Once the new entities are processed, there should not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives

were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The implementation of this regulation will improve public health and environmental welfare across the commonwealth.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, detrimental effects could occur without the implementation of this regulation.

c. If detrimental effect would result, explain detrimental effect: The wrongful storing of hazardous waste could occur without the implementation of this regulation, which could harm the land, air, water, and human health.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of facilities that dispose or store hazardous wastes. Tiering is applied to all of Kentucky's waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to storage of hazardous wastes. These changes are necessary to maintain consistency between state and federal programs. The additions and exclusions clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that owns or operates hazardous waste disposal and storage facilities.

3. State the aspect or service of local government to which this

administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies applicable to this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 38:010. General provisions for permitting.

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 270 Subpart A

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and 224.46-530 to establish general provisions for hazardous waste permitting.

Section 1. Scope of the Permit Requirements. (1) The hazardous waste permit program has separate additional administrative regulations that contain technical requirements. These separate administrative regulations are used by permit issuing authorities to determine what requirements shall be placed in permits if they are issued. These separate administrative regulations are located in 401 KAR 30:020 and Chapters 34 and 35.

(2) KRS 224.46-520 requires a permit for the "treatment," "storage," and "disposal" of any "hazardous waste" as identified or listed in 401 KAR Chapter 31. The terms "treatment," "storage," "disposal" and "hazardous waste" are defined in 401 KAR 38:005 [30:040]. Owners or [and] operators of hazardous waste management units shall have permits during the active life (including the closure period) of the unit. Owners or operators of surface impoundments, landfills, land treatment units, and waste pile units that received wastes after July 26, 1982, or that certified closure (according to Section 6 of 401 KAR 35:070) after January 26, 1983, shall have postclosure permits, unless they demonstrate closure by removal as provided under paragraphs (e) and (f) of this subsection. If a postclosure permit is required, the permit shall address applicable 401 KAR Chapter 34 groundwater monitoring, unsaturated zone monitoring, corrective action and postclosure care requirements. The denial of a permit for the active life of a hazardous waste management facility or unit does not affect the requirement to obtain a postclosure permit under this section.

(a) Specific inclusions. Owners or operators of certain facilities require hazardous waste site or facility permits as well as permits under other programs for certain aspects of the facility operation. Hazardous waste site or facility permits are required for:

1. Injection wells that dispose of hazardous waste, and associated surface facilities that treat, store, or dispose of hazardous waste (see Section 5 of 401 KAR 38:060). However, the owner or operator with a UIC permit issued by the cabinet under an approved or promulgated UIC program, or by EPA, shall be deemed to have a permit for the injection well itself if they comply with the requirements of Section 1(2) of 401 KAR 38:060 (permit by rule for injection wells).

2. Treatment, storage, or disposal of hazardous waste at facilities requiring an NPDES permit or KPDES permit when the cabinet program is approved by EPA. However, owners or operators of a publicly owned treatment works receiving hazardous waste shall be deemed to have a permit for that waste if they comply with the applicable requirements of Section 1(3) of 401 KAR 38:060 (permit by rule for POTW's).

3. Barges or vessels that dispose of hazardous waste by ocean disposal and onshore hazardous waste treatment, or storage facilities associated with an ocean disposal operation. However, owners or operators shall be deemed to have a permit for ocean disposal for the barge or vessel itself if they comply with the requirements of Section 1(1) of 401 KAR 38:060 (permit by rule for ocean disposal barges and vessels).

(b) Specific exclusions. The following persons are among those who are not required to obtain a hazardous waste site or facility permit:

1. Generators who accumulate hazardous waste on-site for less than the time periods provided in Section 5 or 6 of 401 KAR 32:030 or in accordance with the standards in Section 5(6) of 401 KAR 31:010.

2. Farmers who dispose of hazardous waste pesticides from their own use as provided in Section 10 of 401 KAR 32:050.

3. Persons who own or operate facilities solely for the treatment, storage, or disposal of hazardous waste excluded from administrative regulations under this chapter by Section 4 of 401 KAR 31:010 except as provided in 401 KAR 38:060.

4. Owners or operators of totally enclosed treatment facilities as defined in 401 KAR 38:005 ~~(30:040)~~.

5. Owners or operators of elementary neutralization units or of waste water treatment units as defined in 401 KAR 38:005 ~~(30:040)~~ except as provided in Section 1(4) and (5) of 401 KAR 38:060.

6. Transporters storing manifested shipments of hazardous waste in containers meeting the requirements of Section 1 of 401 KAR 32:030, at a transfer facility for a period of ten (10) days or less.

7. Persons adding absorbent material to waste in a container (as defined in Section 1 of 401 KAR 38:005 ~~(30:040)~~) and persons adding waste to absorbent material in a container provided that these actions occur at the time waste is first placed in the container; and Section 8(2) of 401 KAR 34:020, and Sections 2 and 3 of 401 KAR 34:180 are complied with.

8. Universal waste handlers and universal waste transporters managing the wastes listed below. These handlers are subject to regulation under 401 KAR Chapter 43, when handling the below listed universal wastes.

1. Batteries as described in Section 2 of 401 KAR 43:010;

2. Pesticides as described in Section 3 of 401 KAR 43:010;

3. Thermostats as described in Section 4 of 401 KAR 43:010; and

4. Spent mercury containing lamps as described in Section 5 of 401 KAR 43:010.

9. Generators who treat hazardous waste on site in accordance with Section 6 of 401 KAR 32:030.

(c) Further exclusions.

1. A person is not required to obtain a hazardous waste permit for treatment or containment activities taken during immediate response to any of the following situations:

a. A discharge of a hazardous waste;

b. An imminent and substantial threat of a discharge of hazardous waste;

c. A discharge of a material which, when discharged, becomes a

hazardous waste.

2. Any person who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this chapter for those activities.

(d) Permits for less than an entire facility. The cabinet may issue or deny a permit for one (1) or more units at a facility without simultaneously issuing or denying a permit to all of the units at the facility. The interim status of any unit for which a permit has not been issued or denied is not affected by the issuance or denial of a permit to any other unit at the facility.

(e) Closure by removal. Owners or operators of surface impoundments, land treatment units, and waste piles closing by removal or decontamination under 401 KAR Chapter 35 standards shall obtain a postclosure permit unless they can demonstrate to the cabinet that the closure met the standards for closure by removal or decontamination in Section 6 of 401 KAR 34:200, Section 8(5) of 401 KAR 34:220, or Section 8 of 401 KAR 34:210, respectively. The demonstration may be made in the following ways:

1. If the owner or operator has submitted a Part B application for a postclosure permit, the owner or operator may request a determination based on information contained in the application that 401 KAR Chapter 34 closure by removal standards were met. If the cabinet believes that 401 KAR Chapter 34 standards were met, it shall notify the public of this proposed decision, allow for public comment, and reach a final determination according to the procedures in paragraph (f) of this subsection.

2. If the owner or operator has not submitted a Part B application for a postclosure permit, the owner or operator may petition the cabinet for a determination that a postclosure permit is not required because the closure met the applicable 401 KAR Chapter 34 closure standards.

a. The petition shall include data demonstrating that closure by removal or decontamination standards were met, or it shall demonstrate that the unit closed under requirements that met or exceeded the applicable 401 KAR Chapter 34 closure-by-removal standard.

b. The cabinet shall approve or deny the petition according to the procedures outlined in paragraph (f) of this subsection.

(f) Procedures for closure equivalency determination.

1. If a facility owner or operator seeks an equivalency demonstration under paragraph (e) of this subsection, the cabinet shall provide the public, through a newspaper notice, the opportunity to submit written comments on the information submitted by the owner or operator within thirty (30) days from the date of the notice. The cabinet shall also, in response to a request or at its own discretion, hold a public hearing whenever such a hearing might clarify one (1) or more issues concerning the equivalence of the 401 KAR Chapter 35 closure to a 401 KAR Chapter 34 closure. The cabinet shall give public notice of the hearing at least thirty (30) days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two (2) notices may be combined.)

2. The cabinet shall determine whether the 401 KAR Chapter 35 closure met 401 KAR Chapter 34 closure by removal or decontamination requirements within ninety (90) days of its receipt of the petition. If the cabinet finds that the closure did not meet the applicable 401 KAR Chapter 34 standards, it shall provide the owner or operator with a written statement of the reasons why the closure failed to meet 401 KAR Chapter 34 standards. The owner or operator may submit additional information in support of an equivalency demonstration within thirty (30) days after receiving such written statement. The cabinet shall review any additional information submitted and make a final determination within sixty (60) days.

3. If the cabinet determines that the facility did not close in accordance with 401 KAR Chapter 34 closure by removal standards, the facility is subject to postclosure permitting requirements.



Section 2. Considerations of Federal Law. Permits shall be issued in a manner and shall contain conditions consistent with requirements of applicable federal laws. These laws may include:

(1) 16 USC 1273-1287 (The Wild and Scenic Rivers Act), Section 7 of the Act prohibits the assisting by license or otherwise the construction of any water resources project that would have a direct, adverse effect on the values for which a national wild and scenic river was established.

(2) 16 USC 470 (The National Historic Preservation Act of 1966, as amended), Section 106 of the Act and implementing regulations (36 CFR Part 800) [~~(4989)~~] require the adoption measures before issuing a license, when feasible to mitigate potential adverse effects of the licensed activity and properties listed or eligible for listing in the National Register of Historic Places. The Act's requirements are to be implemented in cooperation with State Historic Preservation Officers and upon notice to, and when appropriate, in consultation with the Advisory Council on Historic Preservation.

(3) 16 USC 1531 (The Endangered Species Act, as amended), Section 7 of the Act and implementing regulations (50 CFR Part 402) [~~(4989)~~] require that in consultation with the Secretary of the Interior or Commerce, any action authorized is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat.

(4) 16 USC 661 et seq., (The Fish and Wildlife Coordination Act of 1958, as amended) requires that, before issuing a permit proposing or authorizing the impoundment (with certain exemptions), diversion or other control or modification of any body of water, the permitting agency shall consult with the appropriate state agency exercising jurisdiction over wildlife resources to conserve those resources.

Section 3. Effect of a Permit. (1) Compliance with a hazardous waste permit during its term constitutes compliance with KRS Chapter 224 for purposes of enforcement except for those requirements not included in the permit which:

(a) Become effective by statute;

(b) Are promulgated under 401 KAR Chapter 37 restricting the placement of hazardous wastes in or on the land; ~~or~~

(c) Are promulgated under 401 KAR Chapter 34 regarding leak detection systems for new and replacement surface impoundment, waste pile, and landfill units, and lateral expansions of surface impoundment, waste pile, and landfill units. The leak detection system requirements include double liners, COA programs, monitoring, action leakage rates and response action plans, and shall be implemented through the procedures of this chapter. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in 401 KAR 38:040 and in 401 KAR Chapter 40, or the permit may be modified upon the request of the permittee as set forth in 401 KAR 38:040; or

(d) Are promulgated under 401 KAR 35:275, 35:280, or 35:281.

(2) The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

(3) The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local laws or administrative regulations.

Section 4. Prohibition of Use of Unpermitted Facility. (1) Restrictions. No person shall deliver hazardous waste to a facility for treatment, storage, or disposal unless the owner or operator has:

(a) Registered with the cabinet as an existing hazardous waste facility in operation on or before November 19, 1980; or

(b) Qualified for interim status in accordance with Section 1(1) of 401 KAR 38:020; or

(c) Been granted a hazardous waste site or facility permit by the cabinet.

(2) Permit required. No person shall engage in the storage, treatment, or disposal of hazardous waste without first obtaining construction or operation permits from the cabinet as specified in KRS

224.46-520(1).

(3) Issuance of a federal permit to own or operate a hazardous waste site or facility shall not relieve the owner or operator of the responsibility to comply with the requirements of this chapter.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

## REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect all persons applying for hazardous waste facility permits.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:



1. First year: The existing staff will have an increased workload in order to process the newly regulated entities. The increase in workload will also increase costs.

2. Continuing costs or savings: Once the new entities are processed, there should not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: The implementation of this regulation will improve public health and environmental welfare across the commonwealth.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Yes, detrimental effects could occur without the implementation of this regulation.

c. If detrimental effect would result, explain detrimental effect: This administrative regulation ensures that a permitted facility will be able to properly manage hazardous waste, reducing the likelihood of a release.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? (Explain why tiering was or was not used): Yes, tiering was used. This administrative regulation applies to owners and operators of facilities that must obtain a hazardous waste permit, consistent with federal standards. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to permitting provisions for hazardous waste facilities. These changes are necessary to maintain consistency between state and federal programs. The additions clarify the applicability of the standards. In addition, the regulation has been

modified to reflect the requirements of regulation construction specified in KRS Chapter 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that applies for a hazardous waste facility permit.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies applicable to this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 38:020. Interim status provisions.

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 270 Subpart G

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish permitting standards for interim status facilities.

Section 1. Qualifying for Interim Status. (1) Any person who owns or operates an "existing hazardous waste management facility" or a hazardous waste site or facility in existence on the effective date of statutory or regulatory amendments under RCRA that render the facility subject to the requirements to have a RCRA permit shall have interim status and shall be treated as having been issued a permit to the extent he has:

(a) Complied with the requirements of KRS 224.46-520 pertaining

to notification of an existing hazardous waste activity; and

(b) Complied with the requirements of 401 KAR 38:070 governing submission of Part A applications.

(2) When the cabinet determines on examination or reexamination of a Part A application (or its equivalent, Registration of Intent to Apply for a Permit) that it fails to meet the standards of these administrative regulations, it may notify the owner or operator that the application is deficient and that the owner or operator is therefore not entitled to interim status. The owner or operator shall then be subject to enforcement procedures for operating without a permit.

(3) Subsection (1) of this section shall not apply to any facility which has been previously denied a permit or if authority to operate the facility under 401 KAR Chapters 30 to 39 and KRS Chapter 224 has been previously terminated.

Section 2. Operation During Interim Status. (1) During the interim status period the facility, except as provided in Section 3 of this administrative regulation, shall not:

(a) Treat, store or dispose of hazardous waste not specified in Part A of the permit application (or its equivalent, Registration of Intent to Apply for a Permit);

(b) Employ processes not specified in Part A of the permit application (or its equivalent, Registration of Intent to Apply for a Permit); or

(c) Exceed the design capacities specified in Part A of the permit application (or its equivalent, Registration of Intent to Apply for a Permit).

(2) During interim status, owners or operators shall comply with the interim status standards in 401 KAR Chapter 35.

Section 3. Changes During Interim Status. (1) Except as provided in subsection (2) of this section, the owner or operator of an interim status facility may make the following changes at the facility:

(a) Treatment, storage, or disposal of new hazardous wastes not previously identified in Part A of the permit application (and, in the case of newly listed or identified wastes, addition of the units being used to treat, store, or dispose of the hazardous wastes on the effective date of the listing or identification) if the owner or operator submits a revised Part A permit application prior to the treatment, storage, or disposal;

(b) Increases in the design capacity of processes used at the facility if the owner or operator submits a revised Part A permit application prior to a change (along with a justification explaining the need for the change) and the cabinet approves the changes because:

1. There is a lack of available treatment, storage, or disposal capacity at other hazardous waste management facilities; or

2. The change is necessary to comply with a federal, state, or local requirement.

(c) Changes in the processes for the treatment, storage, or disposal of hazardous waste or addition of processes if the owner or operator submits a revised Part A permit application prior to such change (along with a justification explaining the need for the change) and the cabinet approves the change because:

1. The change is necessary to prevent a threat to human health and the environment because of an emergency situation; or

2. The change is necessary to comply with a federal, state, or local requirement.

(d) Changes in the ownership or operational control of a facility if the new owner or operator submits a revised Part A permit application no later than ninety (90) days prior to the scheduled change. When a transfer of operational control of a facility occurs, the old owner or operator shall comply with the requirements of 401 KAR 35:080 to 35:130 until the new owner or operator has demonstrated to the cabinet that he is complying with the requirements of that chapter. The new owner or operator shall demonstrate compliance with 401 KAR 35:080 to 35:130 requirements within six (6) months of the date of the change in ownership or operational control of the

facility. Upon demonstration to the cabinet by the new owner or operator of compliance with 401 KAR 35:080 to 35:130, the cabinet shall notify the old owner or operator in writing that he no longer needs to comply with 401 KAR 35:080 through 35:130 as of the date of demonstration. All other interim status duties are transferred effective immediately upon the date of the change in ownership or operational control of the facility.

(e) Changes made in accordance with an interim status corrective action order issued by EPA under section 3008(h) of RCRA or other federal authority, by the cabinet, or by a court in a judicial action brought by EPA or by the cabinet. Changes under this subsection are limited to the treatment, storage, or disposal of solid waste from releases that originate within the boundary of the facility.

(f) Addition of newly regulated units for the treatment, storage, or disposal of hazardous waste if the owner or operator submits a revised Part A permit application on or before the date on which the unit becomes subject to the new requirements.

(2) Except as specifically allowed under this subsection, changes listed under subsection (1) of this section may not be made if they amount to reconstruction of the hazardous waste management facility. Reconstruction occurs when the capital investment in the changes to the facility exceeds fifty (50) percent of the capital cost of a comparable entirely new hazardous waste management facility. If all other requirements are met, the following changes may be made even if they amount to a reconstruction:

(a) Changes made solely for the purposes of complying with the requirements of Section 4 of 401 KAR 35:190 for tanks and ancillary equipment.

(b) If necessary to comply with federal, state, or local requirements, changes to an existing unit, changes solely involving tanks or containers, or addition of the replacement surface impoundments that satisfy the standards of Section 3004(o) of RCRA.

(c) Changes that are necessary to allow owners or operators to continue handling newly listed or identified hazardous wastes that have been treated, stored, or disposed of at the facility prior to the effective date of this administrative regulation establishing the new listing or identification.

(d) Changes during closure of a facility or of a unit within a facility made in accordance with an approved closure plan.

(e) Changes necessary to comply with an interim status corrective action order issued by EPA under section 3008(h) of RCRA or other federal authority, by the cabinet, or by a court in a judicial proceeding brought by EPA or the cabinet, provided that the changes are limited to the treatment, storage, or disposal of solid waste from releases that originate within the boundary of the facility.

(f) Changes to treat or store, in tanks, ~~or~~ containers, drip pads, or containment buildings, hazardous wastes subject to land disposal restrictions imposed by 401 KAR Chapter 37 or KRS Chapter 224, provided that the changes are made solely for the purpose of complying with 401 KAR Chapter 37 or KRS Chapter 224.

(g) Addition of newly regulated units under subsection (1)(f) of this section.

Section 4. Termination of Interim Status. Interim status terminates when:

(1) Final administrative disposition of a permit application is made; or

(2) Interim status is terminated as provided in Section 4 of 401 KAR 38:040.

(3) For owners or operators of each land disposal facility which has been granted interim status prior to November 8, 1984, on November 8, 1985, unless:

(a) The owner or operator submits a Part B application for a permit for the facility prior to that date; and

(b) The owner or operator certifies that the facility is in compliance with all applicable groundwater monitoring and financial responsibility requirements.

(4) For owners or operators of each land disposal facility which is in existence on November 8, 1984 or the date applicable amendments are made to 401 KAR Chapters 30 to 39 which render the facility subject to the requirements in 401 KAR Chapters 30 to 39 and which is granted interim status, twelve (12) months after the date on which the facility first becomes subject to the permit requirement unless the owner or operator of the facility:

(a) Submits a Part B application for a permit for the facility before the date twelve (12) months after the date on which the facility first becomes subject to the permit requirements; and

(b) Certifies that the facility is in compliance with all applicable groundwater monitoring and financial responsibility requirements.

(5) For owners or operators of any land disposal unit that is granted authority to operate under Section 3(1)(a), (b), and (c) of this administrative regulation, on the date twelve (12) months after the effective date of the requirement, unless the owner or operator certifies that the unit is in compliance with all applicable groundwater monitoring and financial responsibility requirements.

(6) For owners or operators of each incinerator facility which has achieved interim status prior to November 8, 1989, interim status terminates on November 8, 1989, unless the owner or operator of the facility submits a Part B application for a permit for an incinerator facility by November 8, 1986.

(7) For owners or operators of any facility (other than a land disposal or an incinerator facility) which has achieved interim status prior to November 8, 1984, interim status terminates on November 8, 1992, unless the owner or operator of the facility submits a Part B application for a permit for the facility by November 8, 1988.

Section 5. Deadlines for Submission of Part B of the Application. All hazardous waste sites or facilities which have submitted Part A of the application or its equivalent shall be required to submit Part B of the application within six (6) months of the cabinet's decision to require the submittal, according to Section 2(4) of 401 KAR 38:070. The cabinet may base its decision to require Part B of the application upon receiving Phase II or final authorization from the EPA. However, in accordance with KRS 224.46-520(1), the cabinet may require submission of Part B of the application at any time.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet

will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

## REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities applying for interim status.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First year: The existing staff of the agency will have an increased workload in order to process the newly regulated entities.

2. Continuing costs or savings: Once the new entities are processed, there will be no extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: There will be no effects on public health or the environmental welfare without the implementation of this administrative regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not

applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? (Explain why tiering was or was not used): Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste facilities seeking to obtain interim status. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes to permitting standards for interim status for hazardous waste facilities. These changes are necessary to maintain consistency between state and federal programs. The addition has been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS Chapter 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities applying for interim status.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the cabinet to establish a comprehensive program for the proper management of hazardous waste. Any state, county, or local government office that manages hazardous waste facilities will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state,

county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 38:030. Conditions applicable to all permits.

RELATES TO: KRS 224.10, 224.40, 224.46, 224.99

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: KRS 224.40-305 and 224.46-520 require any person who treats, stores, recycles or disposes of hazardous waste to first obtain a hazardous waste site or facility permit from the cabinet. This chapter establishes the permitting process for hazardous waste sites or facilities. An overview of the permit program is found in the Necessity and Function of 401 KAR 38:010. This administrative regulation establishes the conditions applicable to all permits.

Section 1. Conditions Applicable to All Permits. All conditions applicable to all permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these administrative regulations must be given in the permit.

(1) Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the appropriate Kentucky Revised Statute and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. However, the permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit (see Section 4 of 401 KAR 38:010).

(2) Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

(3) Duty to halt or reduce activity. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(4) Duty to mitigate. In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health and the environment.

(5) Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

(6) Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or

termination, or a modification of planned changes or anticipated noncompliance, does not stay any permit condition.

(7) Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

(8) Duty to provide information. The permittee shall furnish the cabinet, within a reasonable time, any information which the cabinet may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the cabinet upon request copies of records required to be kept by this permit.

(9) Inspection and entry. The permittee shall allow the cabinet or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy at reasonable times any records that must be kept under the conditions of this permit;

(c) Inspect at reasonable times any facility's equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate Kentucky Revised Statutes, any substances or parameters at any location.

(10) Monitoring and records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, the certification required by Section 4(2)(i) of 401 KAR 34:050, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report, certification or application. This period may be extended by request of the cabinet at any time. In addition, the permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the postclosure care period as well.

(c) Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The individual(s) who performed the sampling or measurements;
3. The date(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and
6. The results of such analyses.

(11) Signatory requirement. All applications, reports, or information submitted to the cabinet shall be signed and certified (see Section 7 of 401 KAR 38:070).

(12) Reporting requirements.

(a) Planned changes. The permittee shall give notice to the cabinet as soon as possible of any planned physical alterations or additions to the permitted facility.

(b) Anticipated noncompliance. The permittee shall give advance notice to the cabinet of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. In addition, for a new hazardous waste site or facility, the permittee may not commence treatment, storage, or disposal of hazardous waste; and for a facility being modified the permittee may not treat, store, or dispose of hazardous waste in the modified portion of the facility until:

1. The permittee has submitted to the cabinet, by certified mail or hand delivery, a letter signed by the permittee and a professional engineer registered in Kentucky stating that the facility has been

constructed or modified in compliance with the permit; and

2.a. The cabinet has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

b. Within fifteen (15) days of the date of submission of the letter in subparagraph 1 of this paragraph, the permittee has not received notice from the cabinet of its intent to inspect, prior inspection is waived and the permittee may commence treatment, storage, or disposal of hazardous waste.

(c) Transfers. This permit is not transferable to any person except after notice to the cabinet. The cabinet may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the appropriate statute (see Section 1 of 401 KAR 38:040, in some cases, modification or revocation and reissuance is mandatory).

(d) Monitoring reports. Monitoring results shall be reported at the intervals specified in this permit.

(e) Compliance schedules. Reports of compliance or noncompliance with or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each scheduled date.

(f) Immediate reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within two (2) hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The following shall be included as information which must be reported orally within two (2) hours:

1. Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies, including both surface water and groundwater used for public drinking water supply.

2. Any information of a release or discharge of hazardous waste, or of a fire or explosion from a hazardous waste site or facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

a. Name, address, and telephone number of the owner or operator;

b. Name, address, and telephone number of the facility;

c. Date, time and type of incident;

d. Name and quantity of material(s) involved;

e. The extent of injuries, if any;

f. An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

g. Estimated quantity and disposition of recovered material that resulted from the incident. The cabinet may waive the five (5) day written notice requirement in favor of a written report within fifteen (15) days.

(g) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (a), (d), (e) and (f) of this subsection at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this subsection.

(h) The following reports required by 401 KAR Chapter 34 shall be submitted:

1. Manifest discrepancy report. If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within fifteen (15) days, the permittee

must submit a letter or report including a copy of the manifest to the cabinet (see Section 3 of 401 KAR 34:050).

2. Unmanifested waste report. Must be submitted to the cabinet within fifteen (15) days of receipt of unmanifested waste (see Section 7 of 401 KAR 34:050).

3. Annual report. An annual report must be submitted covering facility activities during the previous calendar year (see Section 6 of 401 KAR 34:050).

4. Waste minimization report. Must be submitted to the cabinet annually stating that the generator of the hazardous waste has a program in place to reduce the volume or quantity and toxicity of such waste to the degree determined by the generator to be economically practicable. The proposed method of treatment, storage, or disposal is that practicable method currently available to the generator which minimizes the present and future threat to human health and the environment.

(i) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the cabinet, he shall promptly submit such facts or information.

(j) All permits issued by the cabinet will be subject to any future statutory or regulatory changes whose purpose is the protection of the health and welfare of the citizens of the Commonwealth or their environment.

(13) Information repository. The cabinet may require the permittee to establish and maintain an information repository at any time, based on the factors set forth in Section 16(2) of 401 KAR 38:050. The information repository will be governed by the provisions of Section 16(3) through (6) of 401 KAR 38:050.

Section 2. Requirements for Recordkeeping and Reporting of Monitoring Results. All permits shall specify:

(1) Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(2) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring;

(3) Applicable reporting requirements based upon the impact of the regulated activity and as specified in KRS Chapter 224 and the Kentucky Hazardous Waste Management Administrative Regulations. Reporting shall be no less frequent than specified in the above administrative regulations.

Section 3. Establishing Permit Conditions. (1) In addition to conditions required for all permits in Section 1 of this administrative regulation, the cabinet shall establish conditions on a case-by-case basis in permits under Section 5 of 401 KAR 38:040 (duration of permit), Section 4 of this administrative regulation, (schedule of compliance), Section 2 of this administrative regulation (monitoring), and for cabinet issued permits only Section 4(2) of this administrative regulation (alternate schedules of compliance) and Section 3 of 401 KAR 38:010 (effect of a permit). In addition, each hazardous waste site or facility permit shall include permit conditions necessary to achieve compliance with each of the applicable requirements specified in the Kentucky Hazardous Waste Management Administrative Regulations. In satisfying this provision, the cabinet may incorporate applicable requirements of the Kentucky Hazardous Waste Management Administrative Regulations directly into the permit or establish other permit conditions that are based on these administrative regulations.

(2) Individual programs.

(a) Each hazardous waste site or facility permit shall include permit conditions necessary to achieve compliance with KRS Chapter 224 and administrative regulations, including each of the applicable requirements specified in 401 KAR Chapters 34, 36 and 37. In satisfying this provision, the secretary may incorporate applicable

requirements of 401 KAR Chapters 34, 36 and 37 directly into the permit or establish other permit conditions that are based on these requirements.

(b) Each permit issued under KRS 224.40-310 and 224.46-520 shall contain terms and conditions as the cabinet determines necessary to protect human health and the environment.

Section 4. General. (1) The permit may, when appropriate, specify a schedule of compliance leading to compliance with the appropriate statute and administrative regulations.

(a) Time for compliance. Any schedules of compliance under this administrative regulation shall require compliance as soon as possible.

(b) Interim dates. Except as provided in subsection (2)(a)2 of this section, if a permit establishes a schedule of compliance which exceeds one (1) year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

1. The time between interim dates shall not exceed one (1) year.

2. If the time necessary for completion of any interim requirement (such as the construction of a control facility) is more than one (1) year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

(c) Reporting. The permit shall be written to require that no later than fourteen (14) days following each interim date and the final date of compliance, the permittee shall notify the cabinet in writing of its compliance or noncompliance with the interim or final requirements.

(2) Alternative schedules of compliance. A permit applicant or permittee may cease conducting regulated activities (by receiving a terminal volume of hazardous waste at a hazardous waste site or facility; and for treatment and storage hazardous waste sites or facilities, closing pursuant to the applicable requirements, and, for disposal hazardous waste sites or facilities, closing and conducting postclosure care pursuant to the applicable requirements), rather than continue to operate and meet permit requirements as follows:

(a) If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued:

1. The permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or

2. The permittee shall cease conducting permitted activities before noncompliance with any interim or final compliance schedule requirement already specified in the permit.

(b) If the decision to cease conducting regulated activities is made before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements.

(c) If the permittee is undecided whether to cease conducting regulated activities, the cabinet may issue or modify a permit to contain two (2) schedules as follows:

1. Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date which ensures sufficient time to comply with applicable requirements in a timely manner if the permittee's decision is to continue conducting regulated activities;

2. One (1) schedule shall lead to timely compliance with applicable requirements;

3. The second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements;

4. Each permit containing two (2) schedules shall include a requirement that after the permittee has made a final decision under paragraph (a) of this subsection he shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to termination if the



decision is to cease conducting regulated activities.

(d) The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the cabinet, such as a resolution of the board of directors of a corporation.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as an interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of all hazardous waste facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First year: The existing staff of the agency will have an increased workload in order to process the newly regulated entities.

2. Continuing costs or savings: Once the new entities are processed, there will be no extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal changes.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: Public health and the environment will benefit from the implementation of this regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? (Explain why tiering was or was not used): Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste facilities, consistent with federal standards. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to all hazardous waste facilities seeking a permit from the cabinet.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those

required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

**FISCAL NOTE ON LOCAL GOVERNMENT**

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. Any state, county, or local government office that manages hazardous waste facilities will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

**NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)**

**401 KAR 38:040. Changes to permits; expiration of permits.**

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 270 Subparts D, E

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and 224.46-530 relative to changes and expiration of hazardous waste permits.

Section 1. Transfer of Permits. (1) A permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under subsection (2) of this section or Section 2(2)(b) of this administrative regulation) to identify the new permittee and incorporate such other requirements as may be necessary under KRS Chapter 224 and the waste management administrative regulations.

(2) Changes in ownership or operational control of a facility may be made as a major modification with prior written approval of the cabinet in accordance with Section 2 of this administrative regulation. The new owner or operator shall submit a revised permit application no later than ninety (90) days prior to the scheduled change. Among other demonstrations, this application shall comply with KRS 224.40-

330. A written agreement containing a specific date for transfer of permit responsibility between the current and new permittees shall also be submitted to the cabinet. When a transfer of ownership or operational control occurs; the old owner or operator shall comply with the requirements of 401 KAR Chapter 34 until the cabinet approves transfer to the new owner or operator. The new owner or operator shall demonstrate compliance with Section 2 of this administrative regulation and 401 KAR Chapter 34 within six (6) months of the date of the change of ownership or operational control of the facility. Upon demonstration to the cabinet by the new owner or operator of compliance with 401 KAR Chapter 34, the cabinet shall notify the old owner or operator that he no longer needs to comply with 401 KAR Chapter 34 as of the date of demonstration.

Section 2. Major Modification or Revocation and Reissuance of Permits. When the cabinet receives any information (for example, if the cabinet inspects the facility, receives information submitted by the permittee as required in the permit under Section 1 of 401 KAR 38:030, receives a request for modification or revocation and reissuance under Section 2 of 401 KAR 38:050, or conducts a review of permit file), the cabinet may determine whether one (1) or more of the causes listed in subsections (1) and (2) of this section for modification or revocation and reissuance or both exist. If cause exists, the cabinet may modify or revoke and reissue the permit accordingly, subject to the limitations of subsection (3) of this section and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term (see Section 2(4) of 401 KAR 38:050). If cause does not exist under this section or Section 3 of this administrative regulation, the cabinet shall not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in Section 3 of this administrative regulation for "minor modifications," the permit may be modified without a draft permit or public review. Otherwise, a draft permit shall be prepared and other procedures in 401 KAR 38:050 and, if applicable, 401 KAR 38:500 followed.

(1) Causes for modification. Paragraphs (a) to (d) of this subsection are causes for modification but not revocation and reissuance of permits. Paragraphs (a) to (d) of this subsection may be causes for revocation and reissuance as well as modification, when the permittee requests or agrees.

(a) Alterations. There are material and substantial alterations or additions to the permitted hazardous waste site or facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

(b) Information. The cabinet has received new information. Permits may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised administrative regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance.

(c) New statutory requirements or administrative regulations. The standards or administrative regulations on which the permit was based have been changed by statute, through promulgation of new or amended standards or administrative regulations, or by judicial decision after the permit was issued. Except as provided in paragraph (e) of this subsection, permits may be modified during their terms for this cause as follows:

1. The cabinet may modify the permit when the standards or administrative regulations on which the permit was based have been changed by statute or amended standards or administrative regulations.

2. Permittee may request modification when:

- a. The permit condition to be modified was based on a promulgated administrative regulation in 401 KAR Chapters 30 to 38; and
- b. The cabinet has revised, withdrawn, or modified that portion of



the administrative regulation on which the permit condition was based; or

c. A permittee requests modification in accordance with Section 2 of 401 KAR 38:050 within ninety (90) days after notice of the action on which the request is based.

3. For judicial decisions, a court of competent jurisdiction has remanded and stayed cabinet promulgated administrative regulations, if the remand and stay concern that portion of the administrative regulations on which the permit condition was based or if a request is filed by the permittee in accordance with Section 2 of 401 KAR 38:050 within ninety (90) days of judicial remand.

(d) Compliance schedules. The cabinet determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, materials shortage, or other events over which the permittee has little or no control and for which there is no reasonably available remedy (see also Section 3 of this administrative regulation on minor modifications).

(e) The cabinet may modify a permit:

1. When modification of a closure plan is required under Section 3(2) or 4(2) of 401 KAR 34:070.

2. When the cabinet receives notification of expected closure under Section 4 of 401 KAR 34:070 and finds that any of the following previously granted permit conditions are no longer warranted:

a. Extension of the ninety (90) or 180 day periods under Section 4 of 401 KAR 34:070;

b. Modification of an extended postclosure care period under Section 7 of 401 KAR 34:070;

c. Continuation of security requirements under Section 7(2) of 401 KAR 34:070; or

d. Permission to disturb the integrity of the containment system under Section 7(3) of 401 KAR 34:070.

3. When the permittee has filed a request under Section 4 of 401 KAR 34:120 for a variance to the level of financial responsibility or when the cabinet demonstrates under Section 5 of 401 KAR 34:120 that an upward adjustment of the level of financial responsibility is required.

4. When the corrective action program specified in the permit under Section 11 of 401 KAR 34:060 has not brought the regulated unit into compliance with the groundwater protection standard within a reasonable period of time.

5. To include a detection monitoring program meeting the requirements of Section 9 of 401 KAR 34:060, when the owner or operator has been conducting a compliance monitoring program under Section 10 of 401 KAR 34:060 or a corrective action program under Section 11 of 401 KAR 34:060 and the compliance period ends before the end of the postclosure care period for the unit.

6. When a permit requires a compliance monitoring program under Section 10 of 401 KAR 34:060, but monitoring data collected prior to permit issuance indicate that the facility is exceeding the groundwater protection standard.

7. To include the conditions applicable to units at a facility that were not previously included in the site or facility's permit.

8. When a land treatment unit is not achieving complete treatment of hazardous constituents under its current permit conditions.

9. To include conditions applicable in new or amended standards or administrative regulations.

10. When modification is necessary to protect the public health or the environment.

11. To include conditions applicable as the result of a hearing or enforcement action as specified in 401 KAR Chapter 40.

(f) Notwithstanding any other provision in this section, when a permit for a land disposal facility is reviewed by the cabinet under Section 5(4) of this administrative regulation, the cabinet shall modify the permit as necessary to assure that the facility continues to comply with the currently applicable requirements in 401 KAR Chapters 30 to 39.

(2) Causes for modification or revocation and reissuance. The

following are causes to modify or, alternatively, revoke and reissue a permit:

(a) Cause exists for termination under Section 4 of this administrative regulation and the cabinet determines that modification or revocation and reissuance is appropriate.

(b) The cabinet has received notification (as required in the permit in Section 1(12)(c) of 401 KAR 38:030) of a proposed transfer of the permit.

(c) Cause exists for termination under Subsection 2(1)(e) and (f) of this Section, and the cabinet determines that modification or revocation and reissuance is appropriate.

(3) Facility siting. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.

(4) Major modifications that include changes in ownership and operational control of a facility may be made if the new owner or operator submits a revised permit application no later than ninety (90) days prior to the scheduled change. A change in ownership or operational control includes a transfer of twenty-five (25) or more percent interest in the corporation, joint venture, partnership, proprietorship, or entity designated to own or operate the hazardous waste site or facility. When a transfer of ownership or operational control of a site or facility occurs, the old owner or operator shall comply with the requirements of 401 KAR 34:080 to 401 KAR 34:176 (financial requirements), until the new owner or operator has demonstrated to the cabinet that he is complying with the requirements in 401 KAR 34:080 to 401 KAR 34:176. The new owner or operator shall demonstrate compliance with the requirements in 401 KAR 34:080 to 401 KAR 34:176 within six (6) months of the date of the change in the ownership or operational control of the site or facility. Upon demonstration to the cabinet by the new owner or operator of compliance with the requirements in 401 KAR 34:080 to 401 KAR 34:176, the cabinet shall notify the old owner or operator in writing that he no longer needs to comply with the requirements in 401 KAR 34:080 to 401 KAR 34:176 as of the date of demonstration. Past performance as specified in Section 2(20) of 401 KAR 38:090 shall be considered. The provisions set forth in Section 3 of this administrative regulation as amended on March 10, 1988, shall apply to requests for modification received by the cabinet prior to November 14, 1990, and including all additional information and documentation submitted subsequent to November 14, 1990, as requested by the cabinet.

Section 3. Minor Modifications of Permits. Upon consent of the permittee, the cabinet may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 401 KAR 38:050. Any permit modification not processed as a minor modification under this section shall be made for cause and with a 401 KAR 38:050 draft permit, public notice as required in Section 2 of this administrative regulation and, if applicable, compliance with 401 KAR 38:500 shall be demonstrated.

(1) The permittee shall put into effect minor modifications listed in subsection (3) of this section under the following conditions:

(a) The permittee shall inform the cabinet concerning the modification by certified mail or other means that establish proof of delivery within seven (7) calendar days after the change is put into effect. This notice shall specify the changes being made to permit conditions or supporting documents referenced by the permit, and shall explain why they are necessary. Along with the notice, the permittee shall provide a completed notification of minor modifications to hazardous waste permits not requiring prior approval of the cabinet, as incorporated by reference in subsection (2) of this section. The permittee shall also provide the applicable information from Parts A and B of the Kentucky Hazardous Waste Permit Application as it

# ADMINISTRATIVE REGISTER - 940

relates to the specific type of facility.

(b) The permittee shall send a notice of the modification to all persons on the facility mailing list and the appropriate units of local government. This notification shall be made within ninety (90) calendar days after the cabinet approves the request.

(c) Any person may request that the cabinet review, and the cabinet may, for cause, reject any minor modification. The cabinet shall inform the permittee by certified mail that a minor modification has been rejected, explaining the reasons for the rejection. If a minor modification has been rejected, the permittee shall comply with the original permit conditions.

(d) Minor modifications listed in subsection (3) of this section requiring "Prior Approval" shall be made only with the prior written approval of the cabinet.

(e) For a minor modification, the permittee may elect to follow the procedures for major modifications instead of the minor modifications procedures. The permittee shall inform the cabinet of this decision in the notice required in Section 2 of this administrative regulation.

(2) Form DEP 7092 entitled "Notification of Minor Modifications to Hazardous Waste Permits Not Requiring Prior Approval of the Cabinet" (July 1996) is hereby incorporated by reference. This form [application] is available at the Hazardous Waste Branch, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-6716, between 8 a.m. and 4:30 p.m., eastern time, Monday through Friday, except on state holidays.

(3) The following shall be used to determine whether prior approval is required for a minor modification:

## CLASSIFICATION OF PERMIT MINOR MODIFICATION (1 OF 6)

| TYPE OF MINOR MODIFICATION   | PRIOR APPROVAL | NOTIFICATION |
|--|----------------|--------------|
| (a) General Permit Provisions:   |                |              |
| 1. Administrative and informative changes.   |                | X            |
| 2. Correction of typographical errors.   |                | X            |
| 3. Equipment replacement or upgrading with functionally equivalent components (e.g. pipes, valves, pumps, conveyors, controls).  |                | X            |
| 4. Changes to provide for more frequent monitoring, reporting, sampling, or maintenance activities by the permittee.   |                | X            |
| 5. Changes in interim compliance dates.  | X              |              |
| (b) General Facility Standards:  |                |              |
| 1. Changes to waste sampling or analysis methods to conform with agency guidelines or administrative regulations.  | X              |              |
| 2. Changes associated with F039 (multisource leachate) sampling or analysis methods.   | X              |              |
| 3. Changes to analytical quality assurance or the quality control plan to conform with agency administrative regulations.  | X              |              |
| 4. Changes in the training plan, except to decrease the amount of training or type of training.  | X              |              |
| 5. Changes in names, address or phone number of coordinators or other persons or agencies  | X              |              |
| identified in the contingency plan.  |                |              |
| 6. Changes that the COA officer certifies in the operating record will provide equivalent or better certainty that the unit components meet the design standards.  |                | X            |
| 7. Other COA changes.  | X              |              |
| (c) Groundwater Protection:  |                |              |
| 1. Replacement of an existing well that has been damaged or rendered inoperable, without change to location, design, or depth of the well.   |                | X            |
| 2. Changes in groundwater sampling or analysis procedures or monitoring schedule.  | X              |              |
| 3. Changes in statistical procedure for determining whether a statistically significant change in groundwater quality between upgradient and downgradient wells has occurred.  | X              |              |
| (d) Closure:   |                |              |
| 1. Changes to the closure plan in estimate of maximum extent of operations or maximum inventory of waste on-site at any time during the active life of the facility.   | X              |              |
| 2. Changes in the closure schedule for any unit, changes in the final closure schedule for the facility, or extension of the closure period.   | X              |              |
| 3. Changes in the expected year of final closure, where other permit conditions are not changed.   | X              |              |
| 4. Changes in procedures for decontamination of facility equipment or structures.  | X              |              |
| 5. Changes in approved closure plan resulting from unexpected events occurring during partial or final closure, unless otherwise specified in this section.  | X              |              |
| 6. Extension of the closure period to allow a landfill, surface impoundment or land treatment unit to receive non-hazardous wastes after final receipt of hazardous wastes under Section 4(4) and (5) of 401 KAR 34:070. | X              |              |
| (e) Postclosure:   |                |              |
| 1. Changes in name, address, or phone number of contact in post-closure plan.  | X              |              |
| 2. Changes to the expected year of final closure, where other permit conditions are not changed.   | X              |              |
| (f) Containers:  |                |              |
| 1. Addition of a roof to a container unit without alteration of the containment system.  |                | X            |
| (g) Tanks:   |                |              |

# ADMINISTRATIVE REGISTER - 941

1. Addition of a new tank that will operate for up to ninety (90) days using any of the following physical or chemical treatment technologies: neutralization, dewaterizing, phase separation, or component separation. X
2. Replacement of a tank with a tank that meets the same design standards and has a capacity within +/- ten (10) percent of the replaced tank provided:
  - a. The capacity difference is no more than 1500 gallons. X
  - b. The facility's permitted tank capacity is not increased. X
  - c. The replacement tank meets the same conditions in the permit. X
- (h) Surface Impoundments:
  1. Modifications of unconstructed units to comply with 401 KAR 34:200. X
  2. Changes in response action plan. X
    - a. Increase in action leakage rate. X
    - b. Changes in specific response reducing its frequency or effectiveness. X
    - c. Other changes. X
- (i) Enclosed Waste Piles:
  1. Replacement of a waste pile unit with another waste pile unit of the same design and capacity and meeting all waste pile conditions in the permit. X
  2. Conversion of an enclosed waste pile to a containment building unit. X
- (j) Landfills and Unenclosed Waste Piles:
  1. Modifications of unconstructed units to comply with 401 KAR 34:210. X
    2. Changes in response action plan. X
      - a. Increase in action leakage rate. X
      - b. Change in a specific response reducing its frequency or effectiveness. X
      - c. Other changes in response action plan. X
  3. Other changes. X
- (k) Land Treatment:
  1. Modification of a land treatment unit management practice to decrease rate of waste application. X
  2. Changes in any condition specified in the permit for a land treatment unit to reflect results of the land treatment demonstration, provided performance standards are met. X
  3. Changes to allow a second land treatment demonstration to be conducted when the results of

the first demonstration conducted have not shown the conditions under which the wastes can be treated completely, provided the conditions for the second demonstration are substantially the same as the conditions for the first demonstration. In addition, the land treatment waste application rate cannot exceed previously established waste application rates.

## (l) Incinerators - Shakedown and Trial Burn:

1. Authorization of up to an additional 720 hours of waste incineration during the shakedown period for determining operational readiness after construction. X
2. Minor changes in the operating requirements set in the permit for conducting a trial burn. X
3. Minor changes in the ranges of the operating requirements set in the permit to reflect the results of the trial burn. X

## (m) Containment Buildings:

1. Modification or addition of containment building units resulting in up to 25% increase in the facility's containment building storage or treatment capacity. X
  2. Modification of a containment building unit or secondary containment system without increasing the capacity of the unit. X
  3. Replacement of a containment building that meets the same design standards provided:
    - a. The unit capacity is not increased; X
    - or
    - b. The replacement containment building meets the same conditions in the permit. X
  4. Modification of a containment building management practice. X
  5. Storage or treatment of different wastes in containment buildings that do not require additional or different management practices. X
- ## (n) Corrective Action:
1. Approval of a corrective action management unit pursuant to Section 1 of 401 KAR 34:287 X
  2. Approval of a temporary unit or time extension for a temporary unit pursuant to Section 2 of 401 KAR 34:287. X

Section 4. Termination of Permits. (1) The cabinet may terminate a permit during its term or deny a permit renewal application for the following causes:

(a) Noncompliance by the permittee with any condition of the permit;

(b) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's

misrepresentation of any relevant facts at any time;

(c) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or

(d) A violation of any requirement of KRS Chapter 224 or the respective administrative regulations promulgated pursuant thereto (including 401 KAR 40:040).

(2) The cabinet shall follow the applicable procedures in this administrative regulation and in 401 KAR 38:050 and 401 KAR Chapter 40 in terminating any permit under this section.

Section 5. Duration of Permit. (1) Term of permit. Hazardous waste site or facility permits shall be effective for a fixed term not to exceed ten (10) years. (See also Section 5 of 401 KAR 38:060.)

(2) Modification of term of permit. Except as provided in Section 6 of this administrative regulation, the term of a permit shall not be extended by modification beyond the maximum duration specified in subsection (1) of this section.

(3) Reduced term of permit. The cabinet may issue any permit for a duration that is less than the full allowable term under subsection (1) of this section.

(4) Each permit for a land disposal facility shall be reviewed by the cabinet five (5) years after the date of permit issuance or reissuance and shall be modified as necessary, as provided in Section 2 of this administrative regulation.

(5) A permit for the nerve agents specified in KRS 224.50-130 shall be reviewed by the cabinet five (5) years after the date of permit issuance or reissuance and shall be modified as necessary, as provided in Section 2 of this administrative regulation.

Section 6. Continuation of Expiring Permits. (1) The conditions of an expired permit continue in force until the effective date of a new permit if:

(a) The permittee has submitted a timely application under 401 KAR 38:090 and 401 KAR 38:100 and the applicable requirements in 401 KAR 38:150 to 401 KAR 38:210 and which is a complete (under Section 1(3) of 401 KAR 38:070) application for a new permit, paid the appropriate fees due (under 401 KAR Chapter 39); and

(b) The cabinet, through no fault of the permittee, does not issue a new permit with an effective date on or before the expiration date of the previous permit (for example, when issuance is impracticable due to time or resources constraints).

(2) Effect. Permits continued under this section remain fully effective and enforceable.

(3) Enforcement. When the permittee is not in compliance with the conditions of the expiring or expired permit, the cabinet may choose to do any or all of the following:

(a) Initiate enforcement action based upon the permit which has been continued;

(b) Issue a notice of intent to deny the new permit under Section 3 of 401 KAR 38:050. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

(c) Issue a new permit under 401 KAR 38:050 with appropriate conditions; or

(d) Take other actions authorized by 401 KAR Chapters 30 to 40.

(4) State continuation. As provided in 40 CFR 270.51(d), an EPA issued permit shall not continue in force beyond its expiration date under federal law if at that time the cabinet is the RCRA permitting authority.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on

this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

## REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities that change hands, or whose permits expire.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First year: The existing staff will have an increased workload in order to process the newly regulated entities. The increase in workload will also increase costs.

2. Continuing costs or savings: Once the new entities are processed, there should not be any extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no

additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal changes.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: There will be no effects on public health or the environmental welfare without the implementation of this administrative regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, regulations, or policies that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? (Explain why tiering was or was not used): Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste facilities that change hands or whose permits expire. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes to provisions governing expiration of hazardous waste permits. These changes are necessary to maintain consistency between state and federal programs. The additions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS Chapter 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities that change hands, or whose permits expire.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the cabinet to establish a comprehensive program for the proper management of hazardous waste. Any state, county, or local government office that manages hazardous waste facilities will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 38:050. Public information procedures.

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 124 Subpart A

STATUTORY AUTHORITY: KRS 224.40-305, 224.46-520

NECESSITY AND FUNCTION: KRS 224.40-305 and 224.46-520 require any person who treats, stores, recycles or disposes of hazardous waste to first obtain a hazardous waste site or facility permit from the cabinet. This chapter establishes the permitting process for hazardous waste sites or facilities and establishes standards on public information procedures and confidentiality.

Section 1. Application for a Permit. (1)(a) Any person who requires a hazardous waste site or facility permit under KRS Chapter 224 shall complete, sign, and submit to the cabinet an application for each permit required under Section 1 of 401 KAR 38:010. Applications are not required for hazardous waste site or facility permits by rule (Section 1 of 401 KAR 38:060) or underground injections authorized by rule. However, for all facilities, including underground injection wells, which meet the definition of a disposal facility (see 401 KAR 30:010), compliance with the requirements of 401 KAR 38:500 (Provisions for approval by the local government or the Kentucky Regional Integrated Treatment and Disposal Facility Siting Board), if applicable, shall be demonstrated to the cabinet prior to construction or operation under a permit by rule.

(b) The cabinet shall not begin the processing of a permit until the applicant has fully complied with the application requirements for that

permit (see Sections 1 through 6 of 401 KAR 38:070, 401 KAR 38:080 and the applicable requirements in 401 KAR 38:150 through 38:210). Applications shall be processed in accordance with 401 KAR 38:010.

(c) Permit applications shall comply with the signature and certification requirements of Section 7 of 401 KAR 38:070.

(2) Upon completing the review, the cabinet shall notify the applicant in writing whether the application is complete or incomplete. If the application is incomplete, the cabinet shall list the information necessary to make the application complete. When the application is for an existing hazardous waste site or facility, the cabinet shall specify in the notice of deficiency a date for submitting the necessary information. The cabinet may notify the applicant that the application is complete upon receiving this information. Any application, complete or incomplete, may be denied based on the considerations set forth in KRS 224.46-520.

(3) If an applicant fails or refuses to correct deficiencies in the application or if the applicant fails or refuses to submit additional information, the permit may be denied and appropriate enforcement actions may be taken under the applicable statutory provision.

(4) If the cabinet decides that a site visit is necessary for any reason in conjunction with the processing of an application, a representative of the cabinet shall notify the applicant and a date shall be scheduled.

(5) The effective date of an application is the date on which the cabinet notifies the applicant that the application is complete as provided in subsection (2) of this section.

(6) For each application, the cabinet shall, no later than the effective date of the application, prepare and mail to the applicant a project decision schedule. The schedule shall specify target dates by which the cabinet intends to:

- (a) Prepare a draft permit;
- (b) Give public notice;
- (c) Complete the public comment period, including any public hearing; and
- (d) Issue a final permit.

**Section 2. Modification, Revocation and Reissuance, or Termination of Permits.** (1) A permit for a hazardous waste site or facility may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the cabinet's initiative. However, a permit may only be modified, revoked and reissued, or terminated for the reasons specified in Sections 2 and 4 of 401 KAR 38:040 and following the procedures of 401 KAR Chapter 40. All requests shall be in writing and shall contain facts or reasons supporting the request.

(2) If the cabinet decides the request is not justified, the cabinet shall send the requester a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment, or hearings.

(3)(a) If the cabinet tentatively decides to modify or revoke and reissue a permit under Section 2 of 401 KAR 38:040, the cabinet shall prepare a draft permit under Section 3 of this administrative regulation incorporating the proposed changes. The cabinet may request additional information and, in the case of a modified permit, may require the submission of an updated permit application. In the case of revoked and reissued permits, the cabinet shall require the submission of a new application.

(b) In a permit modification under this section, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this section, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.

(c) "Minor modifications" as identified (defined) in Section 3 of 401 KAR 38:040 are not subject to the requirements of this section.

(4) If the cabinet tentatively decides to terminate a permit under Section 4 of 401 KAR 38:040, it shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under Section 3 of this administrative regulation.

(5) All draft permits (including notices of intent to terminate) prepared under Sections 3 through 5 of this administrative regulation shall be based on the administrative record as defined in Section 6 of this administrative regulation.

**Section 3. Draft Permits.** (1) Once an application is complete, the cabinet shall tentatively decide whether to prepare a draft permit or to deny the application. In making this determination the cabinet shall consider the requirements specified in the waste management administrative regulations and in KRS 224.46-520.

(2) If the cabinet tentatively decides to deny the permit application, it shall issue a notice of intent to deny. A notice of intent to deny the permit application is a type of draft permit which follows the same procedures as any draft permit prepared under this subsection (see subsection (4)). If the cabinet's final decision is that the tentative decision to deny the permit application was incorrect, the cabinet shall withdraw the notice of intent to deny and proceed to prepare a draft permit under subsection (3) of this section.

(3) If the cabinet decides to prepare a draft permit, the draft permit shall contain the following information:

- (a) All conditions under Sections 1 and 3 of 401 KAR 38:030;
- (b) All compliance schedules under Section 4 of 401 KAR 38:030;
- (c) All monitoring requirements under Section 2 of 401 KAR 38:030; and
- (d) Standards for treatment, storage or disposal, and other permit conditions under Section 1 of 401 KAR 38:030.

(4) All draft permits prepared by the cabinet under this section shall be accompanied by a statement of basis (see Section 4 of this administrative regulation) or fact sheet (see Section 5 of this administrative regulation) and shall be based on the administrative record (see Section 6 of this administrative regulation) and publicly noticed (see Section 7 of this administrative regulation), and shall be made available for public comment (see Section 8 of this administrative regulation). The cabinet shall give notice of the opportunity for a public hearing as required by KRS 224.40-310 (see Section 9 of this administrative regulation), issue a final decision and respond to comments (see Section 11 of this administrative regulation). An appeal may be taken under KRS 224.10-420.

**Section 4. Statement of Basis.** The cabinet shall prepare a statement of basis for every draft permit for which a fact sheet under Section 5 of this administrative regulation is not prepared. The statement of basis shall briefly describe the derivation of the conditions of the draft permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons supporting the tentative decision. The statement of basis shall be sent to the applicant and, on request, to any other person.

**Section 5. Fact Sheet.** (1) A fact sheet shall be prepared for every draft permit for a hazardous waste site or facility which includes an incinerator, a surface impoundment, disposal facility (landfill, land treatment facility, injection well, for example), or a research, development, and demonstration facility, and for every draft permit which the cabinet finds is the subject of widespread public interest or raises major issues. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The cabinet shall send this fact sheet to the applicant and, on request, to any other person.

(2) The fact sheet shall include, when applicable:

- (a) A brief description of the type of facility or activity which is the

subject of the draft permit;

(b) The type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, disposed of, injected, emitted, or discharged;

(c) A brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions and appropriate supporting references to the administrative record required by Section 6 of this administrative regulation;

(d) Reasons why any requested variances or alternatives to required standards do or do not appear justified;

(e) A description of the procedures for reaching a final decision on the draft permit including:

1. The beginning and ending dates of the comment period under Section 7 of this administrative regulation and the address where comments shall be received;

2. Procedures for requesting a hearing and the nature of that hearing; and

3. Any other procedures by which the public may participate in the final decision.

(f) Name and telephone number of a person to contact for additional information.

Section 6. Administrative Record for Draft Permits. (1) The provisions of a draft permit prepared by the cabinet under Section 3 of this administrative regulation shall be based on the administrative record defined in this section.

(2) For preparing a draft permit under Section 3 of this administrative regulation, the record shall consist of:

(a) The application, if required, and any supporting data furnished by the applicant;

(b) The draft permit or notice of intent to deny the application or to terminate the permit;

(c) The statement of basis (see Section 4 of this administrative regulation) or fact sheet (see Section 5 of this administrative regulation);

(d) All documents cited in the statement of basis or the fact sheet; and

(e) Other documents contained in the supporting file for the draft permit.

(3) Material readily available at the cabinet's office or published material that is generally available, and that is included in the administrative record under this subsection and subsection (2) of this section, need not be physically included with the rest of the record as long as it is specifically referred to in the statement of basis or the fact sheet.

(4) This section applies to all draft permits when public notice was given after the effective date of these administrative regulations.

Section 7. Public Notice of Permit Application and Public Comment Period. (1) Scope.

(a) The cabinet shall give public notice under KRS 224.40-310(4) and (5) that the following actions have occurred:

1. A permit application has been tentatively denied under Section 3(2) of this administrative regulation;

2. A draft permit has been prepared under Section 3(3) of this administrative regulation;

3. A hearing has been scheduled under Section 9 of this administrative regulation; and

4. An appeal has been granted under 401 KAR 40:030.

(b) No public notice is required when a request for permit modification, revocation and reissuance, or termination is denied under Section 2(2) of this administrative regulation. Written notice of that denial shall be given to the requester and to the permittee.

(c) Public notices may describe more than one (1) permit or permit action.

(2) Timing.

(a) Public notice of the preparation of a draft permit (including a

notice of intent to deny a permit application) required under subsection (1) of this section shall allow at least forty-five (45) days for public comment.

(b) Public notice of a public hearing shall be given at least thirty (30) days before the hearing. (Public notice of the hearing may be given at the same time as public notice of the draft permit and the two (2) notices may be combined.)

(3) Methods. Public notice of activities described in subsection (1)(a) of this section shall be given by the following methods:

(a) By mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this subparagraph may waive his or her rights to receive notice for any classes and categories of permits):

1. The applicant;

2. Any other agency which the cabinet knows has issued or is required to issue an environmental permit for the same facility or activity (including United States Environmental Protection Agency);

3. Federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservation Officers, and other appropriate government authorities, including any other affected states;

4. Persons on a mailing list developed by:

a. Including those who request in writing to be on the list;

b. Soliciting persons for "area lists" from participants in past permit proceedings in that area; and

c. Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as regional and state funded newsletters, environmental bulletins, or state law journals. (The cabinet may update the mailing list from time to time by requesting written indication of continued interest from those listed. The cabinet may delete from the list the name of any person who fails to respond to such a request.)

5. To any unit of local government having jurisdiction over the area where the facility is proposed to be located; and

6. To each state agency having any authority under state law with respect to the construction or operation of such facility.

(b) Publication of a notice in a daily or weekly major local newspaper of general circulation as required by KRS 224.40-310(2), (4), and (5) and broadcast over any commercial radio stations which have general coverage in the locality where the proposed site is located.

(c) Any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.

(4) Contents.

(a) All public notices. All public notices issued under this chapter shall contain the following minimum information:

1. Name and address of the office processing the permit action for which notice is being given;

2. Name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;

3. A brief description of the business conducted at the facility or activity described in the permit application;

4. Name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit, statement of basis or fact sheet, and the application;

5. A brief description of the comment procedures required by Sections 8 and 9 of this administrative regulation and the time and place of any hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision;

6. The location of the administrative record required by Section 6 of this administrative regulation, the times at which the record will be open for public inspection, and a statement that all data submitted



by the applicant is available as part of the administrative record;

7. The statement contained in KRS 224.40-310(5)(e); and

8. Any additional information considered necessary or proper.

(b) Public notices for hearings. In addition to the general public notice described in subsection (4)(a) of this section, the public notice of a hearing under Section 9 of this administrative regulation shall contain the following information:

1. Reference to the date of previous public notices relating to the permit;

2. Date, time, and place of the hearing; and

3. A brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

(5) In addition to the general public notice described in subsection (4)(a) of this section, all persons identified in subsection (3)(a) of this section shall be mailed a copy of the fact sheet or statement of basis, the permit application (if any) and the draft permit (if any). The cabinet shall charge for duplication cost and postage.

Section 8. Public Comments and Requests for Public Hearings. During the public comment period provided under Section 7 of this administrative regulation, any interested person may submit written comments on the draft permit and may request a public hearing if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in Section 11 of this administrative regulation.

Section 9. Public Hearings. (1)(a) The cabinet shall hold a public hearing on the basis of requests, when a significant degree of public interest in a draft permit(s) is found.

(b) The cabinet at its discretion may also hold a public hearing whenever, for instance, such a hearing might clarify one (1) or more issues involved in the permit decision.

(c)1. The cabinet shall hold a public hearing whenever written notice of opposition to a draft permit and a request for a hearing within forty-five (45) days of public notice under Section 7(2)(a) of this administrative regulation is received.

2. Whenever possible the cabinet shall schedule a hearing under this section at a location convenient to the population center nearest to the proposed facility provided the hearing location is in the same county as required by KRS 224.40-310.

(d) Public notice of the hearing shall be given as specified in Section 7 of this administrative regulation.

(2) Whenever a public hearing is held, the cabinet shall designate a presiding officer for the hearing who shall be responsible for its scheduling and orderly conduct.

(3) Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under Section 7 of this administrative regulation shall automatically be extended to the close of any public hearing under this administrative regulation. The hearing officer may also extend the comment period by so stating at the hearing.

(4) A tape recording or written transcript of the hearing shall be made available to any person upon payment of the actual cost of reproducing the original.

Section 10. Reopening of the Public Comment Period. (1) If any data, information or arguments submitted during the public comment period (including information or arguments that any condition of the draft permit or permit denial is inappropriate) appear to raise substantial new questions concerning a permit, the cabinet may take one (1) or more of the following actions:

(a) Prepare a new draft permit, appropriately modified, under Section 3 of this administrative regulation;

(b) Prepare a revised statement of basis under Section 4 of this administrative regulation and reopen the comment period under this section; or

(c) Reopen or extend the comment period under Section 7 of this administrative regulation to give interested persons an opportunity to comment on the information or arguments submitted.

(2) Comments filed during the reopened comment period shall be limited to the substantial new questions that caused its reopening. The public notice under Section 7 of this administrative regulation shall define the scope of the reopening.

(3) The cabinet may also, in the circumstances described above, elect to hold further proceedings. This decision may be combined with any of the actions enumerated in subsection (1) of this section.

(4) Public notice of any of the above actions shall be issued under Section 7 of this administrative regulation.

Section 11. Response to Comments. (1) At the time that any final permit decision is issued, the cabinet shall issue a response to comments when a final permit is issued. This response shall:

(a) Specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and

(b) Briefly describe and respond to all significant comments on the draft permit raised during the public comment period, or during any hearing.

(2) For cabinet issued permits, any documents cited in the response to comments shall be included in the administrative record for the final permit decision. If new points are raised or new material supplied during the public comment period, the cabinet may document its response to those matters by adding new materials to the administrative record.

(3) The response to comments shall be available to the public.

(4) In the case of a hazardous waste disposal site or facility, no permit shall be approved or issued by the cabinet prior to the approvals specified in KRS 224.40-310(5) and (6). 401 KAR 38:500 details the procedures that the applicant shall use in obtaining local government approval for incinerators or land disposal facilities or for a regional integrated waste treatment and disposal demonstration facility, the approval of the Kentucky Regional Integrated Waste Treatment and Disposal Facility Siting Board.

Section 12. Issuance and Effective Date of Permit. (1) After the close of the public comment period under Section 7 of this administrative regulation on a draft permit, the cabinet shall issue a final permit decision (or a decision to deny a permit for the active life of a [RCRA] hazardous waste management facility or unit under Section 11 of 401 KAR 38:070). For the purposes of this section, a final permit decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit.

(2) A final permit decision shall become effective on the date issued by the cabinet.

Section 13. Past Performance Considered in Review. Past performance of the owner or operator shall be considered in the review and in the determination of any requirement for specialized conditions.

Section 14. Preapplication Public Meeting and Notice. (1) Applicability. The requirements of this section shall apply to all hazardous waste Part B applications seeking initial permits for hazardous waste management units over which the cabinet has permit issuance authority. The requirements of this section shall also apply to hazardous waste Part B applications seeking renewal of permits for such units, where the renewal application is proposing a significant change in facility operations. For the purposes of this section, a "significant change" is any change that would qualify as a major modification under Section 2 of 401 KAR 38:040. The requirements of this section do not apply to permit minor modifications under



Section 3 of 401 KAR 38:040 or to applications that are submitted for the sole purpose of conducting postclosure activities or postclosure activities and corrective action at a facility.

(2) Prior to the submission of a Part B hazardous waste permit application for a facility, the applicant shall hold at least one meeting with the public in order to solicit questions from the community and inform the community of proposed hazardous waste management activities. The applicant shall post a sign-in sheet or otherwise provide a voluntary opportunity for attendees to provide their names and addresses.

(3) The applicant shall submit a summary of the meeting, along with the list of attendees and their addresses developed under subsection (2) of this section, and copies of any written comments or materials submitted at the meeting, to the cabinet as a part of the Part B application, in accordance with Section 2(26) of 401 KAR 38:090.

(4) The applicant shall provide public notice of the pre-application meeting at least thirty (30) days prior to the meeting. The applicant shall maintain, and provide to the cabinet upon request, documentation of the notice.

(a) The applicant shall provide public notice in all of the following forms:

1. A newspaper advertisement. The applicant shall publish a notice, fulfilling the requirements in paragraph (b) of this subsection, in a newspaper of general circulation in the county or equivalent jurisdiction that hosts the proposed location of the facility. In addition, the cabinet shall instruct the applicant to publish the notice in newspapers of general circulation in adjacent counties or equivalent jurisdictions, where the cabinet determines that such publication is necessary to inform the affected public. The notice shall be published as a display advertisement.

2. A visible and accessible sign. The applicant shall post a notice on a clearly marked sign at or near the facility, fulfilling the requirements in paragraph (b) of this subsection. If the applicant places the sign on the facility property, then the sign shall be large enough to be readable from the nearest point where the public would pass by the site.

3. A broadcast media announcement. The applicant shall broadcast a notice, fulfilling the requirements in paragraph (b) of this subsection, at least once on at least one (1) local radio stations or television station. The applicant may employ another medium with prior approval of the cabinet.

4. A notice to the cabinet. The applicant shall send a copy of the newspaper notice to the cabinet and to the appropriate units of state and local government, in accordance with Section 7(3) of this administrative regulation.

(b) The notices required under paragraph (a) of this subsection shall include:

1. The date, time, and location of the meeting;  
2. A brief description of the purpose of the meeting;  
3. A brief description of the facility and proposed operations, including the address or a map (for example, a sketched or copied street map) of the facility location;

4. A statement encouraging people to contact the facility at least seventy-two (72) hours before the meeting if they need special access to participate in the meeting; and

5. The name, address, and telephone number of a contact person for the applicant.

#### Section 15. Public Notice Requirements at the Application Stage.

(1) Applicability. The requirements of this section shall apply to all hazardous waste Part B applications seeking initial permits for hazardous waste management. The requirements of this section shall also apply to hazardous waste Part B applications seeking renewal of permits for such units under Section 6 of 401 KAR 38:040. The requirements of this section do not apply to permit modifications under Section 3 of 401 KAR 38:040 or permit applications submitted

for the sole purpose of conducting postclosure activities or postclosure activities and corrective action at a facility.

#### (2) Notification at application submittal.

(a) The cabinet shall provide public notice as set forth in Section 7(3) of this administrative regulation, that a Part B permit application has been submitted to the cabinet and is available for review.

(b) The notice shall be published within a reasonable period of time after the application is received by the cabinet. The notice shall include:

1. The name and telephone number of the applicant's contact person;

2. The name and telephone number of the cabinet's contact office, and a mailing address to which information, opinions, and inquiries may be directed throughout the permit review process;

3. An address to which people can write in order to be put on the facility mailing list;

4. The location where copies of the permit application and any supporting documents can be viewed and copied;

5. A brief description of the facility and proposed operations, including the address or a map (for example, a sketched or copied street map) of the facility location on the front page of the notice; and

6. The date that the application was submitted.

(3) Concurrent with the notice required under subsection (2) of this section, the cabinet shall place the permit application and any supporting documents in a location accessible to the public in the vicinity of the facility or at the Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601.

Section 16. Information Repository. (1) Applicability. The requirements of this section apply to applications seeking permits for hazardous waste management units.

(2) The cabinet may assess the need, on a case-by-case basis, for an information repository. When assessing the need for an information repository, the cabinet shall consider a variety of factors, including: the level of public interest; the type of facility; the presence of an existing repository; and the proximity to the nearest copy of the administrative record. If the cabinet determines, at any time after submittal of a permit application, that there is a need for a repository, the cabinet shall notify the facility that the facility shall establish and maintain an information repository. (See Section 1(13) of 401 KAR 38:030 for similar provisions relating to the information repository during the life of a permit).

(3) The information repository shall contain all documents, reports, data, and information deemed necessary by the cabinet to fulfill the purposes for which the repository is established. The cabinet shall have the discretion to limit the contents of the repository.

(4) The information repository shall be located and maintained at a site chosen by the facility. If the cabinet finds the site unsuitable for the purposes and persons for which it was established, due to problems with the location, hours of availability, access, or other relevant considerations, then the cabinet shall specify a more appropriate site.

(5) The cabinet shall specify requirements for informing the public about the information repository. At a minimum, the cabinet shall require the facility to provide a written notice about the information repository to all individuals on the facility mailing list.

(6) The facility owner or operator shall be responsible for maintaining and updating the repository with appropriate information throughout a time period specified by the cabinet. The cabinet may close the repository at its discretion, based on the factors in subsection (2) of this section.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday,

August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators applying for hazardous waste facility permits.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First year: There will be no direct or indirect costs or savings.

2. Continuing costs or savings: There will be no continuing costs or savings.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: These amendments provide additional notification to the public during the permit application process. These amendments are consistent with current federal requirements.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? (Explain why tiering was or was not used):

Yes, tiering was used. This administrative regulation applies to owners or operators of hazardous waste facilities applying for permits. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to the public notice of any permit application. These changes are necessary to maintain consistency between state and federal programs. Numerous additions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS Chapter 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages a hazardous waste facility applying for a permit.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. Any state, county, or local government office that manages hazardous waste facilities will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

**NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)**

**401 KAR 38:060. Special types of permits.**

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.99, 40 CFR 270 Subpart F

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.40-305 and 224.46-520 and to establish standards for special types of permits.

Section 1. Permit by Rule. Notwithstanding any other provision of this chapter the following shall be deemed to have a permit by rule if the conditions listed are met:

(1) Ocean disposal barges or vessels. The owner or operator of a barge or other vessel which accepts hazardous waste for ocean disposal, if the owner or operator:

- (a) Has a permit for ocean disposal issued by the EPA;
- (b) Complies with the conditions of that permit; and
- (c) Complies with the following hazardous waste administrative regulations:

- 1. Section 2 of 401 KAR 34:020, Identification Number;
- 2. Section 2 of 401 KAR 34:050, Use of Manifest System;
- 3. Section 3 of 401 KAR 34:050, Manifest Discrepancies;
- 4. Section 4(1) and (2)(a) of 401 KAR 34:050, Operating Record;
- 5. Section 6(1) and (2)(a) of 401 KAR 34:050, Annual Report; and
- 6. Section 7 of 401 KAR 34:050, Unmanifested Waste Report.

(2) Injection wells. The owner or operator of an injection well disposing of hazardous waste, if the owner or operator:

- (a) Has a permit for underground injection issued by the U.S. EPA under 40 CFR Part 144 or 145;
- (b) Complies with the conditions of that permit and the require-

ments of 40 CFR 144.14 (wells managing hazardous waste);

(c) For UIC permits issued after November 8, 1984:

1. Complies with Section 12 of 401 KAR 34:060; and

2. Where the UIC well is the only unit at a facility which requires a hazardous waste site or facility permit, complies with Section 3 of 401 KAR 38:100.

(d) Complies with the requirements of 401 KAR 38:500, if applicable.

(3) Publicly owned treatment works (POTW). The owner or operator of a POTW which accepts hazardous waste for treatment, if the owner or operator:

(a) Has an NPDES permit or a KPDES permit issued under the authorized program;

(b) Complies with the conditions of that permit; and

(c) Complies with the following administrative regulations:

- 1. Section 2 of 401 KAR 34:020, Identification Number;
- 2. Section 2 of 401 KAR 34:050, Use of Manifest System;
- 3. Section 3 of 401 KAR 34:050, Manifest Discrepancies;
- 4. Section 4(1) and (2)(a) of 401 KAR 34:050, Operating Record;
- 5. Section 6 of 401 KAR 34:050, Annual Report;
- 6. Section 7 of 401 KAR 34:050, Unmanifested Waste Report;

and

7. For NPDES or KPDES permits issued after November 8, 1984, Section 12 of 401 KAR 34:060, Corrective action.

(d) If the waste meets all federal, state, and local pretreatment requirements which would be applicable to the waste if it were being discharged into the POTW through a sewer, pipe, or similar conveyance.

(4) Elementary neutralization units. The owner or operator of an elementary neutralization unit which accepts hazardous waste for treatment, if the owner or operator complies with the national pretreatment standards (see Section 9 of 401 KAR 5:055).

(5) Wastewater treatment units. The owner or operator of a wastewater treatment unit which accepts hazardous waste for treatment, if the owner or operator:

- (a) Has a NPDES permit or a KPDES permit; and
- (b) Complies with the conditions of the permit.

Section 2. Emergency Permits. (1) Notwithstanding any other provision of this chapter, in the event the cabinet finds an imminent and substantial endangerment to human health or the environment, the cabinet may issue an emergency permit to allow temporary treatment, storage, or disposal of hazardous waste for a nonpermitted facility, thus, granting the nonpermitted facility an effective temporary hazardous waste site or facility permit. An emergency permit shall be granted when the cabinet has issued an emergency order to discontinue, abate or alleviate pursuant to KRS 224.10-410, if applicable. However, an emergency permit may be issued whenever an imminent and substantial endangerment to human health and the environment exists, but the circumstances of the situation render an order for discontinuance, abatement or alleviation inappropriate.

(2) This emergency permit:

(a) May be oral or written. If oral, it shall be followed in five (5) days by a written emergency permit.

(b) Shall not exceed ninety (90) days in duration.

(c) Shall clearly specify the hazardous wastes to be received, and the manner and location of their treatment, storage, or disposal.

(d) May be terminated by the cabinet at any time without process if the cabinet determines that termination is appropriate to protect human health and the environment.

(e) Shall be accompanied by a public notice published under Section 7(2) of 401 KAR 38:050 including:

- 1. Name and address of the office granting the emergency authorization;
- 2. Name and location of the permitted hazardous waste site or facility;

3. A brief description of the wastes involved;
4. A brief description of the action authorized and reasons for authorizing it; and
5. Duration of the emergency permit.

(f) Shall incorporate to the extent possible and not inconsistent with the emergency situation, all applicable requirements of this chapter, and 401 KAR Chapter 34 and 401 KAR 30:030.

(g) Shall specify that all remaining hazardous waste and residues are removed at the end of the term of the emergency permit to a properly permitted hazardous waste site or facility in order to be exempted from the financial requirements of Section 1 of 401 KAR 34:080.

(h) Shall specify that failure to comply with the conditions of the emergency permit will cause the cabinet to sue for the recovery of the cost of proper closure (see Section 2 of 401 KAR 34:070 for closure performance standards and KRS Chapter 224 for the appropriate fines and penalties).

Section 3. Hazardous Waste Incinerator Permits. (1) For the purposes of determining operational readiness following completion of physical construction, the cabinet shall establish permit conditions, including but not limited to allowable waste feeds and operating conditions, in the permit to a new hazardous waste incinerator. These permit conditions shall be effective for the minimum time required to bring the incinerator to a point of operational readiness sufficient to conduct a trial burn, not to exceed 720 hours operating time for treatment of hazardous waste. The cabinet may extend the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to Section 3 of 401 KAR 38:040 (minor modifications of permits).

(a) Applicants shall submit a statement, with Part B of the permit application, which suggests the conditions necessary to operate in compliance with the performance standards of Section 4 of 401 KAR 34:240 during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates and the operating parameters identified in Section 6 of 401 KAR 34:240.

(b) The cabinet shall review this statement and any other relevant information submitted with Part B of the permit application and specify requirements for this period sufficient to meet the performance standards of Section 4 of 401 KAR 34:240 based on engineering judgment.

(2) For the purposes of determining feasibility of compliance with the performance standards of Section 4 of 401 KAR 34:240 and of determining adequate operating conditions under Section 6 of 401 KAR 34:240, the cabinet shall establish conditions in the permit to a new hazardous waste incinerator to be effective during the trial burn.

(a) Applicants shall propose a trial burn plan, prepared in accordance with paragraph (b) of this subsection, with Part B of the permit application.

(b) The trial burn plan shall include the following information:

1. An analysis of each waste or mixture of wastes to be burned which includes:

a. Heat value of the waste in the form and composition in which it will be burned.

b. Viscosity (if applicable) or description of physical form of the waste.

c. An identification of any hazardous organic constituents listed in 401 KAR 31:170, which are present in waste to be burned, except that the applicant need not analyze for constituents listed in 401 KAR 31:170, which would reasonably not be expected to be found in the waste. The constituents excluded from analysis shall be identified and the basis for their exclusion stated. The waste analysis shall rely on analytical techniques specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods", or other equivalent analytical techniques.

d. An approximate quantification of the hazardous constituents

identified in the waste, within the precision produced by the analytical methods specified in the "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods", or other equivalent analytical methods.

2. A detailed engineering description of the incinerator for which the trial burn permit is sought including:

a. Manufacturer's name and model number of incinerator (if available);

b. Type of incinerator;

c. Linear dimensions of the incinerator unit including the cross sectional area of the combustion chamber;

d. Description of the auxiliary fuel system (type/feed);

e. Capacity of prime mover;

f. Description of automatic waste feed cutoff system(s);

g. Stack gas monitoring and pollution control equipment;

h. Nozzle and burner design;

i. Construction materials; and

j. Location and description of temperature, pressure, and flow indicating and control devices.

3. A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

4. A detailed test schedule for each waste for which the trial burn is planned including date(s), duration, quantity of waste to be burned, and other factors relevant to the cabinet's decision under paragraph (e) of this subsection.

5. A detailed test protocol, including, for each waste identified, the ranges of temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator.

6. A description of, and planned operating conditions for, any emission control equipment which will be used.

7. Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction.

8. Such other information as the cabinet reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this subsection and the criteria in paragraph (e) of this subsection.

(c) The cabinet, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this subsection.

(d) Based on the waste analysis data in the trial burn plan, the cabinet shall specify as trial Principal Organic Hazardous Constituents (trial POHC's), those constituents for which destruction and removal efficiencies shall be calculated during the trial burn. These trial POHC's shall be specified by the cabinet based on the estimate of the difficulty of incineration of the constituents identified in the waste analysis, the concentration or mass in the waste feed, and, for wastes listed in 401 KAR 31:040, the hazardous waste constituent or constituents identified in 401 KAR 31:160 as the basis for listing.

(e) The cabinet shall approve a trial burn plan if it finds that:

1. The trial burn is likely to determine whether the incinerator performance standards required by Section 4 of 401 KAR 34:240 can be met;

2. The trial burn itself shall not present an imminent hazard to human health or the environment;

3. The trial burn shall help the cabinet to determine operating requirements to be specified under Section 6 of 401 KAR 34:240; and

4. The information sought in subparagraph 1 and 2 of this paragraph cannot reasonably be developed through other means.

(f) The cabinet shall send a notice to all persons on the facility mailing list and the appropriate units of state and local government as set forth in Section 7(3) of 401 KAR 38:050 announcing the scheduled commencement and completion dates for the trial burn. The

applicant shall not commence the trial burn until after the cabinet has issued such notice.

1. This notice shall be mailed within a reasonable time period before the scheduled trial burn. An additional notice is not required if the trial burn is delayed due to circumstances beyond the control of the facility or the permitting agency.

2. This notice must contain:

a. The name and telephone number of the applicant's contact person;

b. The name and telephone number of the permitting agency's contact person;

c. The location where the approved trial burn plan and any supporting documents can be reviewed and copied; and

d. An expected time period for commencement and completion of the trial burn.

(g) During each approved trial burn (or as soon after the burn as is practicable), the applicant shall make the following determinations:

1. A quantitative analysis of the trial POHC's in the waste feed to the incinerator;

2. A quantitative analysis of the exhaust gas to determine the concentration and mass emissions of the trial POHC's, oxygen (O<sub>2</sub>), and hydrogen chloride (HCl);

3. A quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the purpose of estimating the fate of the trial POHC's;

4. A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in Section 4(1) of 401 KAR 34:240;

5. If the HCl emission rate exceeds one and eight tenths (1.8) kilograms of HCl per hour (four (4) pounds per hour), a computation of HCl removal efficiency in accordance with Section 4(2) of 401 KAR 34:240;

6. A computation of particulate emissions, in accordance with Section 4(3) of 401 KAR 34:240;

7. An identification of sources of fugitive emissions and their means of control;

8. A measurement of average, maximum, and minimum temperatures, and combustion gas velocity;

9. A continuous measurement of carbon monoxide (CO) in the exhaust gas; and

10. Such other information as the cabinet may specify as necessary to ensure that the trial burn will determine compliance with the performance standard in Section 4 of 401 KAR 34:240 and to establish the operating conditions required in Section 6 of 401 KAR 34:240 to meet that performance standard.

(h) [(g)] The applicant shall submit to the cabinet a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and shall submit the results of all the determinations required in paragraph (f) of this subsection. This submission shall be made within ninety (90) days of the completion of the trial burn, or later if approved by the cabinet.

(i) [(h)] All data collected during any trial burn shall be submitted to the cabinet following the completion of the trial burn. The results of the trial burn shall be included with Part B of the permit application as specified in Sections 9 and 10 of 401 KAR 38:070 and this administrative regulation, if a permit application is submitted.

(j) [(i)] All submissions required by this subsection shall be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under Section 7 of 401 KAR 38:070.

(k) [(j)] Based on the results of the trial burn, the cabinet shall set the operating requirements in the final permit according to Section 6 of 401 KAR 34:240. The permit modification shall proceed as a minor modification according to Section 3 of 401 KAR 38:040.

(3) For the purposes of allowing operation of a new hazardous waste incinerator following completion of the trial burn and prior to final modification of the permit conditions to reflect the trial burn

results, the cabinet may establish permit conditions, including but not limited to allowable waste feeds and operating conditions, sufficient to meet the requirements of Section 6 of 401 KAR 34:240, in the permit to a new hazardous waste incinerator. These permit conditions shall be effective for the minimum time required to complete sample analysis, data computation and submission of the trial burn results by the applicant, and modification of the facility permit by the cabinet.

(a) Applicants shall submit a statement, with Part B of the permit application, which identifies the conditions necessary to operate in compliance with the performance standards of Section 4 of 401 KAR 34:240, during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates and the operating parameters identified in Section 6 of 401 KAR 34:240.

(b) The cabinet shall review this statement and any other relevant information submitted with Part B of the permit application and specify those requirements for this period most likely to meet the performance standards of Section 4 of 401 KAR 34:240, based on engineering judgment.

(4) For the purposes of determining feasibility of compliance with the performance standards of Section 4 of 401 KAR 34:240 and of determining adequate operating conditions under Section 6 of 401 KAR 34:240, the applicant for a permit for an existing hazardous waste incinerator shall prepare and submit a trial burn plan and perform a trial burn in accordance with 401 KAR 38:190, Section 2, and subsections (2)(b) to (i) of this section or, instead, submit other information as specified in Section 2(3) of 401 KAR 38:190. The cabinet shall announce its intention to approve the trial burn plan in accordance with the timing and distribution requirements of subsection (2)(f) of this section. The contents of the notice shall include: the name and telephone number of a contact person at the facility; the name and telephone number of a contact office at the cabinet; the location where the trial burn plan and any supporting documents can be reviewed and copied; and a schedule of the activities that are required prior to permit issuance, including the anticipated time schedule for cabinet approval of the plan and the time period during which the trial burn would be conducted. Applicants submitting information under Section 2(1) of 401 KAR 38:190 are exempt from compliance with Sections 4 and 6 of 401 KAR 34:240 and, therefore, are exempt from the requirement to conduct a trial burn. Applicants who submit trial burn plans and receive approval before submission of a permit application shall complete the trial burn and submit the results, specified in subsection (2)(f) of this administrative regulation, with Part B of the permit application. If completion of this process conflicts with the date set for the submission of the Part B application, the applicant shall contact the cabinet to establish a later date for submission of the Part B application or the trial burn results. Trial burn results shall be submitted prior to issuance of the permit. When the applicant submits a trial burn plan with Part B of the permit application, the cabinet shall specify a time period prior to permit issuance in which the trial burn shall be conducted and the results submitted.

(5) In accordance with Section 3 of 401 KAR 34:080, prior to issuance of a trial burn permit, the applicant shall establish financial assurance sixty (60) days before the date on which hazardous waste is first received for treatment or storage. The amount of financial assurance established for closure shall be in accordance with the closure plan prepared pursuant to 401 KAR 34:070 and 34:240.

Section 4. Permits for Land Treatment Demonstrations Using Field Tests or Laboratory Analyses. (1) For the purpose of allowing an owner or operator to meet the treatment demonstration requirements of Section 3 of 401 KAR 34:220, the cabinet may issue a treatment demonstration permit. The permit shall contain only those requirements necessary to meet the standards in Section 3(3) of 401 KAR 34:220. The permit may be issued either as a treatment or disposal permit covering only the field test or laboratory analyses, or as a two (2) phase facility permit covering the field tests, or laboratory

analyses, and design, construction, operation and maintenance of the land treatment unit.

(a) The cabinet may issue a two (2) phase facility permit if it is found that, based on information submitted in Part B of the application, substantial, although incomplete or inconclusive, information already exists upon which to base the issuance of a facility permit.

(b) If the cabinet finds that not enough information exists upon which it can establish permit conditions to attempt to provide for compliance with all of the requirements of 401 KAR 34:220, the cabinet shall issue a treatment demonstration permit covering only the field test or laboratory analyses.

(2) If the cabinet finds that a phased permit may be issued, it shall establish, as requirements in the first phase of the facility permit, conditions for conducting the field test or laboratory analyses. These permit conditions shall include design and operating parameters (including the duration of the tests or analyses and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone), monitoring procedures, postdemonstration cleanup activities, and any other conditions which the cabinet finds may be necessary under Section 3(3) of 401 KAR 34:220. The cabinet shall include conditions in the second phase of the facility permit to attempt to meet all of 401 KAR 34:220 requirements pertaining to unit design, construction, operation, and maintenance. The cabinet shall establish these conditions in the second phase of the permit based upon the substantial but incomplete or inconclusive information contained in the Part B application.

(a) The first phase of the permit shall be effective as specified by the cabinet in the permit.

(b) The second phase of the permit shall be effective as provided in subsection (4) of this section.

(3) When the owner or operator who has been issued a two (2) phase permit has completed the treatment demonstration, he shall submit to the cabinet a certification, signed by a person authorized to sign a permit application or report under Section 7 of 401 KAR 38:070, that the field tests or laboratory analyses have been carried out in accordance with the conditions specified in the first phase of the permit for conducting such tests or analyses. The owner or operator shall also submit all data collected during the field tests or laboratory analyses within ninety (90) days of completion of those tests or analyses unless the cabinet approves a later date.

(4) If the cabinet determines that the results of the field tests or laboratory analyses meet the requirements of Section 3 of 401 KAR 34:220, it shall modify the second phase of the permit to incorporate any requirements necessary for operation of the facility in compliance with 401 KAR 34:220, based upon the results of the field tests or laboratory analyses.

(a) This permit modification may proceed as a minor modification under Section 3 of 401 KAR 38:040, provided any such change is minor, or otherwise shall proceed as a modification under Section 2(1)(b) of 401 KAR 38:040.

(b) If no modifications of the second phase of the permit are necessary, or if only minor modifications are necessary and have been made, the cabinet shall give notice of the final decision to the permit applicant and to each person who submitted written comments on the phased permit or who requested notice of final decision on the second phase of the permit. The second phase of the permit then shall become effective as specified by the cabinet in Section 12 of 401 KAR 38:050.

(c) If modifications under Section 2(1)(b) of 401 KAR 38:040 are necessary, the second phase of the permit shall become effective only after those modifications have been made.

(5) No permits shall be issued under this section unless the owner or operator has established adequate financial responsibility as specified in 401 KAR 34:080 to 34:176.

Section 5. Interim Permits for UIC Wells. The cabinet may issue a permit under this section to any Class I UIC well ~~(defined in 401~~

~~CFR 144.7)~~ injecting hazardous wastes within the state, if no UIC program has been approved by the EPA for Kentucky. Any such permit shall apply and insure compliance with all applicable requirements of 401 KAR Chapter 34 and 401 KAR 38:500 and shall be for a term not to exceed two (2) years. No such permit shall be issued after approval or promulgation of a UIC program in Kentucky. Any permit under this section shall contain a condition providing that it shall terminate upon final action by the cabinet under a UIC program to issue or deny a UIC permit for the facility.

#### Section 6. Research, Development, and Demonstration Permits.

(1) The cabinet may issue a research, development, and demonstration permit for any hazardous waste treatment facility which proposes to utilize an innovative and experimental hazardous waste treatment technology or process for which permit standards for such experimental activity have not been promulgated under 401 KAR Chapters 34 or 36. Any such permit shall include such terms and conditions as will assure protection of human health and the environment. Such permits:

(a) Shall provide for the construction of such facilities as necessary, and for operation of the facility for not longer than one (1) year unless renewed as provided in subsection (4) of this section; and

(b) Shall provide for the receipt and treatment by the facility of only those types and quantities of hazardous waste which the cabinet deems necessary for purposes of determining the efficacy and performance capabilities of the technology or process and the effects of such technology or process on human health and the environment; and

(c) Shall include such requirements as the cabinet deems necessary to protect human health and the environment (including, but not limited to, requirements regarding monitoring, operation, financial responsibility, closure, and remedial action), and such requirements as the cabinet deems necessary regarding testing and providing of information to the cabinet with respect to the operation of the facility.

(2) For the purpose of expediting review and issuance of permits under this section, the cabinet may, consistent with the protection of human health and the environment, modify or waive permit application and permit issuance requirements in 401 KAR Chapter 38 except that there may be no modification or waiver of provisions in KRS Chapter 224 regarding financial responsibility (including insurance) or of procedures regarding public participation.

(3) The cabinet may order an immediate termination of all operations at the facility at any time it is determined that termination is necessary to protect human health and the environment.

(4) Any permit issued under this section may be renewed not more than three (3) times. Each such renewal shall be for a period of not more than one (1) year.

Section 7. Permits for Boilers and Industrial Furnaces Burning Hazardous Waste. (1) General. Owners and operators of new boilers and industrial furnaces (those not operating under the interim status standards of Section 4 of 401 KAR 36:020) are subject to subsections (2) to (6) of this section. Boilers and industrial furnaces operating under the interim status standards of Section 4 of 401 KAR 36:020 are subject to subsection (7) of this section.

(2) Permit operating periods for new boilers and industrial furnaces. A permit for a new boiler or industrial furnace shall specify appropriate conditions for the following operating periods:

(a) Pretrial burn period. For the period beginning with initial introduction of hazardous waste and ending with initiation of the trial burn, and only for the minimum time required to bring the boiler or industrial furnace to a point of operational readiness to conduct a trial burn, not to exceed 720 hours operating time when burning hazardous waste, the cabinet shall establish in the pretrial burn period of the permit conditions, including but not limited to, allowable hazardous waste feed rates and operating conditions. The cabinet may extend



the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to Section 3 of 401 KAR 38:040.

1. Applicants shall submit a statement, with part B of the permit application, that suggests the conditions necessary to operate in compliance with the standards of Sections 5 to 8 of 401 KAR 36:020 during this period. This statement should include, at a minimum, restrictions on the applicable operating requirements identified in Section 3(5) of 401 KAR 36:020.

2. The cabinet shall review this statement and any other relevant information submitted with part B of the permit application and specify requirements for this period sufficient to meet the performance standards of Sections 5 to 8 of 401 KAR 36:020 based on his engineering judgment.

(b) Trial burn period. For the duration of the trial burn, the cabinet shall establish conditions in the permit for the purposes of determining feasibility of compliance with the performance standards of Sections 5 to 8 of 401 KAR 36:020 and determining adequate operating conditions under Section 3(5) of 401 KAR 36:020. Applicants shall propose a trial burn plan, prepared under subsection (3) of this section, to be submitted with part B of the permit application.

(c) Posttrial burn period.

1. For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the cabinet to reflect the trial burn results, the cabinet shall establish the operating requirements most likely to ensure compliance with the performance standards of Sections 5 to 8 of 401 KAR 36:020 based on his engineering judgment.

2. Applicants shall submit a statement, with part B of the application, that identifies the conditions necessary to operate during this period in compliance with the performance standards of Sections 5 to 8 of 401 KAR 36:020. This statement shall include, at a minimum, restrictions on the operating requirements provided by Section 3(5) of 401 KAR 36:020.

3. The cabinet shall review this statement and any other relevant information submitted with part B of the permit application and specify requirements for this period sufficient to meet the performance standards of Sections 5 to 8 of 401 KAR 36:020 based on his engineering judgment.

(d) Final permit period. For the final period of operation, the cabinet shall develop operating requirements in conformance with Section 3(5) of 401 KAR 36:020 that reflect conditions in the trial burn plan and are likely to ensure compliance with the performance standards of Sections 5 to 8 of 401 KAR 36:020. Based on the trial burn results, the cabinet shall make any necessary modifications to the operating requirements to ensure compliance with the performance standards. The permit modification shall proceed according to Section 3 of 401 KAR 38:040.

(3) Requirements for trial burn plans. The trial burn plan shall include the following information. The cabinet, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this subsection:

(a) An analysis of each feed stream, including hazardous waste, other fuels, and industrial furnace feedstocks, as fired, that includes:

1. Heating value, levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, thallium, total chlorine/chloride, and ash;

2. Viscosity or description of the physical form of the feed stream;

(b) An analysis of each hazardous waste, as fired, including:

1. An identification of any hazardous organic constituents listed in 401 KAR 31:170, that are present in the feed stream, except that the applicant need not analyze for constituents listed in 401 KAR 31:170, that would reasonably not be expected to be found in the

hazardous waste. The constituents excluded from analysis shall be identified and the basis for this exclusion explained. The analysis shall be conducted in accordance with analytical techniques specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846, incorporated in 40 CFR 260.11, which is adopted in Section 3 of 401 KAR 30:010, or their equivalent.

2. An approximate quantification of the hazardous constituents identified in the hazardous waste, within the precision produced by the analytical methods specified in test methods for evaluating solid waste, physical/chemical methods, or other equivalent.

3. A description of blending procedures, if applicable, prior to firing the hazardous waste, including a detailed analysis of the hazardous waste prior to blending, an analysis of the material with which the hazardous waste is blended, and blending ratios.

(c) A detailed engineering description of the boiler or industrial furnace, including:

1. Manufacturer's name and model number of the boiler or industrial furnace;

2. Type of boiler or industrial furnace;

3. Maximum design capacity in appropriate units;

4. Description of the feed system for the hazardous waste, and, as appropriate, other fuels and industrial furnace feedstocks;

5. Capacity of hazardous waste feed system;

6. Description of automatic hazardous waste feed cutoff system(s);

7. Description of any pollution control system; and

8. Description of stack gas monitoring and any pollution control monitoring systems.

(d) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(e) A detailed test schedule for each hazardous waste for which the trial burn is planned, including date(s), duration, quantity of hazardous waste to be burned, and other factors relevant to the cabinet's decision under subsection (2)(b) of this section.

(f) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feed rate, and, as appropriate, the feed rates of other fuels and industrial furnace feedstocks, and any other relevant parameters that may affect the ability of the boiler or industrial furnace to meet the performance standards in Sections 5 to 8 of 401 KAR 36:020.

(g) A description of, and planned operating conditions for, any emission control equipment that will be used.

(h) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction.

(i) Such other information as the cabinet reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this subparagraph and the criteria in subsection (2)(b) of this section.

(4) Trial burn procedures.

(a) A trial burn shall be conducted to demonstrate conformance with the standards of Sections 5 to 8 of 401 KAR 36:020 under an approved trial burn plan.

(b) The cabinet shall approve a trial burn plan if it finds that:

1. The trial burn is likely to determine whether the boiler or industrial furnace can meet the performance standards of Sections 5 to 8 of 401 KAR 36:020;

2. The trial burn itself will not present an imminent hazard to human health and the environment;

3. The trial burn will help the cabinet to determine operating requirements to be specified under Section 3(5) of 401 KAR 36:020; and

4. The information sought in the trial burn cannot reasonably be developed through other means.

(c) The cabinet shall send a notice to all persons on the facility mailing list and the appropriate units of state and local governments

as set forth in Section 7(3) of 401 KAR 38:050 announcing the scheduled commencement and completion dates for the trial burn. The applicant shall not commence the trial burn until after the cabinet has issued such notice.

1. This notice shall be mailed within a reasonable time period before the trial burn. An additional notice is not required if the trial burn is delayed due to circumstances beyond the control of the facility or the cabinet.

2. This notice shall contain:

a. The name and telephone number of the applicant's contact person;

b. The name and telephone number of the permitting agency contact person;

c. The location where the approved trial burn plan and any supporting documents can be reviewed and copied; and

d. An expected time period for commencement and completion of the trial burn.

(d) The applicant shall submit to the cabinet a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and shall submit the results of all the determinations required in subsection (3) of this section. This submission shall be made within ninety (90) days of completion of the trial burn, or later if approved by the cabinet.

(e) ~~[(d)]~~ All data collected during any trial burn shall be submitted to the cabinet following completion of the trial burn.

(f) ~~[(e)]~~ All submissions required by this subsection shall be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under Section 7 of 401 KAR 38:070.

(g) ~~[(f)]~~ Special procedures for destruction and removal efficiency (DRE) trial burns. When a destruction and removal efficiency (DRE) trial burn is required under Section 5(1) of 401 KAR 36:020, the cabinet shall specify (based on the hazardous waste analysis data and other information in the trial burn plan) as trial principal organic hazardous constituents (POHCs) those compounds for which destruction and removal efficiencies shall be calculated during the trial burn. These trial POHCs shall be specified by the cabinet based on information including its estimate of the difficulty of destroying the constituents identified in the hazardous waste analysis, their concentrations or mass in the hazardous waste feed, and, for hazardous waste containing or derived from wastes listed in 401 KAR 31:040, the hazardous waste organic constituent(s) identified in 401 KAR 31:160 as the basis for listing.

(6) Determinations based on trial burn. During each approved trial burn (or as soon after the burn as is practicable), the applicant shall make the following determinations:

(a) A quantitative analysis of the levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, thallium, silver, and chlorine/chloride, in the feed streams (hazardous waste, other fuels, and industrial furnace feedstocks);

(b) When a DRE trial burn is required under Section 5(1) of 401 KAR 36:020:

1. A quantitative analysis of the trial POHCs in the hazardous waste feed;

2. A quantitative analysis of the stack gas for the concentration and mass emissions of the trial POHCs; and

3. A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in Section 5(1) of 401 KAR 36:020.

(c) When a trial burn for chlorinated dioxins and furans is required under Section 5(5) of 401 KAR 36:020, a quantitative analysis of the stack gas for the concentration and mass emission rate of the 2,3,7,8-chlorinated tetra-octa congeners of chlorinated dibenzo-p-dioxins and furans, and a computation showing conformance with the emission standard.

(d) When a trial burn for particulate matter, metals, or HCl/Cl<sub>2</sub> is required under Sections 6, 7(3) or (4), 8(2)(b) or (3) of 401 KAR

36:020, a quantitative analysis of the stack gas for the concentrations and mass emissions of particulate matter, metals, or hydrogen chloride (HCl) and chlorine (Cl<sub>2</sub>), and computations showing conformance with the applicable emission performance standards;

(e) When a trial burn for DRE, metals, or HCl/Cl<sub>2</sub> is required under Sections 5(1), 7(3) or (4), or 8(2)(b) or (3) of 401 KAR 36:020, a quantitative analysis of the scrubber water (if any), ash residues, other residues, and products for the purpose of estimating the fate of the trial POHCs, metals, and chlorine/chloride;

(f) An identification of sources of fugitive emissions and their means of control;

(g) A continuous measurement of carbon monoxide (CO), oxygen, and where required, hydrocarbons (HC), in the stack gas; and

(h) Such other information as the cabinet may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in Sections 5 to 8 of 401 KAR 36:020 and to establish the operating conditions required by Section 3(5) of 401 KAR 36:020 as necessary to meet those performance standards.

(7) Interim status boilers and industrial furnaces. For the purpose of determining feasibility of compliance with the performance standards of Sections 5 to 8 of 401 KAR 36:020 and of determining adequate operating conditions under Section 4 of 36:020, applicants owning or operating existing boilers or industrial furnaces operated under the interim status standards of Section 4 of 401 KAR 36:020 shall either prepare and submit a trial burn plan and perform a trial burn in accordance with the requirements of this section or submit other information as specified in Section 1(f) of 401 KAR 38:260. The cabinet shall announce its intention to approve of the trial burn plan in accordance with the timing and distribution requirements of subsection (4)(c) of this section. The contents of the notice shall include: the name and telephone number of a contact person at the facility; the name and telephone number of a contact person at the permitting agency; the location where the trial burn plan and any supporting documents can be reviewed and copied; and a schedule of the activities that are required prior to permit issuance, including the anticipated time schedule for cabinet approval of the plan and the time periods during which the trial burn would be conducted.

Applicants who submit a trial burn plan and receive approval before submission of the part B permit application shall complete the trial burn and submit the results specified in subsection (6) of this section with the part B permit application. If completion of this process conflicts with the date set for submission of the part B application, the applicant shall contact the cabinet to establish a later date for submission of the part B application or the trial burn results. If the applicant submits a trial burn plan with part B of the permit application, the trial burn shall be conducted and the results submitted within a time period prior to permit issuance to be specified by the cabinet.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the



date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. upon request, the Cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221.

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect any operator or owner of a hazardous waste facility who is required to have a permit.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff of the agency will have an increased workload in order to process the newly regulated entities.

2. Continuing costs or savings: Once the new entities are processed, there will be no extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: These amendments will require the cabinet to notify persons on the facility mailing list prior to a trial burn. The cabinet shall also notify the public prior to final approval of the trial burn time.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are

consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: Public health and the environment should benefit from the implementation of this administrative regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste facilities applying for permits. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes including standards for special types of permits. These changes are necessary to maintain consistency between state and federal programs. A variety of additions have been made to clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that is required to have a permit for a hazardous waste facility.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that

the cabinet to establish a comprehensive program for the proper management of hazardous waste. Any state, county, or local government office that manages hazardous waste facilities will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

**NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)**

**401 KAR 38:070. Application procedures.**

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.99, 15 USC 2601 et seq.

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 15 USC 2601 et seq.

NECESSITY AND FUNCTION: KRS 224.40-305 and 224.46-520 require any person who treats, stores, recycles or disposes of hazardous waste to first obtain a hazardous waste site or facility permit from the cabinet. This chapter establishes the permitting process for hazardous waste sites or facilities. An overview of the permit program is found in the Necessity and Function of 401 KAR 38:010. This administrative regulation establishes the application procedures.

Section 1. General Application Requirements. (1) Permit application. Any person who is required to have a permit (including new applicants and permittees with expiring permits) shall complete, sign, and submit an application to the cabinet as described in Sections 1 through 6 of this administrative regulation and 401 KAR 38:020. Persons currently authorized with interim status under 401 KAR 38:020 shall apply for permits when required by the cabinet. Persons covered by permits by rule, Section 1 of 401 KAR 38:060, need not apply except as required by 401 KAR 38:500 for disposal facilities permitted by rule. Procedures for applications, issuance and administration of emergency permits are found exclusively in Section 2 of 401 KAR 38:060. Procedures for application issuance and administration of research, development, and demonstration permits are found exclusively in Section 6 of 401 KAR 38:060.

(2) Applicant; who applies. When a facility or activity is owned by one (1) person but is operated by another person, it is the operator's duty to obtain a permit, and the owner shall also sign the permit application.

(3) Completeness. The cabinet shall not issue a permit before receiving a complete application for a permit except for permits by rule or emergency permits. An application for a permit is complete when the cabinet receives an application form and any supplemental information which are completed to the satisfaction of the cabinet. An application for a permit is complete notwithstanding the failure of the owner or operator to submit the exposure information described in Section 9 of this administrative regulation. However, failure by the applicant to submit exposure information may be grounds for denial of the permit or revocation of an issued permit. The cabinet may deny

a permit for the active life of a hazardous waste management facility or unit before receiving a complete application for a permit.

(4) Information requirements. All applicants for permits shall provide the applicable information in compliance with 401 KAR 38:080 through 401 KAR 38:270 to the cabinet, using the application form provided by the cabinet.

(5) Number of copies. Any person who requires a hazardous waste site or facility permit shall submit two (2) copies of the application. If the application for a permit includes an incinerator or a facility which requires groundwater monitoring, three (3) copies of the application shall be submitted to the cabinet. Additional copies may be required prior to permit issuance.

Section 2. Existing Hazardous Waste Sites or Facilities and Interim Status Qualifications. (1) Owners or ~~[and]~~ operators of existing hazardous waste sites or facilities or of hazardous waste sites or facilities in existence on the effective date of statutory or regulatory amendments that render the facility subject to the requirement to have a permit shall submit Part A of their permit application or its equivalent (Registration of Intent to Apply for a Permit) to the cabinet no later than:

(a) Six (6) months after the date of publication of administrative regulations which first require them to comply with the standards set forth in 401 KAR Chapters 35 or 36; or

(b) Thirty (30) days after the date they first become subject to the standards set forth in 401 KAR Chapters 35 or 36, whichever first occurs.

(2) The cabinet may extend the date by which owners and operators of specified classes of existing hazardous waste management facilities shall submit Part A of their permit application or its equivalent if the cabinet finds that:

(a) There has been substantial confusion as to whether the owners and operators of such facilities were required to file a permit application; and

(b) Such confusion is attributable to ambiguities in the waste management administrative regulations.

(3) The cabinet may by compliance order extend the date by which the owner and operator of an existing hazardous waste site or facility shall submit Part A of their permit application or its equivalent.

(4) ~~[Any time after promulgation of the appropriate regulatory requirement]~~ The owner or ~~[and]~~ operator of an existing hazardous waste site or facility may be required to submit Part B of ~~the [their]~~ permit application. Any owner or operator shall be allowed at least six (6) months from the date of request to submit Part B of the application. Any owner or operator of an existing hazardous waste site or facility may voluntarily submit Part B of the application at any time. Notwithstanding the above, any owner or operator of an existing hazardous waste site or facility shall submit a Part B permit application in accordance with the dates specified in Section 4 of 401 KAR 38:020. Any owner or operator of a land disposal facility in existence on the effective date of statutory or regulatory amendments that render the facility subject to the requirement to have a hazardous waste site or facility permit shall submit a Part B application in accordance with the dates specified in Section 4 of 401 KAR 38:020.

(5) Failure to furnish a requested Part B application on time, or to furnish in full the information required by the Part B application, is grounds for termination of interim status under 401 KAR 38:050.

(6) Owners or ~~[and]~~ operators of existing hazardous waste sites or facilities which close under interim status without submitting Part B of the permit application shall, at a minimum, comply with the corrective action requirements in Section 12 of 401 KAR 34:060.

Section 3. New Hazardous Waste Sites or Facilities. (1) Except as provided in subsection (3) of this section, no person shall begin physical construction of a new hazardous waste site or facility without having submitted Part A or its equivalent and Part B of the permit application and received an effective hazardous waste site or facility

permit (see Section 12 of 401 KAR 38:050).

(2) An application for a permit for a new hazardous waste site or facility (including both Part A or its equivalent, and Part B) may be filed at any time after promulgation of the standards in 401 KAR 34:180 applicable to such facility. The application shall be filed with the cabinet. Except as provided in subsection (3) of this section, all applications shall be submitted at least 180 days before physical construction is expected to commence.

(3) Notwithstanding subsection (1) of this section, a person may construct a facility for the incineration of polychlorinated biphenyls pursuant to an approval issued by the Administrator of the U.S. Environmental Protection Agency under Section (6)(e) of 15 USC 2601-2655 (The Toxic Substances Control Act, as amended) and any person owning or operating such a facility may, at any time after construction or operation of such facility has begun, file an application for a permit to incinerate hazardous waste authorizing such facility to incinerate waste identified or listed under KRS 224.46-510(3) and the administrative regulations promulgated pursuant thereto.

(4) An application for a permit for a new hazardous waste disposal facility shall be in compliance with the requirements specified in KRS 224.46-520 and 401 KAR 38:500 regarding approval by the local government or the Kentucky Regional Integrated Waste Treatment and Disposal Facility Siting Board.

**Section 4. Updating Permit Applications.** (1) If any owner or operator of a hazardous waste site or facility has filed Part A of a permit application or its equivalent and has not yet filed Part B, the owner or operator shall file an amended Part A application or its equivalent with the cabinet:

(a) No later than the effective date of regulatory provisions listing or designating wastes as hazardous in addition to those listed or designated previously in 401 KAR Chapter 31, if the facility is treating, storing or disposing of any of the newly listed or designated waste; or

(b) As necessary to comply with Section 3 of 401 KAR 38:020 for changes during interim status.

(2) The owner or operator of a facility who fails to comply with the updating requirements of subsection (1) of this section does not receive interim status as to the wastes not covered by a duly filed Part A application or its equivalent.

**Section 5. Reapplications.** Any hazardous waste site or facility with an effective permit shall submit a new application at least 180 days before the expiration date of the effective permit, unless permission for a later date has been granted by the cabinet. (The cabinet shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

**Section 6. Recordkeeping.** Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under Section 1(4) of this administrative regulation and 401 KAR 38:080 through 38:210, for a period of at least three (3) years from the date the application is signed.

**Section 7. Signatures to Permit Applications and Reports.** (1) Applications. All permit applications shall be signed as follows:

(a) For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

1. A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or

2. The manager of one (1) or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

(b) For a partnership or sole proprietorship: by a general partner

or the proprietor, respectively; or

(c) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes:

1. The chief executive officer of the agency; or

2. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (for example, regional administrators of EPA).

(2) Reports. All reports required by permits, and other information requested by the cabinet, shall be signed by a person described in subsection (1) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(a) The authorization is made in writing by a person described in subsection (1) of this section;

(b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility (a duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(c) The written authorization is submitted to the cabinet.

(3) Changes to authorization. If an authorization under subsection (2) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of subsection (2) of this section shall be submitted to the cabinet prior to or together with any reports, information, or applications to be signed by an authorized representative.

(4) Certification. Any person signing a document under subsections (1) or (2) of this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

**Section 8. Confidentiality of Information.** (1) Claims of confidentiality. In accordance with KRS 224.10-212 (Public Information) and 400 KAR 1:060, any information submitted to the cabinet pursuant to these administrative regulations may be claimed as confidential by the submitter. Any such claim shall be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, the cabinet may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in KRS 224.10-212 (Public Information) and any other provision of the waste management administrative regulations relating to confidentiality of information.

(2) Denial of claims of confidentiality. Claims that the name and address of any permit applicant or permittee is confidential will be denied.

**Section 9. Exposure Information.** (1) After August 8, 1985, any Part B application submitted by an owner or operator of a facility that stores, treats, or disposes of hazardous waste in a surface impoundment or landfill shall be accompanied by information reasonably ascertainable by the owner or operator, on the potential for the public to be exposed to hazardous wastes or hazardous constituents through releases related to the unit. At a minimum, such information shall address:

## ADMINISTRATIVE REGISTER - 958

(a) Reasonably foreseeable potential releases from both normal operations and accidents at the unit, including releases associated with transportation to or from the unit;

(b) The potential pathways of human exposure to hazardous wastes or constituents resulting from the releases described under paragraph (a) of this subsection; and

(c) The potential magnitude and nature of the human exposure resulting from such releases.

(2) By August 8, 1985, owners and operators of a landfill or a surface impoundment who have already submitted a Part B application shall submit the exposure information required in subsection (1) of this section.

(3) Information required by this section may in part satisfy the requirements of KRS 224.46-520(1) and Section 2(19) of 401 KAR 38:090.

Section 10. Additional Information. The cabinet may require a permittee or an applicant to submit information in order to establish permit conditions under Section 3 of 401 KAR 38:030 and Section 5 of 401 KAR 38:040.

Section 11. Permit Denial. The cabinet may, pursuant to the procedures of 401 KAR Chapter 38, deny the permit application either in its entirety or as to the active life of a hazardous waste management facility or unit only.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect owners and operators of hazardous waste facilities.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff of the agency will have an increased workload in order to process the newly regulated entities.

2. Continuing costs or savings: Once the new entities are processed, there will be no extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: Not applicable.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste facilities, consistent with federal standards. Tiering is applied to all of Kentucky's hazardous waste regulations, based on type and quantity of waste generated and managed and type of

management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to the permit application process. These changes are necessary to maintain consistency between state and federal programs. The changes clarify the applicability of the standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that manages hazardous waste facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. Any state, county, or local government office that manages hazardous waste facilities will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 38:080. Contents of Part A application.

RELATES TO: KRS 224.10, 224.40, 224.46, 224.99

STATUTORY AUTHORITY: KRS 10-100, 224.46-520

NECESSITY AND FUNCTION: KRS 224.40-305 and 224.46-520 require any person who treats, stores, recycles or disposes of hazardous waste to first obtain a hazardous waste site or facility permit from the cabinet. This chapter establishes the permitting process for hazardous waste sites or facilities. An overview of the permit program is found in the Necessity and Function of 401 KAR 38:010. This administrative regulation establishes the content of the Part A application.

Section 1. Part A Application. Part A of the hazardous waste site or facility permit application or its equivalent (Registration of Intent to Apply for a Permit) shall be submitted on DEP Form 7058A, incorporated by reference in Section 3 of this administrative regulation and shall include the following information:

(1) The activities conducted by the applicant which require him to obtain a hazardous waste site or facility permit under KRS Chapter 224.

(2) Name, mailing address, and location, including latitude and longitude of the facility for which the application is submitted.

(3) Up to four (4) SIC codes which best reflect the principal products or services provided by the facility.

(4) The operator's name, address, telephone number, ownership status, and status as federal, state, private, public or other entity.

(5) The name, address, and phone number of the owner of the facility.

(6) If the U.S. government identifies any Indian lands in Kentucky, whether the facility is located on such Indian lands.

(7) An indication of whether the facility is new or existing and whether it is a first or revised application.

(8) For existing facilities:

(a) A scale drawing of the facility showing the location of all past, present, and future treatment, storage, and disposal areas; and

(b) Photographs of the facility clearly delineating all existing structures; existing treatment, storage, and disposal areas; and sites of future treatment, storage, and disposal areas.

(9) A description of the process to be used for treating, storing and disposing of hazardous waste, and the design capacity of these items.

(10) A specification of the hazardous wastes listed or designated under 401 KAR Chapter 31 to be treated, stored, or disposed at the facility, an estimate of the quantity of such wastes to be treated, stored, or disposed annually, and a general description of the processes to be used for such wastes.

(11) A listing of all permits or construction approvals received or applied for under any of the following programs:

(a) Hazardous waste management program under RCRA.

(b) UIC program under the SWDA.

(c) NPDES program under the CWA, or the KPDES program under KRS Chapter 224 and as specified in 401 KAR 5:050 through 5:085.

(d) Prevention of Significant Deterioration (PSD) program under KRS Chapter 224 and as specified in 401 KAR 51:017.

(e) Nonattainment program under KRS Chapter 224 and as specified in 401 KAR 51:052.

(f) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under KRS Chapter 224 and as specified in 401 KAR Chapter 57.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

**NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division of Waste Management  
(Amendment)**

**401 KAR 38:170. Specific Part B requirements for surface impoundments.**

RELATES TO: KRS 224.10, 224.40, 224.46, 224.99, 40 CFR 270.17

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish specific Part B requirements for facilities that treat, store or dispose of hazardous waste in surface impoundments.

Section 1. Applicability. The requirements in this administrative regulation apply to all owners and operators of hazardous waste sites or facilities that treat, store or dispose or will treat, store or dispose of hazardous waste in surface impoundments.

Section 2. Additional Part B Requirements for Surface Impoundments. In addition to the information required by 401 KAR 38:080, 401 KAR 38:090, and 401 KAR 38:100, owners and operators of facilities that store, treat, or dispose or will store, treat, or dispose of hazardous waste in surface impoundments, except as otherwise provided in Section 1 of 401 KAR 34:010 and Section 1 of 401 KAR 34:200, must provide the following additional information:

(1) A list of the hazardous wastes placed or to be placed in each surface impoundment;

(2) Detailed plans and an engineering report describing how the surface impoundment is designed and is or will be constructed, operated, and maintained to meet the requirements of Section 10 of 401 KAR 3:020 and Sections 2, 3, and 10 of 401 KAR 34:200, addressing the following items:

(a) The liner system (except for an existing portion of a surface impoundment). If an exemption from the requirement for a liner is sought as provided by Section 2(2) of 401 KAR 34:200, submit detailed plans and engineering and hydrogeologic reports as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time;

(b) The double liner and leak (leachate) detection, collection, and removal system, if the surface impoundment is required to meet the requirements of Section 2(3) of 401 KAR 34:200. If an exemption from the requirements for double liners and a leak detection, collection, and removal system or alternative design is sought as provided by Section 2(4), (5), or (6) of 401 KAR 34:200, submit appropriate information;

(c) If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system;

(d) The construction quality assurance (CQA) plan, if required under Section 10 of 401 KAR 34:020;

(e) Proposed action leakage rate, with rationale, if required under Section 3 of 401 KAR 34:200, and response action plan, if required

under Section 10 of 401 KAR 34:200;

(f) Prevention of overtopping, including flow measuring devices and

(g) Structural integrity of dikes;

(3) A description of how each surface impoundment, including double liner system, leak detection system, cover system, appurtenances for control of overtopping, including flow measuring devices, will be inspected in order to meet the requirements of Section 5(1) and (2) of 401 KAR 34:200. This information shall be included in the inspection plan submitted under Section 2(5) of 401 KAR 38:090;

(4) A certification by an engineer which attests to the structural integrity of each dike, as required under Section 4(3) of 34:200. For new units, the owner or operator shall submit a statement by an engineer that he will provide such a certification upon completion of construction in accordance with the plans and specifications;

(5) A description of the procedures to be used for removal of surface impoundment from service, as required under Section 2(3) and (3) of 401 KAR 34:200. This information shall be included in the contingency plan submitted under Section 2(7) of 401 KAR 38:090;

(6) A description of how hazardous waste residues and contaminated materials will be removed from the unit at closure, as required under Section 6(1)(a) of 401 KAR 34:200. For any wastes not removed from the unit upon closure, the owner or operator shall submit detailed plans and an engineering report describing the removal process, as required under Section 6(1)(b) and (2) of 401 KAR 34:200 and 38:500 which shall be complied with. This information shall be included in the closure plan, and, where applicable, the postclosure plan submitted under Section 2(13) of 401 KAR 38:190;

(7) If ignitable or reactive wastes are to be placed in a surface impoundment, an explanation of how Section 7 of 401 KAR 34:200 will be complied with;

(8) Incompatible wastes, or incompatible wastes and materials shall not be placed in a surface impoundment in accordance with Section 8 of 401 KAR 34:200.

(9) A waste management plan for EPA hazardous waste numbers F020, F021, F022, F023, F026, and F027 (chlorinated dibenzofurans and phenols) describing how the surface impoundment is or will be designed, constructed, operated, and maintained to meet the requirements of Section 9 of 401 KAR 34:200. This submission shall address the following items as specified in Section 9 of 401 KAR 34:200:

(a) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(b) The attenuative properties of underlying and surrounding soils or other materials;

(c) The mobilizing properties of other materials codisposed with these wastes; and

(d) The effectiveness of additional treatment, design, or management techniques.

(10) Information on air emission control equipment as required under Section 3 of this administrative regulation.

**Section 3. Specific Part B Information Requirements for Surface Impoundments.** Except as otherwise provided in Section 1 of 401 KAR 34:010, owners or operators of surface impoundments that use air emission controls in accordance with the requirements of 401 KAR 34:281 shall provide the following additional information:

(1) Documentation for each floating membrane cover installed at a surface impoundment in accordance with the requirements of Section 5(3) of 401 KAR 34:281 that includes information prepared by the owner or operator or provided by the cover manufacturer describing the cover design, and certification by the owner or operator that the cover meets the specifications listed in Section 5 of 401 KAR 34:281.



(2) Documentation for each closed-vent system and control device installed in accordance with the requirements of Section 7 of 401 KAR 34:281 that includes design and performance information as specified in Section 1(3) and (4) of 401 KAR 38:240.

(3) An emission monitoring plan for both 40 CFR Part 260 Appendix A Method 21 and control device monitoring methods. This plan shall include the following information: monitoring point(s), monitoring methods for control devices, monitoring frequency, procedures for documenting exceedances, and procedures for mitigating noncompliances.

(4) When an owner or operator of a facility subject to 401 KAR 35:281 cannot comply with 401 KAR 34:281 by the date of permit issuance, the schedule of implementation required under Section 2 of 401 KAR 35:281.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

PUBLIC HEARING: A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

CONTACT PERSON: James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

CONTACT PERSON: James Hale

1. Type and number of entities affected: The proposed amendments affect all owners and operators of hazardous waste facilities that use surface impoundments.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public

comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: The existing staff of the agency will have an increased workload in order to process the newly regulated entities.

2. Continuing costs or savings: Once the new entities are processed, there will be no extra costs.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments provide consistency with current federal standards.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: There will be no effects on public health without the implementation of this administrative regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, duplicate, or overlap this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste facilities that use surface impoundments. Tiering is applied to all of Kentucky's waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air

pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to the treatment, disposal, or storage of hazardous waste in surface impoundments. The changes are necessary to maintain consistency between state and federal programs. A variety of additions have been made to clarify the applicability of the standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that use surface impoundments at hazardous waste facilities.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

401 KAR 38:190. Specific Part B requirements for incinerators.

RELATES TO: KRS 224.10, 224.40, 224.46, 224.99

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: KRS 224.40-305 and 224.46-520 require any person who treats, stores, recycles, or disposes of hazardous waste to first obtain a hazardous waste site or facility permit from the cabinet. This chapter establishes the permitting process for hazardous waste sites or facilities. An overview of the permit program is found in the Necessity and Function of 401 KAR

38:010. This administrative regulation establishes specific Part B requirements for facilities that incinerate hazardous waste.

Section 1. Applicability. The requirements in this administrative regulation apply to all owners and operators of hazardous waste sites or facilities that incinerate or will incinerate hazardous waste.

Section 2. Additional Part B Requirements for Incinerators. In addition to the information required by 401 KAR 38:080, 38:090 and 38:100, owners and operators of facilities that incinerate or will incinerate hazardous waste, except as Section 1 of 401 KAR 34:010 and Section 1 of 401 KAR 34:240, provide otherwise, must fulfill the requirements of subsection (1), (2) or (3) of this section.

(1) When seeking an exemption under Section 1(2) or (3) of 401 KAR 34:240 (ignitable, corrosive or reactive wastes only) submit:

(a) Documentation that the waste is listed as a hazardous waste in Chapter 31 solely because it is ignitable (Hazard Code F), corrosive (Hazard Code C), or both; or

(b) Documentation that the waste is listed as a hazardous waste in Chapter 31 solely because it is reactive (Hazard Code R) for characteristics other than those listed in Section 4(1)(d) and (e) of 401 KAR 31:030, and will not be burned when other hazardous wastes are present in the combustion zone; or

(c) Documentation that the waste is a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under 401 KAR 31:030; or

(d) Documentation that the waste is a hazardous waste solely because it possesses the reactivity characteristics listed in Section 4(1)(a), (b), (c), (f), (g) or (h) of 401 KAR 31:030, and that it will not be burned when other hazardous wastes are present in the combustion zone; or

(2) Submit a trial burn plan or the results of a trial burn, including all required determinations, in accordance with Section 3 of 401 KAR 38:060; or

(3) In lieu of a trial burn, the applicant may submit the following information:

(a) An analysis of each waste or mixture of wastes to be burned including:

1. Heat value of the waste in the form and composition in which it will be burned;

2. Viscosity (if applicable), or description of physical form of the waste;

3. An identification of any hazardous organic constituents listed in 401 KAR 31:170, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in 401 KAR 31:170 which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" EPA Publication SW-846, incorporated in 40 CFR 260.11, which is adopted in Section 3 of [incorporated by reference in] 401 KAR 30:010, [Section 3] or their equivalent;

4. An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" EPA Publication SW-846, (incorporated in 40 CFR 260, which is adopted [by reference] in Section 3 of 401 KAR 30:010);

5. A quantification of those hazardous constituents in the waste which may be designated as POHC's based on data submitted from other trial or operational burns which demonstrate compliance with the performance standards in Section 4 of 401 KAR 34:240.

(b) A detailed engineering description of the incinerator, including:

1. Manufacturer's name and model number of incinerator;

2. Type of incinerator;



3. Linear dimension of incinerator unit including cross-sectional area of combustion chamber;
4. Description of auxiliary fuel system (type/feed);
5. Capacity of prime mover;
6. Description of automatic waste feed cutoff system(s);
7. Stack gas monitoring and pollution control monitoring system;
8. Nozzle and burner design;
9. Construction materials;
10. Location and description of temperature, pressure, and flow indicating devices and control devices.

(c) A description and analysis of the waste to be burned compared with the waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed. The data should include those items listed in subsection (3)(a) of this section. This analysis should specify the POHC's which the applicant has identified in the waste for which a permit is sought, and any differences from the POHC's in the waste for which burn data are provided.

(d) The design and operating conditions of the incinerator unit to be used, compared with that for which comparative burn data are available.

(e) A description of the results submitted from any previously conducted trial burn(s) including:

1. Sampling and analysis techniques used to calculate performance standards in Section 4 of 401 KAR 34:240;
2. Methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and an appropriate indicator of combustion gas velocity (including a statement concerning the precision and accuracy of this measurement);

(f) The expected incinerator operation information to demonstrate compliance with Sections 4 and 6 of 401 KAR 34:240 including:

1. Expected carbon monoxide (CO) level in the stack exhaust gas;
2. Waste feed rate;
3. Combustion zone temperature;
4. Indication of combustion gas velocity;
5. Expected stack gas volume, flow rate, and temperature;
6. Computed residence time for waste in the combustion zone;
7. Expected hydrochloric acid removal efficiency;
8. Expected fugitive emissions and their control procedures; and
9. Proposed waste feed cutoff limits based on the identified significant operating parameters;

(g) Such supplemental information as the cabinet finds necessary to achieve the purposes of this subsection;

(h) Waste analysis data, including that submitted in subsection (3)(a) of this section, sufficient to allow the cabinet to specify as permit Principal Organic Hazardous Constituents (permit POHC's) those constituents for which destruction and removal efficiencies will be required.

(4) The cabinet shall approve a permit application without a trial burn if it finds that:

(a) The wastes are sufficiently similar; and

(b) The incinerator units are sufficiently similar, and the data from other trial burns are adequate to specify (under Section 6 of 401 KAR 34:240) operating conditions that will ensure that the performance standards in Section 4 of 401 KAR 34:240 will be met by the incinerator.

(5) The cabinet shall require facilities that incinerate any of the hazardous waste listed in Section 5 of 401 KAR 31:040 to supply monitoring information from a comparable facility as specified in KRS 224.50-130(2)(a) and (b). The parameters monitored shall include those listed in Section 7 of 401 KAR 34:240 and products of complete combustion and products of incomplete combustion (PIC) from the stack and fugitive sources.

JAMES E. BICKFORD, Secretary

APPROVED BY AGENCY: July 11, 1996

FILED WITH LRC: July 12, 1996 at 9 a.m.

**PUBLIC HEARING:** A public hearing to receive comments on this proposed administrative regulation has been scheduled for Thursday, August 29, 1996, at 7 p.m. Eastern time in the auditorium of the Capital Plaza Tower, Frankfort, Kentucky. Individuals interested in being heard at this hearing must notify James Hale in writing, at the address noted below, by August 24, 1996. If by that date Mr. Hale has not received any notification of intent to attend the hearing, the hearing will be canceled. This hearing is open to the public. Any person wishing to comment on the proposed administrative regulation will be given an opportunity to do so. Persons testifying at the hearing are requested to provide a written copy of their testimony, if available. A transcript of the hearing will not be made unless a request for such is filed with Mr. Hale by August 24, 1996 and arrangements for payment of the transcript are made by that date. Written comments may also be submitted on the proposed administrative regulation. Written comments must be received by Mr. Hale no later than the date of the close of the public hearing on August 29, 1996. Persons submitting written comments are also requested to provide an electronic copy of their comments, if available. The preferred format for the electronic format is any version of Word Perfect on 3.5 inch diskettes; however, any other format would be greatly appreciated, should Word Perfect or 3.5 inch diskettes not be available. The Natural Resources and Environmental Cabinet does not discriminate on the basis of color, national origin, sex, religion, age, or disability in employment or the provision of services. Upon request, the cabinet will provide reasonable accommodation, including auxiliary aids and services, necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. Requests for reasonable accommodation for this public hearing, such as a interpreter or alternate formats for printed materials, must be submitted to Mr. Hale at the address below by August 24, 1996.

**CONTACT PERSON:** James Hale, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-2225, ext. 221

#### REGULATORY IMPACT ANALYSIS

**CONTACT PERSON:** James Hale

1. Type and number of entities affected: The proposed amendments affect all owners and operators of hazardous waste facilities that incinerate or will incinerate hazardous waste.

2. Direct and indirect costs or savings on the affected entities:

a. Effect on the cost of living and employment in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

b. Effect on the cost of doing business in the geographical area in which the administrative regulation will be implemented, to the extent available from the public comments received: No public comments were received.

c. Effect on the compliance, reporting, and paperwork requirements, including factors increasing or decreasing costs (note any effects upon completion), to the extent available from the public comments received, for the:

1. First year following implementation: No public comments were received.

2. Second and subsequent years: No public comments were received.

3. Effects on the promulgating administrative body:

a. Direct and indirect costs or savings:

1. First Year: There are no direct or indirect costs or savings.

2. Continuing costs or savings: There will be no continuing costs or savings.

3. Additional factors increasing or decreasing costs: There are no additional factors affecting costs.

b. Reporting and paperwork requirements: There are no additional

paperwork requirements.

4. Assessment of anticipated effect on state and local revenues: There are no anticipated effects on state and local revenues.

5. Source of revenue to be used for implementation and enforcement of administrative regulation: EPA grants are to be used for the implementation and enforcement of this regulation.

6. To the extent available from the public comments received, the economic impact, including effects of economic activities arising from the administrative regulation, on:

a. Geographical area in which administrative regulation will be implemented: No public comments were received.

b. Kentucky: No public comments were received.

7. Assessment of alternative methods; reasons why alternatives were rejected: Alternatives were not considered. These changes are consistent with federal standards.

8. Assessment of expected benefits of the administrative regulation: These amendments clarify existing requirements and provide consistency with federal requirements.

9.a. Identify effects on public health and environmental welfare of the geographical area in which implemented and Kentucky: There will be no effects on public health or the environment without the implementation of this administrative regulation.

b. State whether a detrimental effect on the environment and public health would result if not implemented: Not applicable.

c. If detrimental effect would result, explain detrimental effect: Not applicable.

10. Identify any statute, administrative regulation, or government policy which may be in conflict, overlapping, or duplication: There are no statutes, policies, or regulations that conflict, overlap, or duplicate this regulation.

a. Necessity of proposed regulation if in conflict: Not applicable.

b. If in conflict, was the effort made to harmonize the proposed administrative regulation with conflicting provisions: Not applicable.

11. Any additional information or comments: No additional comments.

12. TIERING: Is tiering applied? Yes, tiering was used. This administrative regulation applies to owners and operators of hazardous waste incinerators, consistent with federal standards. Tiering is applied to all of Kentucky's waste regulations, based on type and quantity of waste generated and managed and type of management activities performed by the owner or operator.

#### FEDERAL MANDATE ANALYSIS COMPARISON

1. Federal statute or regulation constituting the federal mandate: There is no federal mandate for this administrative regulation. KRS Chapter 224 is a state mandate that requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution.

2. State compliance standards: The proposed amendments adopt changes that apply to hazardous waste facilities that incinerate or will incinerate hazardous waste. These changes are necessary to maintain consistency between state and federal programs. The additions and exclusions clarify the applicability of these standards. In addition, the regulation has been modified to reflect the requirements of regulation construction specified in KRS 13A.

3. Minimum or uniform standards contained in the federal mandate: There is no federal mandate for this administrative regulation.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? There is no federal mandate for this administrative regulation.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements: Not applicable.

#### FISCAL NOTE ON LOCAL GOVERNMENT

1. Does this administrative regulation relate to any aspect of a local government, including any service provided by that local government? Yes

2. State what unit, part, or division of local government this administrative regulation will affect. This administrative regulation will affect any state, county, or local office of government that incinerates or will incinerate hazardous waste.

3. State the aspect or service of local government to which this administrative regulation relates. KRS Chapter 224 requires the Cabinet to promulgate administrative regulations establishing a comprehensive program for the prevention, abatement, and control of all water, land, and air pollution. KRS 224 Subchapter 46 requires that the Cabinet to establish a comprehensive program for the proper management of hazardous waste. The agencies affected by this administrative regulation will be subject to these requirements.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a local government for the first full year the regulation is to be in effect. If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impacts of the administrative regulation.

Revenues (+/-): This administrative regulation will not affect state, county, or local revenue.

Expenditures (+/-): The only expenditures to a state, county, or local office of government will be those expenditures related to compliance with this administrative regulation. If this administrative regulation does not apply to a state, county, or local office of government, there will be no expenditures.

Other Explanation: None

#### NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET Department for Environmental Protection Division of Waste Management (Amendment)

#### 401 KAR 38:250. Specific Part B requirements for equipment.

RELATES TO: KRS 224.10, 224.40, 224.46, 224.99, 40 CFR 270.25

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520

NECESSITY AND FUNCTION: To implement provisions of KRS 224.46-520 and to establish specific Part B requirements for equipment.

Section 1. Specific Part B Information Requirements for Equipment. Except as otherwise provided in 401 KAR 34:010, owners and operators of facilities that have equipment to which 401 KAR 34:280 applies shall provide the following additional information:

(1) For each piece of equipment to which 401 KAR 34:280 applies:

(a) Equipment identification number and hazardous waste management unit identification.

(b) Approximate locations within the facility (for example, identify the hazardous waste management unit on a facility plot plan).

(c) Type of equipment (for example, a pump or pipeline valve [for example]).

(d) Percent by weight total organics in the hazardous waste stream at the equipment.

(e) Hazardous waste state at the equipment (for example, gas, vapor, or liquid).

(f) Method of compliance with the standard (for example, "monthly leak detection and repair" or "equipped with dual mechanical seals").

(2) For facilities that cannot install a closed-vent system and control device to comply with the provisions of 401 KAR 34:280 on