

ADMINISTRATIVE REGISTER OF KENTUCKY



LEGISLATIVE RESEARCH COMMISSION
Frankfort, Kentucky

VOLUME 33, NUMBER 12
FRIDAY, JUNE 1, 2007

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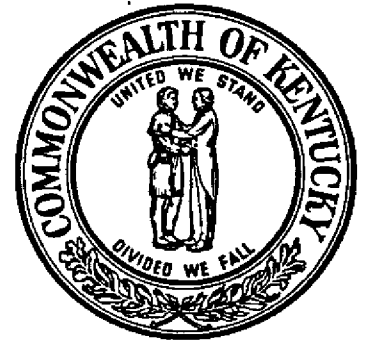
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ADMINISTRATIVE REGISTER OF KENTUCKY



LEGISLATIVE RESEARCH COMMISSION
Frankfort, Kentucky

VOLUME 33, NUMBER 12
FRIDAY, JUNE 1, 2007

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The Administrative Regulation Review Subcommittee is tentatively scheduled to meet June 7, 2007 at 10 a.m. in room 149 Capitol Annex. See tentative agenda on pages 3583-3584 of this Administrative Register.

Part 1 of 3

The **ADMINISTRATIVE REGISTER OF KENTUCKY** is the monthly supplement for the 2006 Edition of **KENTUCKY ADMINISTRATIVE REGULATIONS SERVICE**.

HOW TO CITE: Cite all material in the **ADMINISTRATIVE REGISTER OF KENTUCKY** by Volume number and Page number. Example: Volume 33, Kentucky Register, page 318 (short form: 33 Ky.R. 318).

KENTUCKY ADMINISTRATIVE REGULATIONS are codified according to the following system and are to be cited by Title, Chapter and Regulation number, as follows:

Title	Chapter	Regulation
806	KAR	50. 155
Cabinet, Department, Board, or Agency	Office, Division, or Major Function	Specific Regulation

ADMINISTRATIVE REGISTER OF KENTUCKY

(ISSN 0096-1493)

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The Administrative Register of Kentucky is published monthly by the Legislative Research Commission, 700 Capitol Avenue, Room 300, Frankfort, Kentucky 40601. Subscription rate, postpaid in the United States: \$96 (plus 6% Kentucky sales tax) per year for 12 issues, beginning in July and ending with the June issue of the subsequent year. Periodical postage paid at Frankfort, Kentucky.

POSTMASTER: Send address changes to Administrative Register of Kentucky, 700 Capitol Avenue, Room 64, State Capitol, Frankfort, Kentucky 40601.

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**ADMINISTRATIVE REGULATION REVIEW SUBCOMMITTEE
TENTATIVE AGENDA, June 7, 2007, at 10 a.m., Room 149 Capitol Annex**

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102 KAR 1:036. Part-time service for university, college, and community college members.

102 KAR 1:038. Fractional service year for members initially employed on a full-time basis.

102 KAR 1:175. Investment policies.

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Real Estate Commission

201 KAR 11:220. Errors and omissions insurance requirements.

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Kentucky State Board of Licensure for Professional Engineers and Land Surveyors

Board

201 KAR 18:111. Repeal of 201 KAR 18:110.

Board of Physical Therapy

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201 KAR 22:020. Eligibility and credentialing procedure.

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301 KAR 2:172. Deer hunting seasons, zones and requirements.

301 KAR 2:175. Repeal of 301 KAR 2:174.

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301 KAR 2:178. Deer hunting on Wildlife Management Areas and State Parks.

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JUSTICE AND PUBLIC SAFETY CABINET

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EDUCATION CABINET

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Department of Education

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Exceptional and Handicapped Programs

707 KAR 1:280. Definitions.

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707 KAR 1:370. Children with disabilities enrolled in private schools.

707 KAR 1:380. Monitoring and recovery of funds.

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Office of Occupational Safety and Health**

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- 803 KAR 2:300. General.
- 803 KAR 2.305. Powered platforms, manlifts, and vehicle-mounted work platforms.
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Department for Natural Resources

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- 805 KAR 7:100. Requirements for belt examiner. (Amended After Comments) (Deferred from May)

Drugs Workplace Certification

- 805 KAR 11:001. Definitions for 805 KAR Chapter 11. (Amended After Comments) (Deferred from May)
- 805 KAR 11:010. Requirements for application for certification of drug-free workplace. (Amended After Comments) (Deferred from May)
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- 815 KAR 7:125. Kentucky Residential Code. (Hearing/Written Comments)

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- 815 KAR 20.078. Storage and installation of SDR 11, CPVC plastic pipe and fittings. (Written Comments Received)
- 815 KAR 20.085. Storage and installation of Pex and Pex-Al Pex piping. (Hearing/Written Comments)

Office of Charitable Gaming

Charitable Gaming

- 820 KAR 1.001. Definitions for 820 KAR Chapter 1.
- 820 KAR 1:015. Issuance of annual license for a charitable organization.
- 820 KAR 1:025. Financial reports of a licensed charitable organization.
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- 820 KAR 1:032. Pulltab construction.
- 820 KAR 1:036. Pulltab rules of play.
- 820 KAR 1.046. Bingo rules of play.
- 820 KAR 1:050. Raffle standards.
- 820 KAR 1:055. Charity fundraising event standards.
- 820 KAR 1:056. Special limited charity fundraising event standards.
- 820 KAR 1:057. Accurate records.
- 820 KAR 1:058. Gaming Occasion Records.
- 820 KAR 1:120. Allowable expenses.

**CABINET FOR HEALTH AND FAMILY SERVICES
Office of Health Policy
Division of Certificate of Need**

Certificate of Need

- 900 KAR 6:050. Certificate of need administrative regulation. (Hearing/Written Comments)

Diseases

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Radiation Operators Certification

- 902 KAR 105:040. General radiation operator requirements. (Deferred from January)
- 902 KAR 105:061. Repeal of 902 KAR 105:060. (Deferred from January)
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**Department for Mental Health and Mental Retardation Services
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- 908 KAR 3:050. Per diem rate pursuant to KRS 210.710-760.
- 908 KAR 3:060. "Means test" pursuant to the "Patient Liability Act of 1978."

**Department of Community Based Services
Division of Protection and Permanency**

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- 922 KAR 1:300. Standards for child-caring facilities.
- 922 KAR 1:310. Standards for child-placing agencies.

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Division of Motor Carriers

- 601 KAR 1:005. Safety administrative regulation.

ADMINISTRATIVE REGULATION REVIEW PROCEDURE - OVERVIEW
(See KRS Chapter 13A for specific provisions)

Filing and Publication

Administrative bodies shall file with the Regulations Compiler all proposed administrative regulations, public hearing and comment period information, regulatory impact analysis and tiering statement, fiscal note, federal mandate comparison, and incorporated material information. Those administrative regulations received by the deadline established in KRS 13A.050 shall be published in the Administrative Register.

Public Hearing and Public Comment Period

The administrative body shall schedule a public hearing on proposed administrative regulations which shall not be held before the 21st day or later than the last workday of the month of publication. Written comments shall also be accepted until the end of the calendar month in which the administrative regulation was published.

The administrative regulation shall include: the place, time, and date of the hearing; the manner in which persons may submit notification to attend the hearing and written comments; that notification to attend the hearing shall be sent no later than 5 workdays prior to the hearing date; the deadline for submitting written comments; and the name, position, address, and telephone and fax numbers of the person to whom notification and written comments shall be sent.

The administrative body shall notify the Compiler, by phone and letter, whether the hearing was held or cancelled and whether written comments were received. If the hearing was held or written comments were received, the administrative body shall file a statement of consideration with the Compiler by the fifteenth day of the calendar month following the month of publication.

No transcript of the hearing need to be taken unless a written request for a transcript is made, and the person requesting the transcript shall have the responsibility of paying for same. A recording may be made in lieu of a transcript.

Review Procedure

After the public hearing and public comment period processes are completed, the administrative regulation shall be reviewed by the Administrative Regulation Review Subcommittee at its next meeting. After review by the Subcommittee, the administrative regulation shall be referred by the Legislative Research Commission to an appropriate jurisdictional committee for a second review. The administrative regulation shall be considered as adopted and in effect as of adjournment on the day the appropriate jurisdictional committee meets or 30 days after being referred by LRC, whichever occurs first.

EMERGENCY ADMINISTRATIVE REGULATIONS FILED AS OF NOON, MAY 15, 2007

STATEMENT OF EMERGENCY
201 KAR 20:070E

Nature of the emergency: On June 1, 2007 Kentucky will enter the Nurse Licensure Compact (NLC), KRS 314.470. The NLC allows a nurse licensed in Kentucky the privilege to practice nursing in any other Compact state. Tennessee is a Compact state. An applicant for licensure by examination in Kentucky who is a resident of Kentucky cannot apply for licensure in Tennessee under the Law of the NLC. Kentucky has a licensure requirement that all applicants must first obtain a provisional licensure and complete a clinical internship prior to licensure. KRS 314.041(2) for RNs and KRS 314.051(3) for LPNs. Some residents of Kentucky who will become applicants for licensure by examination in Kentucky desire to complete the clinical internship in Tennessee. Presently, this administrative regulation requires that an applicant complete the clinical internship prior to taking the nursing licensure examination (NCLEX). This provision was in place prior to the adoption of the NLC. The law of the NLC requires that an applicant must pass the NCLEX before a Compact state will recognize temporary licensure, such as Kentucky's provisional licensure. Consequently, this administrative regulation is being amended to allow applicants who wish to complete the clinical internship in another Compact state, such as Tennessee, to take the NCLEX first. The reasons why and ordinary administrative regulation is not sufficient: Students are graduating in May and wish to complete the clinical internship in Tennessee immediately. An ordinary administrative regulation would not go into effect soon enough to allow them to do so. This emergency administrative regulation shall be replaced by an ordinary administrative regulation. The ordinary administrative regulation is identical to this emergency administrative regulation.

ERNIE FLETCHER, Governor
SUE DAVIS, Board President

GENERAL GOVERNMENT CABINET
Board of Nursing
(Emergency Amendment)

201 KAR 20:070E. Licensure by examination.

RELATES TO: KRS 194A.540, 214.615, 314.041(1), (2), 314.051(3), 314.470

STATUTORY AUTHORITY: KRS 314.041(2), 314.051(3), 314.131(1)

EFFECTIVE: May 11, 2007

NECESSITY, FUNCTION, AND CONFORMITY: KRS 314.131(1) authorizes the Kentucky Board of Nursing to promulgate administrative regulations to implement the provisions of KRS 314.011 to 314.991. KRS 314.041(2) requires an applicant for licensure as a registered nurse to pass an examination prescribed by the board. KRS 314.051(3) requires an applicant for licensure as a licensed practical nurse to pass an examination prescribed by the board. This administrative regulation establishes the requirements for the licensure of nurses by examination.

Section 1. Eligibility for Licensure by Examination for a Graduate of a Kentucky Program or Other State or Territorial Nursing Program. (1) To be eligible for licensure by examination, an applicant shall:

- (a) Submit:
 1. A properly executed application for licensure, as required by 201 KAR 20:370, Section 1(1);
 2. The licensure application fee as established in 201 KAR 20:240;
 3. A report from the Kentucky Administrative Office of the Courts, Courtnet Disposition System that is within six (6) months of the date of the application;
 4. A certified copy of the court record of any misdemeanor or felony conviction as required by 201 KAR 20:370, Section 1(3); and
 5. A letter of explanation that addresses each conviction;

(b) Notify the board as soon as a new address is established after submitting the application;

(c) Submit a copy of a marriage certificate, divorce decree, Social Security card, or court order to change the applicant's name, if the applicant's name is changed after the original application is filed;

(d) When taking the examination, abide by and cooperate with security procedures adopted by the board;

(e) Apply to take and pass the National Council Licensure Examination; and

(f) Meet the requirement for completion of an educational course on the human immunodeficiency virus and acquired immunodeficiency syndrome, as required by KRS 214.615;

(2) An application for licensure shall be valid for a period of one (1) year from the date the application is filed with the board office or until the applicant fails the examination, whichever comes first.

(3) The name of the applicant shall appear on the "Certified List of Kentucky Program of Nursing Graduates" as established in 201 KAR 20:260, the "Certified List of Out-of-state Program of Nursing Graduates", or the applicant shall request that the program submit to the board an official transcript verifying completion of program requirements. The "Certified List of Out-of-state Program of Nursing Graduates" shall be submitted by the nurse administrator of the out-of-state program of nursing.

(4) The applicant shall complete the three (3) hour continuing education course on domestic violence within three (3) years of licensure as required by KRS 194A.540.

Section 2. Retaking the Examination. (1) An examination candidate who fails to achieve a passing result may retake the examination after meeting the requirements of Section 1 of this administrative regulation.

(2) The applicant shall not be eligible to take the examination more often than once every forty-five (45) days.

Section 3. Release of Examination Results. The board shall release examination results to:

- (1) The candidate;
- (2) Other state boards of nursing;
- (3) The National Council of State Boards of Nursing, Inc.;
- (4) The candidate's program of nursing; and
- (5) An individual or agency who submits an applicant's or licensee's written authorization for their release.

Section 4. Clinical Internship. (1) An applicant shall request a provisional license by completing the application for licensure required by Section 1 of this administrative regulation.

(2)(a) The board shall issue the provisional license to the applicant after Section 1(1)(a) and (3) of this administrative regulation are met.

(b) In the case of a graduate of a foreign nursing school, the board shall issue the provisional license after the requirements of 201 KAR 20:480, Section 1 (1) and (4) are met.

(3) To be eligible for a clinical internship, the applicant shall hold a current provisional license.

(4) A provisional license shall expire six (6) months from the date of issuance by the board and shall not be reissued unless the provisions of subsection (5) of this section apply.

(5) A person with a temporary physical or mental inability to complete the clinical internship shall:

(a) Complete the "Petition to Hold Provisional License in Abeyance"; and

(b) Submit evidence from a licensed health care practitioner that documents a diagnosis of a temporary physical or mental inability to complete the internship within the original six (6) months.

(6)(a) If the Petition to Hold Provisional License in Abeyance is granted, the current provisional license shall be void and shall be immediately returned to the board.

(b) The person whose petition has been granted shall not engage in nursing practice.

(7)(a)1. A person whose petition has been granted shall submit a written request to the board to reissue the provisional license

when the temporary physical or mental inability has been resolved.

2. The request shall include the name, address, telephone number, date of birth, and Social Security number of the person.

3. The request shall also include written verification from a licensed health care practitioner that the temporary physical or mental inability has been resolved.

4. The person shall also submit a report from the Kentucky Administrative Office of the Courts, Courtnet Disposition System, if the previous one (1) is more than six (6) months old.

(b) Upon submission of the required documentation and approval by the board, the board shall reissue the provisional license for six (6) months.

(c) If the required documentation is submitted more than one (1) year from the date of the initial application for licensure, the person shall meet the requirements of Section 1 of this administrative regulation.

(8) Documentation of completion of the clinical internship shall be submitted to the board in writing or electronically. It shall include the following:

(a) Name, address, telephone number, social security number and date of birth of the applicant;

(b) Provisional license number;

(c) Name, address and telephone number of the facility where the clinical internship was completed; and

(d) Name of the supervising nurse.

(9) To qualify as "direct supervision" under KRS 314.041(5) and 314.051(6), the nurse responsible for the applicant shall at all times be physically present in the facility and immediately available to the applicant while the applicant is engaged in the clinical internship.

(10) The nurse responsible for the applicant shall be currently licensed to practice as a nurse in Kentucky.

(11)(a) Except as provided in subsections (b), (c) and (d) [and (e)] of this section, the applicant shall successfully complete the clinical internship prior to taking the examination. The board shall not authorize the applicant to take the examination until verification of completion of the clinical internship is filed with the board.

(b) A graduate of a foreign nursing school who complies with 201 KAR 20:480, Section 1(4)(b) shall be authorized to complete the clinical internship after passing the NCLEX.

(c) An applicant who has failed the NCLEX as a result of an application for licensure in a jurisdiction other than Kentucky shall take and pass the examination before completing the clinical internship.

(d) An applicant who is a resident of Kentucky and who intends to complete the clinical internship in a state that has enacted the Nurse Licensure Compact enacted by Kentucky in KRS 314.470 may request that the applicant be permitted to take the NCLEX examination before completing the clinical internship. The applicant's request shall be in writing and shall be accompanied by proof that the applicant has been accepted to complete the clinical internship in the other state.

(12) If the applicant fails the examination, the provisional license shall be void and shall be immediately returned to the board

Section 5. Practical Nurse Role Delineation Course. (1) A graduate of a board-approved registered nurse program who is unsuccessful on the National Council Licensure Examination for registered nurses may apply for licensure by examination as a licensed practical nurse pursuant to KRS 314.041(13).

(2)(a) Prior to making application for licensure as a practical nurse, the applicant seeking practical nurse licensure pursuant to KRS 314.041(13) shall complete a board-approved practical nursing role delineation course.

(b) The applicant shall return the registered nurse provisional license, if applicable.

(3) The course shall be taken only at an approved LPN program of nursing. The program of nursing shall seek approval of the course from the board.

(4) The course shall consist of at least eight (8) hours of didactic instruction and sixteen (16) hours of clinical instruction.

(5) At the conclusion of the course, the individual shall be able to make decisions and take actions that are consistent with the scope and standards of practical nursing practice, established

policies, procedures, and licensing laws.

(6) The LPN program of nursing shall submit to the board a certified list of individuals who completed the course.

(7) After completion of the practical nurse role delineation course, the applicant shall comply with Section 1 of this administrative regulation.

Section 6. Nurse Licensure Compact Provisions. (1) An applicant who is issued a license and who does not have permanent residency in Kentucky shall be issued a license that indicate on the license that it is only valid in Kentucky.

(2) The board may request that an applicant provide evidence of his state of residence.

Section 7. Incorporation by Reference. (1) The following material is incorporated by reference:

(a) "Certified List of Kentucky Program of Nursing Graduates", (2/06), Kentucky Board of Nursing;

(b) "Petition to Hold Provisional License in Abeyance," (8/04), Kentucky Board of Nursing; and

(c) "Certified List of Out of State Program of Nursing Graduates", (2/06), Kentucky Board of Nursing.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Kentucky Board of Nursing, 312 Whittington Parkway, Suite 300, Louisville, Kentucky 40222, Monday through Friday, 8 a.m. to 4:30 p.m.

SUSAN DAVIS, President

APPROVED BY AGENCY: May 2, 2007

FILED WITH LRC: May 11, 2007 at 1 p.m.

CONTACT PERSON: Nathan Goldman, General Counsel, Kentucky Board of Nursing, 312 Whittington Parkway, Suite 300, Louisville, Kentucky 40222, phone (502) 429-3309, fax (502) 696-3938, email nathan.goldman@ky.gov

REGULATORY IMPACT ANALYSIS AND TIERING STATEMENT

Contact Person: Nathan Goldman, General Counsel

(1) Provide a brief summary of:

(a) What this administrative regulation does: It sets requirements for licensure by examination.

(b) The necessity of this administrative regulation: The board is required by statute to promulgate this administrative regulation.

(c) How this administrative regulation conforms to the content of the authorizing statutes: By setting requirements for licensure by examination.

(d) How this administrative regulation currently assists or will assist in the effective administration of the statutes: By setting requirements for licensure by examination.

(2) If this is an amendment to an existing administrative regulation, provide a brief summary of:

(a) How the amendment will change this existing administrative regulation: It will allow applicants who wish to complete the clinical internship in another Compact state, such as Tennessee, to take NCLEX first.

(b) The necessity of the amendment to this administrative regulation: The Nurse Licensure Compact was adopted by the General Assembly and necessitates this change. Under the Compact, Kentucky's provisional license will not be recognized by Tennessee until the applicant has first taken and passed NCLEX.

(c) How the amendment conforms to the content of the authorizing statutes: The effect of the clinical internship requirement on the Compact law requires this amendment.

(d) How the amendment will assist in the effective administration of the statutes: By allowing those applicants who wish to complete their clinical internship in another Compact state to do so.

(3) List the type and number of individuals, businesses, organizations, or state and local governments affected by this administrative regulation: Applicants for licensure examination who wish to complete the clinical internship in another Compact state, number unknown.

(4) Provide an analysis of how the entities identified in question (3) will be impacted by either the implementation of this administrative regulation, if new, or by the change, if it is an amendment,

Including:

(a) List the actions that each of the regulated entities identified in question (3) will have to take to comply with this administrative regulation or amendment: They will have to inform the board of their plan to complete the clinical internship in another Compact state.

(b) In complying with this administrative regulation or amendment, how much will it cost each of the entities identified in question (3): There is no additional cost.

(c) As a result of compliance, what benefits will accrue to the entities identified in question (3): They will be able to become licensed in Kentucky.

(5) Provide an estimate of how much it will cost the administrative body to implement this administrative regulation:

(a) Initially: No additional cost.

(b) On a continuing basis: No additional cost.

(6) What is the source of the funding to be used for the implementation and enforcement of this administrative regulation: Agency funds.

(7) Provide an assessment of whether an increase in fees or funding will be necessary to implement this administrative regulation, if new, or by the change if it is an amendment: No increase will be necessary.

(8) State whether or not this administrative regulation established any fees or directly or indirectly increased any fees: It does not.

(9) TIERING: Is tiering applied? Tiering was not applied as the changes apply to all equally.

FISCAL NOTE ON STATE OR LOCAL GOVERNMENT

1. Does this administrative regulation relate to any program, service, or requirements of a state or local government (including cities, counties, fire departments, or school districts)? No

2. What units, parts or divisions of state or local government (including cities, counties, fire departments, or school districts) will be impacted by this administrative regulation?

3. Identify each state or federal statute or federal regulation that requires or authorizes the action taken by the administrative regulation.

4. Estimate the effect of this administrative regulation on the expenditures and revenues of a state or local government agency (including cities, counties, fire departments, or school districts) for the first full year the administrative regulation is to be in effect.

(a) How much revenue will this administrative regulation generate for the state or local government (including cities, counties, fire departments, or school districts) for the first year?

(b) How much revenue will this administrative regulation generate for the state or local government (including cities, counties, fire departments, or school districts) for subsequent years?

(c) How much will it cost to administer this program for the first year?

(d) How much will it cost to administer this program for subsequent years?

Note: If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impact of the administrative regulation.

Revenues (+/-):

Expenditures (+/-):

Other Explanation:

ADMINISTRATIVE REGULATIONS AS AMENDED BY PROMULGATING AGENCY
AND REVIEWING SUBCOMMITTEE

ARRS = Administrative Regulation Review Subcommittee
IJC = Interim Joint Committee

KENTUCKY HIGHER EDUCATION ASSISTANCE AUTHORITY
Division of Student and Administrative Services
(As Amended at ARRS, May 8, 2007)

11 KAR 4:080. Student aid applications.

RELATES TO: KRS 164.518, 164.744(2), 164.748(4), (7), (8), 164.753(3), (4), (6), 164.7535, 164.769, 164.780, 164.785, 34 C.F.R. 654.1-654.5, 654.30-654.52, 20 U.S.C. 1070d-31-1070d-41

STATUTORY AUTHORITY: KRS 164.518(3), 164.746(6), 164.748(4), 164.753(3), (6), 164.7535, 164.769(5),(6)(f), 34 C.F.R. 654.30, 654.41, 20 U.S.C. 1070d-37, 1070d-38

NECESSITY, FUNCTION, AND CONFORMITY: KRS 164.748(4) authorizes the authority to promulgate administrative regulations pertaining to the awarding of grants, scholarships, and honorary scholarships as provided in KRS 164.740 to 164.7891.[.] This administrative regulation designates and incorporates the applications to be utilized under the grant, scholarship, and work-study programs administered by KHEAA.

Section 1. Applications. In order to participate in a specified grant, scholarship, or work-study program administered by the Kentucky Higher Education Assistance Authority, the following application forms shall be completed in accordance with their instructions:

(1) For the KHEAA Grant Program as set forth in 11 KAR 5.130, the 2007-2008 [2006-2007] Free Application for Federal Student Aid (FAFSA);

(2) For the KHEAA Work-Study Program as set forth in 11 KAR 6.010, the KHEAA Work-Study Program Student Application;

(3) For the Teacher Scholarship Program as set forth in 11 KAR 8.030, the Teacher Scholarship Application;

(4) For the Early Childhood Development Scholarship Program as set forth in 11 KAR 16:010:

(a) The 2007-2008 [2006-2007] Free Application for Federal Student Aid (FAFSA); and

(b) The Early Childhood Development Scholarship Application; and[.]

(5) For the Robert C. Byrd Honors Scholarship Program as set forth in 11 KAR 18.010:

(a) For high school students, the Robert C. Byrd Honors Scholarship Program Application; and[.]

(b) For GED recipients, the Robert C. Byrd Honors Scholarship Program Application for GED Recipients.

Section 2. Incorporation by Reference. (1) The following material is incorporated by reference.

(a) The 2007-2008 [2006-2007] Free Application for Federal Student Aid (FAFSA), July 2007 [2006].

(b) The "KHEAA Work-Study Program Student Application", July 2001;

(c) The "Teacher Scholarship Application", June 2006;

(d) The "Early Childhood Development Scholarship Application", April, 2006;

(e) The "Robert C. Byrd Honors Scholarship Program Application", June, 2006; and

(f) The "Robert C. Byrd Honors Scholarship Program Application for GED Recipients", June 2006.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Kentucky Higher Education Assistance Authority, 100 Airport Road, Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. to 4:30 p.m., or on the authority's Web site, www.KHEAA.com.

SPENCER NOE, Chair

APPROVED BY AGENCY: February 22, 2007

FILED WITH LRC: March 15, 2007 at 10 a.m.

CONTACT PERSON: Mr. Richard F. Casey, General Counsel, Kentucky Higher Education Assistance Authority, P.O. Box 798, Frankfort, Kentucky 40602-0798, phone (502) 696-7290, fax (502) 696-7293.

KENTUCKY HIGHER EDUCATION ASSISTANCE AUTHORITY
Division of Student and Administrative Services
(As Amended at ARRS, May 8, 2007)

11 KAR 5:033. KTG student eligibility requirements.

RELATES TO: KRS 164.753(4), 164.780, 164.785

STATUTORY AUTHORITY: KRS 164.748(4), 164.785

NECESSITY, FUNCTION, AND CONFORMITY: KRS 164.785 establishes the Kentucky Tuition Grant Program. KRS 164.748(4) and 164.753(4) require the Kentucky Higher Education Assistance Authority to promulgate an administrative regulation to administer grant programs to provide financial assistance to students to attend Kentucky educational institutions. This administrative regulation establishes [~~sets forth~~] student eligibility requirements for the Kentucky tuition grant program.

Section 1. Eligibility of Students. In order to qualify for disbursement of a Kentucky tuition grant, a student shall:

(1) Be a resident of the Commonwealth of Kentucky;

(2) Be enrolled as a full-time student in an eligible program of study;

(3) Be enrolled at an educational institution and not have previously earned a first baccalaureate or professional degree;

(4) Be determined by the authority, in accordance with 11 KAR 5:130 and 5:140, to have established financial need for the KTG;

(5) Have remaining KHEAA grant limit;

(6) Not receive financial assistance in excess of need to meet educational expenses;

(7) Maintain satisfactory progress in an eligible program of study according to the published standards and practices of the educational institution at which the student is enrolled,

(8) Satisfy all financial obligations to the authority and to any educational institution. Ineligibility under this subsection may be waived for cause by the executive director of the authority, at the recommendation of a designated staff review committee, for cause;

(9) Be a citizen of the United States or an eligible noncitizen;

(10) Be receiving full-time credit at an educational institution in an eligible program of study and paying full-time tuition and fees to that institution, if the student is studying abroad or off-campus; and

(11) Not be

(a) In default on any loan under Title IV of the federal act, codified as 20 U.S.C. 1070 to 1099, unless eligibility has been reinstated;

(b) Liable for any amounts that exceed annual or aggregate limits on any loan under Title IV of the federal act, codified as 20 U.S.C. 1070 to 1099; and

(c) Liable for overpayment of any grant or loan under Title IV of the federal act, codified as 20 U.S.C. 1070 to 1099.

SPENCER NOE, Chair

APPROVED BY AGENCY: February 22, 2007

FILED WITH LRC: March 15, 2007 at 10 a.m.

CONTACT PERSON: Mr. Richard F. Casey, General Counsel, Kentucky Higher Education Assistance Authority, P.O. Box 798, Frankfort, Kentucky 40602-0798, phone (502) 696-7290, fax (502) 696-7293.

KENTUCKY HIGHER EDUCATION ASSISTANCE AUTHORITY
Division of Student and Administrative Services
(As Amended at ARRS, May 8, 2007)

11 KAR 5:034. CAP grant student eligibility.

RELATES TO: KRS 164.744(2), 164.753(4), 164.7535
STATUTORY AUTHORITY: KRS 164.748(4), 164.753(4)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 164.748(4) requires the authority to promulgate administrative regulations pertaining to the awarding of grants, scholarships, and honorary scholarships as provided in KRS 164.740 to 164.7891. KRS 164.753(4) requires the authority to promulgate administrative regulations pertaining to grants. KRS 164.7535 authorizes the authority to provide grants to assist financially needy part-time and full-time undergraduate students to attend educational institutions in Kentucky. This administrative regulation establishes student eligibility requirements for the college access program.

Section 1. In order to qualify for disbursement of a college access program grant, a student shall:

- (1) Be a resident of Kentucky;
- (2) Be enrolled at an educational institution as at least a part-time student as determined by the educational institution, in an eligible program of study and not have previously earned a first baccalaureate or professional degree;
- (3) Demonstrate financial need in accordance with 11 KAR 5:130 and [through] 11 KAR 5:145 for CAP grant assistance;
- (4) Have remaining KHEAA grant limit;
- (5) Not receive financial assistance in excess of need to meet educational expenses;
- (6) Maintain satisfactory progress in an eligible program of study according to the published standards and practices of the educational institution at which the student is enrolled;
- (7) Satisfy all financial obligations to the authority under any program administered by the authority pursuant to KRS 164.740 to 164.7891 and to any educational institution, except that ineligibility for this reason may be waived by the executive director of the authority, at the recommendation of a designated staff review committee, for cause;
- (8) Be a citizen of the United States or an eligible noncitizen;
- (9) Be receiving at least part-time credit at an educational institution in an eligible program of study and paying at least part-time tuition and fees to that institution, if the student is studying abroad or off-campus;
- (10) Have been eligible to receive a CAP Grant in the preceding year, if the student is enrolled in an equivalent undergraduate program of study, as defined by the Council on Postsecondary Education in 13 KAR 2:090; and
- (11) Not be:
 - (a) In default on any loan under Title IV of the federal act, codified as 20 U.S.C. 1070 to 1099, unless eligibility has been reinstated;
 - (b) Liable for any amounts that exceed annual or aggregate limits on any loan under Title IV of the federal act, codified as 20 U.S.C. 1070 to 1099; and
 - (c) Liable for overpayment of any grant or loan under Title IV of the federal act, codified as 20 U.S.C. 1070 to 1099.

SPENCER NOE, Chair

APPROVED BY AGENCY: February 22, 2007

FILED WITH LRC: March 15, 2007 at 10 a.m.

CONTACT PERSON: Mr. Richard F. Casey, General Counsel,
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696-7293.

KENTUCKY HIGHER EDUCATION ASSISTANCE AUTHORITY
Division of Student and Administrative Services
(As Amended at ARRS, May 8, 2007)

11 KAR 6:010. KHEAA Work-Study Program.

RELATES TO: KRS 164.744(2), 164.748(4), 164.753(6)

STATUTORY AUTHORITY: KRS 164.748(4), 164.753(6)
NECESSITY, FUNCTION, AND CONFORMITY: KRS 164.748(4) requires the authority to promulgate administrative regulations governing work-study payments. This administrative regulation establishes the KHEAA Work-Study Program.

Section 1. Definitions. (1) "Administrative cost allowance" means a payment negotiated between the authority and a participating institution for annual costs directly related to the administration of the KWSP not to exceed eight (8) percent of the gross wages earned, the amount requested by the institution, or \$15,000 annually, whichever is least.

(2) "Alternate work plan" means a work-study arrangement in which a participating student alternates a school term with a work term in accordance with Section 2 of this administrative regulation.

(3) "Authority" is defined in KRS 164.740(1).

(4) "Career-related work experience" means a job which has a correlation with the participating student's career direction determined by the participating institution and evidenced by the student's major course of study.

(5) "Cost of education" means those expenses commonly related to obtaining an education at the participating institution plus those costs directly related to the participating student's KWSP work experience, including required dues and travel (at the rate allowed for state employee travel reimbursement) from the school to the place of employment or, under an alternate work plan, from the student's residence to the place of employment.

(6) "Eligible institution" is defined in KRS 164.740(3).

(7) "Financial need" means the total cost of education less financial assistance received from all sources, other than KWSP employment, including grants, loans, and scholarships.

(8) "Full-time" means the number of credit hours determined by the participating institution to constitute full-time enrollment, which:

(a) Is generally twelve (12) semester hours, twenty-four (24) clock hours, or six (6) summer school hours; and

(b) Shall not include academic credit earned from KWSP employment.

(9) "KWSP" means the KHEAA work-study program.

(10) "Participating institution" is defined in KRS 164.740(13).

(11) "Prevailing wage rate" means a base rate of pay per hour for a KWSP participating student who is or would be performing equal job tasks as another employee, plus benefits paid to another employee having the same status as the KWSP employee.

(12) "Private employer" means an employer in the private sector, other than the institution that the participating student is attending.

(13) "School term" means the equivalent of one (1) semester, one (1) quarter, or one (1) summer school term.

(14) "Wage reimbursement" means a payment:

(a) Made to a participating employer by a participating institution as reimbursement for wages paid to a participating student; and

(b) Specified in an agreement between the participating employer and the participating institution.

(15) "Work study" is defined in KRS 164.740(20).

Section 2. Alternate Work Plan. A participating student shall be considered a participant under an alternate work plan if the student:

(1) Attends school full time one (1) school term;

(2) Works full time the next school term, including a summer, for a participating employer;

(3) Is not enrolled at least half-time during the term of employment; and

(4) Returns to school full time the following school term.

Section 3. Institutional Eligibility. To participate in the KWSP, an educational institution shall:

(1) Be an eligible institution, located within Kentucky;

(2) Have in force an administrative agreement with the authority pursuant to 11 KAR 4:040;

(3) Submit a request for funding; and

(4) Execute a supplemental contractual arrangement with the authority and a participating employer.

Section 4. Funding Allocation Process. (1) Each year, the authority shall invite an eligible institution to submit a proposal for funding and shall provide instructions for submitting the proposal. The authority shall consider a proposal properly submitted by an eligible institution by the date specified in the invitation to participate. The authority shall award an administrative cost allowance, if the institution demonstrates need, to administer the KWSP for one (1) year. At least seventy-five (75) percent of wage reimbursement dollars shall be utilized with private employers.

(2) The authority shall consider the institution's request for funding and its past performance in the KWSP in the determination of approval for funding and the funding level. The authority shall evaluate the institution's level of participation in and administration of other programs of student financial assistance funded or administered by the authority and the institution's ability to:

(a) Comply with this administrative regulation and contractual obligations under the KWSP;

(b) Administer the program cost-effectively with the greatest results for students, evidenced by previous years' program records;

(c) Utilize the wage-reimbursement dollars allocated, evidenced by previous years' program records;

(d) Avoid using KWSP dollars to supplant existing work-related programs for students; and

(e) Adequately monitor program activities, including eligibility determination of students and employers, continued eligibility of students and employers, and actual job activities as they relate to students' career-related work experience.

(3)(a) At least ninety (90) percent of the available funds that do not exceed the appropriation for the preceding fiscal year shall be awarded to eligible institutions that participated and expended all or the major portion of their wage reimbursement allotment during the prior year.

(b) If available funds do not exceed the appropriation for the preceding fiscal year, the authority shall not award more than ten (10) percent of available funds to eligible institutions that did not participate or had minimal participation in the KWSP during the preceding fiscal year.

(c) Allocation by the authority of available funds that exceed the appropriation for the preceding fiscal year shall not be constrained by the level of participation by an eligible institution during the prior year.

(d) If available funds are not sufficient to award each institution the amount requested, the authority shall allocate funds to some or all of the eligible institutions that submit requests for funding, taking into consideration the institution's past performance and level of funding under the KWSP, and the institution's level of participation and demonstrated capability to administer other programs of student financial assistance funded or administered by the authority.

Section 5. Employer Eligibility. To participate in the KWSP, an employer shall:

(1) Provide a bona fide career-related work experience for a participating student as determined by the participating institution in which the student is enrolled and submit a descriptive position analysis to the participating institution;

(2)(a) If the employer is not a participating institution, execute a KWSP employer agreement with each participating institution from which a participating student is hired; or

(b) If the employer is a participating institution, agree with the authority to be bound by the terms of a KWSP employer agreement;

(3) Provide a Kentucky work site for a participating student employed by the employer;

(4) Not be a business entity formed substantially for the purpose or intention of participating in the KWSP; and

(5) Not utilize a participating student in a work environment that is sectarian in nature or that involves political activity.

Section 6. Student Eligibility. To participate in the KWSP, a student shall:

(1) Be a citizen of the United States;

(2) Be a Kentucky resident, as determined by the participating institution in accordance with 13 KAR 2 045;

(3) Be enrolled or accepted for enrollment on at least a half-

time basis at a participating institution, unless the student is participating in an alternate work plan;

(4) Demonstrate financial need;

(5) Be in good standing and making satisfactory academic progress toward completion of his educational program, as determined by the participating institution, and have a cumulative grade point average of not less than the equivalent of a "C", (inclusive of all postsecondary courses attempted for a postsecondary student or secondary school grade point average for an entering freshman);

(6) Not be participating in another work program administered by the participating institution;

(7) Submit a completed Work-Study Program Student Application as set forth in 11 KAR 4:080, Section 1(2), to the participating institution, properly completed in accordance with the instructions, and be approved for participation by the participating institution;

(8) Not be in default on a financial obligation to the authority under a program administered by the authority pursuant to KRS 164.740 through 164.7891, except that ineligibility for this reason may be waived by the executive director of the authority, at the recommendation of a designated staff review committee, for cause; [and]

(9) Execute an employment agreement required by the participating institution; and [-]

(10) Not be:

(a) In default on any loan under Title IV of the federal act, codified as 20 U.S.C. 1070 to 1099, unless eligibility has been reinstated;

(b) Liable for any amounts that exceed annual or aggregate limits on any loan under Title IV of the federal act, codified as 20 U.S.C. 1070 to 1099, and

(c) Liable for overpayment of any grant or loan under Title IV of the federal act, codified as 20 U.S.C. 1070 to 1099

Section 7. Employer Responsibilities. To receive wage reimbursement, a participating employer shall:

(1) Immediately notify the participating institution in writing if a participating student's employment is terminated, stating the reason for and effective date of termination;

(2) Report promptly to the participating institution a significant change of the position analysis or the student's work assignment;

(3) Submit to the participating institution on a regular basis a certified, accurate proof of wages paid to a participating student;

(4) Pay a participating student the prevailing wage rate, which shall not be less than the federal minimum wage;

(5) Comply with all federal and state employment, safety and civil rights laws applicable to the position filled;

(6) Not, without prior consent of the participating institution, permit or require a participating student to work in excess of:

(a) Thirty (30) hours per week for a student currently enrolled less than full time;

(b) Twenty (20) hours per week for a student currently enrolled full time; and

(c) Forty (40) hours per week for a student employed under an alternate work plan;

(7) Permit on-site inspection and review of records by a representative of the participating institution and the authority during normal business hours; and

(8) Ensure that a regular employee is not displaced by a KWSP participating student.

Section 8. Student Responsibilities. A participating student shall:

(1) Participate in all screening or preplacement activities required by the participating institution;

(2) Maintain eligibility pursuant to Section 6 of this administrative regulation, and immediately notify the participating institution in writing of a change that affects the student's continued eligibility;

(3) Be available for a job interview if requested by a participating employer; and

(4) Perform all reasonable employment obligations and comply with all reasonable policies and requirements of the participating employer.

Section 9. (1) An appeal regarding student or employer participation shall be directed to the participating institution and shall be reviewed, settled or determined by an appeal committee consisting of no fewer than three (3) individuals.

(2) An appeal regarding institutional eligibility or participation shall be determined by the authority in accordance with 11 KAR 4:020.

SPENCER NOE, Chair

APPROVED BY AGENCY: February 22, 2007

FILED WITH LRC: March 15, 2007 at 10 a.m.

CONTACT PERSON: Mr. Richard F. Casey, General Counsel, Kentucky Higher Education Assistance Authority, P.O. Box 798, Frankfort, Kentucky 40602-0798, phone (502) 696-7290, fax (502) 696-7293.

KENTUCKY HIGHER EDUCATION ASSISTANCE AUTHORITY
Division of Student and Administrative Services
(As Amended at ARRS, May 8, 2007)

11 KAR 16:010. Early Childhood Development Scholarship Program applicant selection process.

RELATES TO: KRS 164.518

STATUTORY AUTHORITY: KRS 164.518(3), 164.748(4)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 164.518(3) requires the authority to promulgate administrative regulations for administration of the Early Childhood Development Scholarship Program. This administrative regulation establishes the applicant selection process for the Early Childhood Development Scholarship Program.

Section 1. Eligibility of Applicants. (1) Initial eligibility. To qualify for an Early Childhood Development Scholarship, an applicant shall:

(a) Be:

1. A citizen, national, or permanent resident of the United States;

2. A Kentucky resident as determined by the participating educational institution in accordance with criteria established in 13 KAR Chapter 2 by the Council on Postsecondary Education for the purposes of admission and tuition assessment;

3. [a-] Unless the applicant is seeking scholarship renewal and has registered for a capstone semester:

a. Employed at least twenty (20) hours per week in a participating early childhood facility;

b. Employed to provide training at least twelve (12) times per year in early childhood development by a participating early childhood facility approved by the Office of Inspector General of the Cabinet for Health and Family Services to offer the training; or

c. Employed at least twenty (20) hours per week, providing direct instruction to children as a preschool associate teacher or as a teaching assistant in a public preschool program by a participating early childhood facility;

4 a. Except as provided in clause b of this subparagraph, enrolled in no more than nine (9) credit hours, or the equivalent under a trimester or quarter system, per academic term in the scholarship program curriculum at a participating educational institution;

b. An applicant who is enrolled in the final semester of study before earning an ECDA-approved early childhood development credential may be enrolled in a capstone course requiring full-time enrollment, but shall not receive an award amount for more than nine (9) credit hours of enrollment;

5. Pursuing an ECDA-approved early childhood development credential;

6. Ineligible to receive professional development funds from another education program; and

7. Maintaining satisfactory academic progress as determined by the participating institution; [and]

(b) Satisfy all financial obligations to the authority under any program administered by the authority pursuant to KRS 164.740 to 164.785, except that ineligibility for this reason may be waived by the executive director of the authority, at the recommendation of a

designated staff review committee, for cause; and

(c) Not be:

1. In default on any loan under Title IV of the federal act, codified as 20 U.S.C. 1070 to 1099, unless eligibility has been reinstated.

2. Liable for any amounts that exceed annual or aggregate limits on any loan under Title IV of the federal act, codified as 20 U.S.C. 1070 to 1099; and

3. Liable for overpayment of any grant or loan under Title IV of the federal act, codified as 20 U.S.C. 1070 to 1099.

(2) Renewal eligibility. Persons seeking additional early childhood development scholarships shall.

(a) Meet the eligibility requirements of subsection (1) of this section; and

(b) Be making satisfactory academic progress toward the completion of the ECDA-approved early childhood development credential as determined by the participating institution.

(3) Appeal of determination.

(a) A student denied a scholarship for a reason other than lack of funds may appeal the determination by the ECDA.

(b) A student shall submit a written statement of appeal to the ECDA within fifteen (15) calendar days after the date of notification of denial.

(c) If a student appeals a scholarship denial, the ECDA shall ensure that:

1. A hearing officer or committee appointed by ECDA shall consider the student's appeal and make a decision on the issues involved; and

2. The student's due process rights, including the right to present information in support of his claim of eligibility and the right to be represented by legal counsel, are protected.

(4) Commitment of service. A scholarship applicant shall commit that he or she shall subsequently render service:

(a) For six (6) months at a participating early childhood facility upon obtaining the child development associate certificate, paid for in part by a scholarship;

(b) For one (1) year at a participating early childhood facility upon obtaining the early childhood development credential of an associate degree or the Kentucky Early Childhood Development Director's Certificate, paid for in part by a scholarship; or

(c) For six (6) months at a participating early childhood facility and one (1) additional year at an early childhood facility located in Kentucky upon obtaining the early childhood development credential of a baccalaureate degree, paid for in part by a scholarship.

Section 2. Application. (1) Prior to the beginning of each academic term, a person seeking an early childhood development scholarship shall obtain an Early Childhood Development Scholarship Application set forth in 11 KAR 4:080, Section 1(4)(b), from the KHEAA Web site, www.kheaa.com/prog_ecds.html. The applicant shall complete the on-line application.

(2) The applicant shall:

(a) Print the employer verification page from the completed application;

(b) Have this page certified by an authorized representative of the participating early childhood facility; and

(c) Submit the certified page to the professional development counselor on or before:

1. July 15, or the next regular business day if July 15 falls on a weekend or holiday, preceding the fall academic term for which the scholarship is requested;

2. November 15, or the next regular business day if November 15 falls on a weekend or holiday, preceding the spring academic term for which the scholarship is requested; or

3. April 15, or the next regular business day if April 15 falls on a weekend or holiday, preceding the summer academic term for which the scholarship is requested.

(3) The applicant shall also complete and submit to the United States Department of Education the Free Application for Federal Student Aid ("FAFSA") set forth in 11 KAR 4:080, Section 1(4)(a). This application shall [may] be completed either in paper format or electronically via the Internet.

Section 3. Selection Process. (1) The professional develop-

ment counselor shall verify the application information and determine the eligibility of the applicant.

(2) The professional development counselor shall recommend scholarship awards for eligible applicants in the following order until funds are depleted:

(a) First, scholarships shall be awarded to eligible renewal applicants, ranked in order of the date and time the application is submitted.

(b) Next, scholarships shall be awarded to eligible new applicants, ranked in order of the date and time the application is received by the professional development counselor.

(3) The professional development counselor shall forward to the ECDA the applications of those persons recommended to receive a scholarship and ensure that the applications are received by the ECDA no later than:

(a) July 22, or the next regular business day if July 22 falls on a weekend or holiday, preceding the fall academic term for which the scholarship is requested;

(b) November 22, or the next regular business day if November 22 falls on a weekend or holiday, preceding the spring academic term for which the scholarship is requested; or

(c) April 22, or the next regular business day if April 22 falls on a weekend or holiday, preceding the summer academic term for which the scholarship is requested.

(4) The employer signature page shall be received by the ECDA no later than August 1, December 1, and May 1 of the appropriate semester.

(5) ECDA shall certify the eligibility determination of approved applicants

Section 4. (1) Award amount. The scholarship amount awarded to an eligible applicant for an academic term shall be the amount of tuition actually charged for the academic term by the participating educational institution that the scholarship recipient will be attending based on the recipient's enrollment status, but shall not exceed:

(a) The amount of tuition charged for enrollment in nine (9) credit hours; and

(b) The award maximum.

(2) Award maximum. The maximum scholarship amount awarded to an eligible applicant for an award year shall be \$1,800.

SPENCER NOE, Chair

APPROVED BY AGENCY: February 22, 2007

FILED WITH LRC: March 15, 2007 at 10 a.m.

CONTACT PERSON: Mr. Richard F. Casey, General Counsel, Kentucky Higher Education Assistance Authority, P.O. Box 798, Frankfort, Kentucky 40602-0798, phone (502) 696-7290, fax (502) 696-7293.

KENTUCKY HIGHER EDUCATION ASSISTANCE AUTHORITY
Division of Student and Administrative Service
(As Amended at ARRS, May 8, 2007)

11 KAR 16:070. Dual enrollment under consortium agreement.

RELATES TO: KRS 164.518

STATUTORY AUTHORITY: KRS 164.518(3), 164.748(4)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 164.518(3) requires the authority to promulgate administrative regulations for administration of the Early Childhood Development Scholarship Program. This administrative regulation establishes the conditions for Early Childhood Development Scholarship eligibility for a student simultaneously enrolled in two (2) or more participating institutions.

Section 1. For purposes of the Early Childhood Development Scholarship program, a student, who is otherwise eligible pursuant to KRS 164.518 and is enrolled simultaneously at two (2) or more participating institutions pursuing a program of study jointly offered by those institutions, shall be eligible under this section if:

(1) The eligible program of study is covered by a consortium

agreement between the participating institutions; and

(2) The eligible postsecondary student is carrying a combined academic workload at all participating institutions in the consortium equal to no more than nine (9) credit hours, except as provided in 11 KAR 16.010, Section 1(1)(a).

Section 2. Consortium Agreement. Two (2) or more participating institutions in the Early Childhood Development Scholarship program shall, for purposes of Section 1 of this administrative regulation, execute a consortium agreement which meets at least the following terms and conditions:

(1) The agreement shall be written and signed by authorized representatives of each participating institution;

(2) The agreement shall designate which participating institution will serve as the "primary" institution; and

(3) The agreement shall specify that the primary institution shall perform the duties set forth in Section 3 of this administrative regulation.

Section 3. Duties of Primary Institution. [For purposes of Section 2 of this administrative regulation.] The primary institution designated in a consortium agreement shall assume the following duties and responsibilities:

(1) Maintain all records, including information from all participating institutions about the eligible postsecondary student's grades, institutional costs incurred, financial aid received, enrollment, and all other information related to the student's eligibility as is required to be maintained on any other Early Childhood Development Scholarship recipient enrolled in the primary institution;

(2) Disburse the Early Childhood Development Scholarship to the eligible postsecondary student;

(3) Confer academic credit to the eligible postsecondary student for all courses completed at other participating institutions under the consortium agreement as if the courses had been provided by the primary institution;

(4) Monitor the eligible postsecondary student's enrollment status at all participating institutions in the consortium and indicate [indicated] the student's enrollment at the primary institution as the equivalent of the combined enrollment at all participating institutions in the consortium;

(5) Calculate any refund or repayment and make an applicable refund based on the primary institution's refund policy, as provided in 11 KAR 16 030 based upon a change in enrollment at a participating institution in the consortium, as if the student were enrolled at the primary institution; and

(6) Provide to the authority, on behalf of all participating institutions in the consortium, all required reports and notifications as if the student were enrolled only at the primary institution.

Section 4. The consortium agreement may contain other terms and conditions, not inconsistent with this administrative regulation, as may be deemed necessary or appropriate by the participating institutions [institution].

SPENCER NOE, Chair

APPROVED BY AGENCY: February 22, 2007

FILED WITH LRC: March 15, 2007 at 10 a.m.

CONTACT PERSON: Mr. Richard F. Casey, General Counsel, Kentucky Higher Education Assistance Authority, P.O. Box 798, Frankfort, Kentucky 40602-0798, phone (502) 696-7290, fax (502) 696-7293.

GOVERNOR'S OFFICE
Kentucky Department of Veterans' Affairs
Field Operations Division
(As Amended at ARRS, May 8, 2007)

17 KAR 1:020. Application requirements [Eligibility Criteria] for tuition waiver programs related to veterans.

RELATES TO: KRS 164.505, 164.507, 164.512, 164.515

STATUTORY AUTHORITY: KRS 164.479(2).

NECESSITY, FUNCTION, AND CONFORMITY: KRS

164.479(2) requires [authorizes] the Kentucky Department of Veterans' Affairs to promulgate administrative regulations regarding the eligibility of applicants [associated with certain categories of veterans] to participate in tuition waiver programs. This administrative regulation establishes the application requirements [eligibility criteria] for these programs.

Section 1. Definition. "Honorable discharge" means a discharge from service in the Kentucky National Guard or a branch of the U.S. Armed Forces that is:

- (1) Classified as:**
 - (a) Honorable; or**
 - (b) General under honorable conditions; and**
- (2) Not classified as:**
 - (a) Other than honorable;**
 - (b) Bad conduct;**
 - (c) Dishonorable; or**
 - (d) Dismissed by court-martial.**

Section 2. Application. (1) An application for tuition waiver pursuant to KRS 164.505, 164.507, 164.512, or 164.515 shall submit the "Kentucky Department of Veterans Affairs Tuition Waiver Application" to the department.

(2) In addition to the requirements in subsection (1) of this section, an application for tuition waiver pursuant to KRS 164.505, 164.507, or 164.515, who is the stepchild of a veteran, shall submit to the department the sworn "Affidavit of Membership in the Veteran's Household" to document that the stepchild is a current member of the living veteran's household or was a member of the veteran's household at the time of the veteran's death.

Section 3. Certification. (1) An application for tuition waiver shall be issued a "Certificate of Entitlement to Waiver of Tuition" with a certificate number from the department if the department determines that the applicant qualifies for the tuition waiver.

(2) If the applicant does not qualify for the tuition waiver, the department shall notify the applicant in writing of the reasons for the denial.

Section 4. Extension Request. (1) An applicant for extension of tuition waiver benefits who is under the age of twenty-six (26) and whose tuition waiver certificate expired at age twenty-three (23) shall submit to the department the "Application for Extension of Tuition Waiver Benefit".

(2) An applicant for extension of tuition waiver benefits whose tuition waiver certificate expired after thirty-six (36) months of benefits shall submit to the department the "Application for Extension of Tuition Waiver Benefit".

Section 5. Incorporation by Reference. (1) The following material is incorporated by reference:

- (a) "Kentucky Department of Veterans Affairs Tuition Waiver Application", KDVA Form TW 1, May 2007;**
- (b) "Affidavit of Membership in the Veteran's Household", KDVA Form TW 3, May 2007;**
- (c) "Certificate of Entitlement to Waiver of Tuition", KDVA Form TW 2, May 2007; and**
- (d) "Application for Extension of Tuition Waiver Benefit", KDVA Form TW 4, May 2007.**

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Kentucky Department of Veterans Affairs, Attention: Tuition Waiver Coordinator, 321 West Main Street, Suite 390, Louisville, Kentucky 40202, Monday through Friday, 8 a.m. to 4:30 p.m.

[Tuition Waiver Under KRS 164.505. The waiver of tuition granted by this regulation depends on the status of the veteran who has been killed, the wartime era during which the veteran was killed, and the status of the qualifying survivor as follows:

(1) Status of veterans whose survivors may qualify for this waiver:

- (a) Any Kentucky National Guard member killed while serving on state active duty; or**

- (b) Any Kentucky National Guard member killed while serving on active duty for training; or**

- (c) Any Kentucky National Guard member killed while on inactive duty training; or**

- (d) Any active duty member of the U.S. Armed Forces.**

(2) When death of the veteran must occur to qualify for the waiver:

- (a) During a national emergency; or**

- (b) During any war declared by Congress; or**

- (c) During any action of the United Nations, such as during peace operations or humanitarian operations; or**

- (d) Through hostile fire while an active duty member of the U.S. Armed Forces or in the Kentucky National Guard; or**

- (e) As a result of a service-connected disability acquired while a member of the Kentucky National Guard serving on state active duty, active duty for training, inactive duty training, or while on active duty as a member of the U.S. Armed Forces.**

(3) Kentucky residency requirement for the veteran. The veteran must have been a resident of Kentucky at the time the veteran joined the Kentucky National Guard, or, for members of the U.S. Armed Forces, the veteran must have been a resident of Kentucky upon entering military service.

(4) What college, universities or institutions shall grant the waiver:

- (a) Any state-supported university; or**

- (b) Any state junior college, also referred to as a Kentucky community college; or**

- (c) Any state vocational training institution.**

(5) Who qualifies for the tuition waiver:

- (a) A child of the veteran, also referred to as the dependent child, whether by birth or by adoption, shall qualify for the tuition waiver. Proof of the parent-child relationship with the veteran must be shown by a birth certificate, by adoption papers, or by other documentary evidence establishing this relationship.**

- (b) A widow or widower of the veteran shall qualify for the tuition waiver so long as the widow or widower has not remarried since the death of the veteran. Proof of the spousal relationship with the veteran must be shown by a marriage certificate or by other documentary evidence.**

- (c) A stepchild of the veteran shall qualify if the stepchild was a member of the veteran's household at the time of the veteran's death. Proof of this fact shall be by sworn affidavit or by other documentary evidence.**

Section 2. Tuition Waiver Under KRS 164.507. (1) Status of veterans whose survivors qualify for tuition waiver:

- (a) Any veteran who served in the U.S. Armed Forces during a national emergency, was declared by Congress, or actions of the United Nations; or**

- (b) Any veteran who died on active duty in the U.S. Armed Forces regardless of wartime service; or**

- (c) Any veteran who died as a result of a service-connected disability acquired while on active duty regardless of wartime service.**

(2) Kentucky residency requirement for the veteran's spouse. In order to qualify for the tuition waiver, the veteran must have been a Kentucky resident at the time of death, or married to a Kentucky resident at the time of the veteran's death.

(3) Type of discharge if the veteran was discharged. Any veteran under this section of the regulation who was officially discharged from the military must have received a service characterization of under honorable conditions. This means a discharge type of either Honorable or General under honorable conditions. Service characterizations of Under Other Than Honorable, Bad Conduct, Dishonorable, and officers dismissed by courts-martial shall not qualify for the waiver.

(4) Who qualifies for the tuition waiver:

- (a) The nonremarried spouse of the veteran qualifies regardless of the nonremarried spouse's age. The spousal relationship must be shown by a marriage certificate or other documentary evidence.**

- (b) Any child, stepchild, or orphan child of the veteran who is under the age of twenty-three (23) qualifies. The parent-child relationship must be shown by birth certificate, adoption papers, or**

other documentary evidence. A stepchild must have been a member of the veteran's household at the time of the veteran's death. Proof of this fact must be by sworn affidavit or by other documentary evidence.

(5) What colleges, universities or institutions shall grant the waiver:

- (a) Any state supported university, or
 - (b) Any state junior college, also referred to as a Kentucky community college, or
 - (c) Any state vocational training institution.
- (6) The time limit for any course of study pursued under this tuition waiver section shall not exceed thirty-six (36) months and never in excess of a lesser amount of time if the lesser time will allow for completion of the course of study.

Section 3. Tuition Waiver Under KRS 164.512. (1) Status of veterans whose disabled child qualifies for this waiver:

- (a) Any veteran who served on active duty with the U.S. Armed Forces; or
- (b) Any veteran who served in the National Guard or Reserve Component on state active duty, active duty for training, or inactive duty training.

(2) Kentucky residency requirement: The veteran, if alive, must be a resident of Kentucky. The veteran, if deceased, must have been at one time a resident of Kentucky.

(3) Type of discharge: Any veteran whose child seeks to qualify under this section must have received a service characterization of under honorable conditions. This means a discharge type of either Honorable or General under honorable conditions. Service characterizations of Under Other Than Honorable, Bad Conduct, Dishonorable, and officers dismissed by courts-martial shall not qualify for the waiver.

(4) Who qualifies for the tuition waiver:

- (a) Any child of the veteran described above, regardless of the child's age, who has acquired a disability as a direct result of the veteran's service; and
- (b) The United States Veterans Administration must have determined that the child's disability is compensable. The parent child relationship must be shown by birth certificate, marriage certificate, or other documentary evidence.

(5) What colleges, universities and other institutions shall grant the waiver:

- (a) Any state supported university; or
- (b) Any state junior college, also referred to as a Kentucky community college; or
- (c) Any state vocational training institution.

Section 4. Tuition Waiver Under KRS 164.515 (1) Status of veterans whose spouse or child qualifies for the waiver:

- (a) A permanently and totally disabled member of the Kentucky National Guard or Reserve Component who was injured while on state active duty, active duty for training, or inactive duty training; or
- (b) A permanently and totally disabled war veteran;
- (c) A 100 percent service-connected disabled veteran regardless of wartime service; or
- (d) Any prisoner of war; or
- (e) Any member of the U.S. Armed Forces declared missing in action.

(2) Disability rating requirements for living veterans:

- (a) If the veteran is living and is in the status of (1)(a) above and is not a member of the Kentucky National Guard, the United States Veterans Administration or the Department of Defense must have rated the veteran totally disabled for pension purposes; or
- (b) If the veteran is living and is in the status of (1)(a) above and is a member of the Kentucky National Guard, the rating must be according to KRS Chapter 343; or
- (c) If the veteran is living and is in the status of (1)(c) above, the United States Veterans Affairs or the Department of Defense must have rated the veteran 100 percent service-connected disabled for compensation purposes.

(3) Requirements for deceased veterans, POWs, and MIAs:

- (a) If the veteran is deceased, the qualifying rating, either totally disabled or 100 percent service-connected disabled, is the

rating held by the veteran at the time of death, or

- (b) If the veteran is a POW, the POW status must have been declared as such by the Department of Defense, or
- (c) If the veteran is missing in action, the MIA status must have been declared as such by the Department of Defense.

(4) Kentucky residency requirement: The veteran, if alive, must be a resident of Kentucky. The veteran, if deceased, must have been at one time a resident of Kentucky.

(5) Type of discharge: In order to qualify for tuition waiver, any veteran identified in this section who was formally discharged from the military, must have been discharged under honorable conditions, meaning a discharge type of either Honorable or General under honorable conditions. Service characterizations of Under Other Than Honorable, Bad Conduct, Dishonorable, and officers dismissed by courts-martial shall not qualify for the waiver.

(6) Who qualifies for the tuition waiver:

- (a) The spouse, regardless of age, of any veteran specified above; or
- (b) Any child, stepchild, or orphan with any such child, stepchild and orphan being under the age of twenty-three (23).
- (c) Any child, stepchild, or orphan who enlists or otherwise fulfills a military obligation may extend the age limit, year for year of military service, for up to four years past the normal age limit of under 23.

(7) Proof of spousal and parent child relationship:

- (a) The spousal relationship must be shown by a marriage certificate or by other documentary evidence.
- (b) The parent child relationship must be shown by birth certificate, adoption papers, marriage certificate, or by other documentary evidence.

(c) A stepchild must be a member of the veteran's household. Proof of this fact must be shown by sworn affidavit or by other documentary evidence.

(8) What colleges, universities or institutions shall grant the waiver:

- (a) Any state supported university, or
 - (b) Any state junior college, also referred to as a Kentucky community college; or
 - (c) Any state vocational training institution.
- (9) The time limit for any course of study pursued under this tuition waiver section shall not exceed thirty-six (36) months and never in excess of a lesser amount of time if the lesser time will allow for completion of the course of study.

Section 5. Incorporation by Reference (1) The following material is incorporated by reference:

- (a) Application for Tuition Waiver, KDVA Form TW-1, dated Feb 1, 2007; and
 - (b) Kentucky Tuition Waiver Certificate, KDVA Form TW-2, dated Feb 1, 2007.
- (2) This material may be inspected, copied, or obtained, subject to applicable copyright law, from the Kentucky Department of Veterans Affairs, Attn: Tuition Waiver Coordinator, 321 West Main Street, Suite 390, Louisville, Kentucky 40202, Monday through Friday, 8 a.m. to 4:30 p.m.]

MARLAN M. PINKSTON, Deputy Commissioner
 For LESLIE E. BEAVERS, Commissioner
 APPROVED BY AGENCY: February 14, 2007
 FILED WITH LRC: February 14, 2007 at 3 p.m.
 CONTACT PERSON: Pamela Luce, Field Operations Branch
 Manager, Kentucky Department of Veterans Affairs, 1111B Louisville Road, Frankfort, Kentucky 40601, phone (502) 564-9203, fax (502) 564-9240.

**STATE BOARD OF ELECTIONS
 (As Amended at ARRS, May 8, 2007)**

31 KAR 3:010. Current address of Kentucky registered voters and distribution of voter registration lists.

RELATES TO: KRS 116.085, 116.155, 117.025, 117.225
 STATUTORY AUTHORITY: KRS 117.015, 117.025(3)(h)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 117.015 authorizes the Kentucky State Board of Elections to promulgate administrative regulations necessary to properly carry out its duties. KRS 117.025(3)(h) requires the State Board of Elections to provide [a] voter registration lists [list] of currently registered voters to specific entities and persons. The statute also prohibits the State Board of Elections from releasing a voter registration list to a person who intends to use the list for commercial use. This administrative regulation establishes the procedures for election officials and voters to follow to correct and maintain voter registration records and establishes standards for the State Board of Elections to follow when reviewing [the granting or denial of] a request for a voter registration list [which may involve a commercial use].

Section 1. Definitions. (1) "Advertisement" means any attempt by publication, dissemination, solicitation, or circulation to induce any person to enter into any obligation, or acquire any title or interest in any good or service.

(2) "Alphabetical labels" means labels of registered voters within the precinct with one (1) name per label and sorted in alphabetical order.

(3) "Alphabetical lists" means lists of registered voters generated from the statewide voter registration database and sorted in alphabetical order by last name within a precinct that have the name, address, age code, party, gender, zip code, and five (5) year voting history of every voter in the precinct.

(4) "CD-ROM" means a compact computer disc with read-only memory containing the voter's name and address, county code, precinct code, gender, party, zip code, date of birth, date of registration, and five (5) year voting history generated from the statewide voter registration database.

(5) "Household labels by street order" means labels that are generated from the statewide voter registration database and sorted by street address within the precinct with as many as four (4) names per label of the voters whose last name and address are an identical match.

(6) "Household labels by zip code order" means labels that are generated from the statewide voter registration database and sorted by zip code within the county with as many as four (4) names per label of the voters whose last name and address are an identical match.

(7) "Sale" means any sale, rental, distribution, offer for sale, rental, or distribution, or attempt to sell, rent, or distribute any good or service to another.

(8) "Statewide voter registration database" means a complete roster of all qualified voters within the state by county and precinct that the State Board of Elections is required to maintain pursuant to KRS 117.025(3)(a).

(9) "Street order lists" means lists of registered voters generated from the statewide voter registration database sorted in street order within a precinct and contain the name, address, age code, party, gender, zip code, and a five (5) year voting history of every registered voter in the precinct.

(10) "Voter registration list" means a list of registered voters generated from the statewide voter registration database in any given election precinct in the Commonwealth of Kentucky that the State Board of Elections is required to furnish pursuant to KRS 117.025(3)(h).

Section 2. Correction of Voter Registration Records. (1) Each county clerk shall instruct the precinct election officers of the necessity for informing each voter that he or she shall correct any error existing in his or her address as it appears upon the precinct signature roster.

(2)~~(Section 3-]~~ Each precinct election officer shall instruct each voter to correct any error existing in his or her address as it appears upon the precinct signature roster.

(3)~~(Section 4-]~~ Each voter shall, when he or she signs the precinct signature roster, correct any error existing in his or her address as it appears upon the precinct signature roster.

(4)~~(Section 5-]~~ Each county clerk shall take all [whatever] steps [are] necessary to correct and update each voter's address upon the statewide voter registration database.

Section ~~3.~~~~[6-]~~ Interpretation of Commercial Use. ~~[(4)]~~ Commercial use, as that term is used in KRS 117.025(3)(h), shall be interpreted by the Board of Elections to mean [be]:

~~(1)~~~~[(a)]~~ The use by the requester of the voter registration list, or any part thereof ~~[of the list]~~, in any form, for sale or advertisement of any good or service; or

~~(2)~~~~[(b)]~~ The transfer of a voter registration the list by the requester for a profit to any other person whom the requester knew or should have known intended to use the voter registration list, or any part thereof. In any form [of that list], for the sale or advertisement of a good or service.

~~[(2)]~~ Sale of a voter registration list shall be deemed to include any sale, rental, distribution, offer for sale, rental or distribution, or attempt directly or indirectly to sell, rent or distribute the list.

~~(3)~~ Advertisement means any attempt by publication, dissemination, solicitation, or circulation to induce, directly or indirectly, any person to enter into any obligation, or acquire any title or interest in any good or service.]

Section 4. Commercial use shall not include use of a voter registration list, or any part thereof ~~[(4) Request for a copy of the voter registration list shall be granted by the Board of Elections]~~ for the following purposes:

~~(1)~~~~[(a)]~~ Use for scholarly, journalistic, political (including political fund raising), or governmental purposes; or

~~(2)~~ Use for publication~~[(b) Publication]~~, broadcast, or related use by a newspaper, magazine, radio station, television station, or other news medium in its news or other publications or broadcasts

Section ~~5.~~~~[7-]~~ Requests for Voter Registration Lists. A request for voter registration lists shall be made by submitting a completed form SBE-84(02/04) to the State Board of Elections with payment of costs as set forth in this section. ~~[follows:]~~

(1) The minimum charge for lists and label orders shall be ten (10) dollars.~~[-]~~

(2) The charge for alphabetical lists shall be four (4) dollars per precinct.~~[-]~~

(3) The charge for street order lists shall be four (4) dollars per precinct.~~[-]~~

(4) The charge for alphabetical labels shall be ten (10) dollars per thousand labels.~~[-]~~

(5) The charge for household labels by street order shall be ten (10) dollars per thousand labels.~~[-]~~

(6) The charge for household labels by zip code order shall be ten (10) dollars per thousand labels.~~[-]~~

(7) The minimum charge for CD-ROM shall be twenty-five (25) dollars.~~[-and[-]~~

(8) The charge for CD-ROM shall be one (1) dollar per 1,000 records up to 100,000 records; fifty (50) cents per thousand records over 100,000 records; \$450 statewide.

Section ~~6.~~~~[8-]~~ Incorporation by Reference. (1) "Request for Voter Registration Data", SBE[-] 84 (May [February] 2007 edition[05/04]), is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the [Offices of the] State Board of Elections, [140 West Walnut Street,] 140 West Walnut Street, Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. to 4.30 p.m.

TREY GRAYSON, Chair

APPROVED BY AGENCY: February 20, 2007

FILED WITH LRC: March 8, 2007 at 1 p.m.

STATE BOARD OF ELECTIONS
(As Amended at ARRS, May 8, 2007)

31 KAR 4:100. Evaluation of precinct election officers.

RELATES TO: KRS 117.045

STATUTORY AUTHORITY: KRS 117.045(1)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 117.045(1) requires the State Board of Elections to promulgate

an administrative regulation establishing evaluation procedures which county boards of elections may use to qualify persons nominated to serve as precinct election officers. This administrative regulation establishes those evaluation procedures. [County boards of elections appoint precinct election officers. This administrative regulation is necessary to assist county boards of elections in determining if a person nominated to serve as precinct election officer is qualified to serve in that capacity.]

Section 1. In evaluating if a person nominated to serve as a precinct election officer is qualified to serve in that capacity, a county board of elections may use the following evaluation procedures:

- (1) Determine if the person submitted a signed statement in accordance with KRS 117.045(2);
- (2) Determine if the person meets the qualifications set forth in KRS 117.045(9)(a); and
- (3) Determine if the person has a history of refusing to follow election procedures or has demonstrated a complete lack of understanding of proper election procedures while serving as a precinct election officer in the past.

Section 2. A county board of elections shall refuse to appoint a person nominated to serve as a precinct election officer if it determines that the person is not qualified based on the evaluation procedures set forth in Section 1 of this administrative regulation.

Section 3 Incorporation by Reference. (1) "List for Appointment of Precinct Election Officers", SBE 22, (February 2007 edition), is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the State Board of Elections, 140 Walnut Street, Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. to 4:30 p.m.

TREY GRAYSON, Chair
 APPROVED BY AGENCY, February 20, 2007
 FILED WITH LRC: March 6, 2007 at 1 p.m.
 CONTACT PERSON: Kathryn H. Dunnigan, General Counsel,
 Kentucky State Board of Elections, 140 Walnut Street, Frankfort,
 Kentucky 40601, phone (502)573-7100, fax (502) 573-4369.

GENERAL GOVERNMENT CABINET
 Department of Military Affairs
Kentucky Community Crisis Response Board
 (As Amended at ARRS, May 8, 2007)

106 KAR 5:005. Definitions for 106 KAR Chapter 5.

RELATES TO: KRS 36.250, 36.255, 36.260, 36.270, 39A.010, 39A.020, 39A.050, 202A.011, 209.030, 222.005(15), Chapter 309, 645.270

STATUTORY AUTHORITY: KRS 36.260(5), (8)

NECESSITY, FUNCTION AND CONFORMITY: KRS 36.260(5) and (8) require the Kentucky Community Crisis Response Board "KCCRB" to promulgate administrative regulations relating to the operation of crisis response services and as necessary to execute the duties of the board. This administrative regulation defines the [provides the definition of] terms used in this chapter.

Section 1. Definitions. (1) "Approved" means reviewed and accepted by the KCCRB.

(2) [~~"Community Crisis Response Board" or "KCCRB"~~] means the administrative body established at KRS 36.255.

(3) "Community Crisis Response Team" or "KCCRT" is defined at KRS 36.250(2).

(3)(4) "Continuing education hour" means at least fifty (50) contact minutes of participation in a course of education established in accordance with 106 KAR 5.020.

(4)(6) "Core competency" means the skills acquired by successful completion of a board approved continuing course of education and training relating to the provision of crisis response, psychological first aid, psychoeducation, and disaster behavioral

health services

(5)(6) "Cnsis" means an event that has the potential to create significant human distress.

(6)(7) "Crisis response" means provision of support to a survivor, first responder, or other affected person in psychosocial distress in order to:

(a) Aid the individual to:

1.(a) Regain a sense of control over the immediate situation; and

2.(b) Reestablish problem-solving abilities; and

(b) Deliver:

(8) [~~"Crisis response service" means the delivery of crisis response,~~] psychological first aid, psychoeducation, and disaster behavioral health services, using the following methods [including]:

1.(a) Exploring the person's experience with the crisis or disaster;

2.(b) Identifying current priority needs;

3.(c) Assessing functioning and coping skills;

4.(d) Providing reassurance, normalization, psychoeducation, and other practical assistance; and

5.(e) Making appropriate referrals as needed.

(7)(9) "Disaster" is defined at KRS 39A.020(7), and includes a distressful event:

(a) A distressful event, as described at KRS 39A.010, or

(b) An occurrence of such severity and magnitude as to cause human distress sufficient to warrant disaster behavioral health services in order to supplement the resources of the Commonwealth, local governments, and disaster relief organizations.

(9)(10) "Disaster behavioral health services" means the rapid mobilization of qualified disaster outreach personnel to provide crisis response and psychological first aid.

(9)(11) "Disaster outreach personnel" means:

(a) Behavioral health professionals;

(b) Peer professionals [or paraprofessionals];

(c) Adults with life experiences or cultural or multilingual skills necessary to identify and communicate with a survivor or other affected person; or

(d) Other support personnel, not licensed or credentialed as behavioral health professionals, necessary to provide disaster and crisis response services.

(10)(12) "Executive administrative committee" means an advisory committee that makes policy recommendations to the full KCCRB, and is comprised of the:

(a) Chair of the KCCRB [board];

(b) Chair of the KCCRB membership committee;

(c) Chair of the KCCRB education and training committee; and

(d) KCCRB Executive director.

(11) "Kentucky Community Crisis Response Board" or "KCCRB" means the administrative body established by KRS 36.225.

(12)(14) "Lead agency" means the KCCRB in its role as coordinator of disaster behavioral health services in accordance with the Kentucky Emergency Operations Plan, developed as required by KRS 39A.050(2)(c).

(13) "Membership committee" means the crisis response team committee established in accordance with 106 KAR 5:010.

(14)(15) "Peer professional" means:

(a) A person licensed, certified, or otherwise credentialed, as required by his or her authorizing body, in emergency services, law enforcement, or rescue and recovery; or

(b) An unlicensed, uncertified, or otherwise noncredentialed person who has been trained and approved by the board as having core competency.

(15)(16) "Provider" means an organization or individual recognized by a national, federal, or state human services organization as qualified to provide comprehensive crisis response training and continuing education.

(16)(17) "Psychoeducation" means the provision to a survivor, first responder, or other person, of information about human post-trauma reactions, including:

(a) Normal reactions to abnormal situations;

(b) Grief and bereavement;

- (c) Stress management;
- (d) Effective coping strategies; and
- (e) Recognizing indications that professional help is needed.

~~(17)(14)~~ "Psychological first aid" means the alleviation of immediate psychological trauma suffered by a survivor, first responder, or other affected person.

~~(18)(14)~~ "Psychosocial distress" means a reaction to an event that is:

- (a) Outside the person's usual realm of psychological and social experience; and
- (b) Markedly distressing.

~~(19)(20)~~ "Qualified health professional" is defined at KRS 222.005(15).

~~(20)(24)~~ "Regional team coordinator" means an experienced team member delegated by the Executive Director to support KCCRT members in one (1) of the fourteen (14) Division of Emergency Management regions of Kentucky, who may:

(a) Serve as a local and regional contact for planning, exercising, training, and responding to crisis or disaster in coordination with the Kentucky Division of Emergency Management, the Department for Public Health, or other organization designated by the executive director;

(b) Convene a regional team meeting;

(c) Conduct ongoing team training;

(d) Complete written reports on crisis services performed by KCCRT in their respective region; or

(e) Serve as liaison for communicating needs of regional KCCRT members.

~~(21)(22)~~ ~~"Survivor" Means an individual who has experienced the impact of a crisis, disaster, or terrorist event.~~

~~(23)~~ "Team leader" means a team member appointed by the Executive Director to direct other team members during a crisis response.

~~(22)(24)~~ "Team member" means an individual who meets the requirements for membership pursuant to 106 KAR 5:010 and 106 KAR 5:020 and is a current member in good standing, as determined by the KCCRB Executive Director ~~[has earned and possesses a valid current KCCRT membership photo identification badge].~~

RENELLE GRUBBS, Executive Director

APPROVED BY AGENCY: August 16, 2006

FILED WITH LRC: February 15, 2007 at 10 a.m.

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GENERAL GOVERNMENT CABINET
 Department of Military Affairs
 Kentucky Community Crisis Response Board
 (As Amended at ARRS, May 8, 2007)

106 KAR 5:010. Application and renewal requirements for response team membership.

RELATES TO: KRS Chapter 13B, 17.167, 36.260(2), (3), Chapter 344]

STATUTORY AUTHORITY: KRS 36.260(8)

NECESSITY, FUNCTION AND CONFORMITY: KRS 36.260(8) requires the board to promulgate administrative regulations as necessary to execute the duties of the Board. KRS 36.260(3) requires the board to maintain a team of volunteer members to provide crisis response services statewide. This administration regulation establishes requirements for membership in a crisis response team.

Section 1. Crisis Response Team Membership Committee. (1) The Executive Director shall;

(a) Establish a standing crisis response team membership committee made up of at least four (4) members, appointed from among members of the board and the crisis response team; and

(b) Appoint each committee member to ~~each to serve~~ a

four (4) year term.

(2) The committee shall: ~~(a)~~ Assist the executive director regarding team membership in the following ways:

~~(a)~~ ~~if requested;~~ ~~(b)~~ Act as a ~~final~~ reviewing body ~~if needed;~~ for a ~~rejected~~ team application referred by the executive director;

~~(b)~~ ~~Assist in review and resolution of a disciplinary action filed against a current team member;~~

~~(c)~~ Review each team application referred to it and make a recommendation to the board regarding membership within forty-five (45) working days after receipt of the required documentation;

~~(c)~~ In accordance with 105 KAR 5:030, review a disciplinary matter involving a current team member and recommend a resolution to the board;

~~(d)~~ Report statewide membership data to the board;

~~(e)~~ Notify the applicant, in writing ~~that~~.

1. That the applicant shall not be discriminated against or the application refused because of the applicant's race, color, religion, nation origin, sex, age forty (40) or over, or because the applicant is a qualified individual with a disability ~~;~~ ~~pursuant to KRS Chapter 344~~; and

2. Whether the application was approved or rejected ~~;~~
 a. If rejected, the application is subject to reconsideration on the applicant's request ~~;~~ ~~or~~

b. If approved the applicant shall, within thirty (30) working days, submit to the board:

(i) A personal digital photo to be used for printing a team membership photo-identification badge; and

(ii) A completed "KCCRT Team Membership Agreement" form, incorporated by reference;

(f) Reconsider each rejected application for which an applicant has requested reconsideration, and the reasons given for reconsideration; and

(g) Notify the applicant of the result of reconsideration, and, if rejected, the applicant's right to a formal appeal pursuant to KRS Chapter 13B.

Section 2. Crisis Response Team Membership. (1) The following persons are eligible for crisis response team membership if they meet the requirements of subsection (2) of this section:

(a) Qualified ~~[A behavioral qualified]~~ health professionals ~~[professional];~~

(b) Ordained, licensed, or certified chaplains or ministers who:

1. Minister to a group in the Commonwealth

2. Serve as persons in good standing with a religious body; and

3. Provide proof of completion of at least twelve (12) hours of course work in pastoral or crisis counseling;

~~(c)~~ Peer Professionals ~~[A peer professional],~~

~~(d)~~ ~~(e)~~ Disaster outreach personnel;

~~(d)~~ ~~Another related professional or paraprofessional meeting the requirements of subsection (2) of this section of this administrative regulation, and]~~

(e) Administrative and other support personnel necessary to provide disaster and crisis response services; and

(f) Persons qualified in another relevant professional field, as determined by the executive director and membership committee.

(2) To be eligible for ~~[A person seeking]~~ membership on the crisis response team an applicant shall meet the following requirements ~~[shall submit a completed form, "Application for Team Membership," incorporated by reference, to document proof of].~~

(a) At least five (5) years of experience in his or her field. The following may substitute for two (2) of the required five (5) years:

1. Two (2) years of training; or

2. Experience of any duration that is, as determined by the executive director and membership committee, highly exceptional and relevant to crisis response ~~[a specialized field, two (2) of which may be substituted by two (2) years of training, or highly exceptional experience for which the board has received credible written proof]; and~~

(b) ~~Submission of Kentucky State Police form, "Request For Felony Conviction Record," incorporated by reference;~~

~~(e) Successful completion of at least thirteen (13) hours of crisis response training demonstrating core competency; and~~

~~(d) One of the following professional qualifications:~~

~~1. Current licensure or certification in a specialized field, issued by the Commonwealth or the United States Military Services;~~

~~2. Completion of a series of professional education courses from an accredited university, college, or religious institution, leading to a degree in:~~

- ~~a. Psychology;~~
- ~~b. Psychiatric nursing;~~
- ~~c. Educational counseling;~~
- ~~d. Social work;~~
- ~~e. Psychiatry;~~
- ~~f. Art therapy;~~
- ~~g. Marriage and family therapy;~~
- ~~h. Professional counseling;~~
- ~~i. Pastoral counseling; or~~
- ~~j. Another relevant professional or paraprofessional field; or~~
- ~~3. Ordination, licensure, or certification as a chaplain or minister who:~~

- ~~a. Ministers to a group in the Commonwealth;~~
- ~~b. Serves as a person in good standing with a religious body; and~~
- ~~c. Provides proof of completion of at least twelve (12) hours of course work in pastoral or crisis counseling.]~~

~~(3) An applicant currently licensed or certified in a professional field, but no longer actively employed in an emergency service or other professional field, may apply for team membership if all other team membership eligibility requirements are met [team membership criteria were met previously].~~

~~Section 3. Applying for Team Membership. (1) An applicant seeking membership on the crisis response team shall:~~

~~(a) Complete and submit the form "Application for Team Membership" which shall document that the application meets the eligibility requirements described in Section 2 of this administrative regulation; and~~

~~(b) Complete and submit the Kentucky State Police form, "Request for Felony Conviction Record".~~

~~(2) The applicant shall submit the forms to the Kentucky Community Crisis Board.~~

~~Section 4. Modification and Renewal of Team Membership. (1) A team member seeking to modify membership status shall:~~

~~(a) If requesting extended membership, comply with 106 KAR 5:020, Section 4 [submit a completed "Team Membership Renewal Agreement," as required by 106 KAR 5:020, upon which the member shall provide evidence of successful completion of continuing education hours sufficient to maintain core competency];~~

~~(b) If unable to complete a term of membership, submit a written resignation to the executive director; or~~

~~(c) If requesting a temporary suspension of active team membership, submit a written request to the executive director.~~

~~(2) If modification is due to a reason stated in subsection 1(b) or (c) of this section, the member shall return to the executive director:~~

- ~~(a) The KCCRT identification badge;~~
- ~~(b) KCCRT uniform apparel; and~~
- ~~(c) KCCRT readiness equipment~~

~~Section 5. [4.] Incorporation by Reference. (1) The following material is incorporated by reference:~~

~~(a) "KCCRT Team Membership Agreement", 05/2007(04/2007);~~

~~(b) "Application for Team Membership", 05/2007(04/2007); and~~

~~(c) "Request For Felony Conviction Record", 01/2007.~~

~~(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the offices of the Kentucky Community Crisis Board, Pine Hill Plaza, 1121 Louisville Road, Suite 2, Frankfort, Kentucky 40601-6169, Monday through Friday, 8 a.m. to 4:30 p.m.~~

~~(3) This material may also be obtained at the Kentucky Com-~~

~~munity Crisis Response Board's Internet Web site, <http://www.kccrb.ky.gov/>.~~

RENELLE GRUBBS, Executive Director

APPROVED BY AGENCY: August 16, 2006

FILED WITH LRC: February 15, 2007 at 10 a.m.

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GENERAL GOVERNMENT CABINET
Department of Military Affairs
Kentucky Community Crisis Response Board
(As Amended at ARRS, May 8, 2007)

106 KAR 5:020. KCCRT educational and training requirements.

RELATES TO: KRS 36.250[~~, 36.260(4)~~]

STATUTORY AUTHORITY: KRS 36.260 (3), (8).

NECESSITY, FUNCTION AND CONFORMITY: KRS 36.260(8) requires the Kentucky Community Crisis Response Board to promulgate administrative regulations as necessary to execute the duties of the board. KRS 36.260(3) requires the Board to maintain a team of volunteer members to provide crisis response services statewide. This administrative regulation establishes educational and training requirements for volunteer members.

Section 1. Crisis Response Team Education and Training Committee. (1) The Executive Director shall:

(a) Establish a standing education and training committee made up of at least four (4) members, appointed from among members of the Board and the crisis response team; and

(b) Appoint each committee member, each to serve a four (4) year term.

(2) The education and training committee shall:

(a) Meet on a quarterly basis;

(b) Assist the executive director regarding criteria for providers of membership training and continuing education;

(c) Assist in promoting statewide training for members or potential members of the KCCRT; [and]

(d) Review the qualifications of each core competency training provider, if requested by the executive director; and

(e) Review each KCCRB-sponsored training in order to evaluate its relevance to core competency and crisis response services before making the program available to team members. [Review each contractual agreement with an individual or organizational provider, as recommended by the executive director.]

Section 2. [Continuing Education Providers.] (1) The committee may approve an existing KCCRT continuing education course or program:

(2) The committee shall review a proposed continuing education program in order to evaluate its relevance to core competency and crisis response services.

(3) A team member seeking approval of an unevaluated continuing education provider, program, or course shall submit a request to the training committee providing the following information:

(a) Learning objectives;

(b) Course outline;

(c) Course agenda denoting classroom hours, rest periods, and lunch breaks;

(d) The number of continuing education hours offered;

(e) The name and professional credentials of each program presenter; and

(f) A copy of an official certificate of successful completion, if the member has attended.

Section 3. Categories of Continuing education hours. (1) Each KCCRT member shall complete at least thirty (30) continuing education hours for each four (4) year period of service.

- (2) Continuing education [educational] hours shall include:
- (a) At least six (6) hours utilizing the "KCCRT All Hazards Field Manual[.]" [~~incorporated by reference~~]; and
 - (b) At least twenty-four (24) hours in core competency training.
- (3) Approved hours earned in excess of the required thirty (30) hours shall be carried over into the next membership cycle.

Section 3. [4-] Documenting Continuing Education Hours. (1) Each KCCRT member requesting renewal of his or her four (4) year term shall:

- (a) Complete continuing education hours in accordance with Section 3 of this administrative regulation [~~required by the "Team Membership Renewal Agreement," incorporated by reference~~];
 - (b) Submit a completed "Team Membership Renewal Continuing Education Form[.]" [~~incorporated by reference~~]; and
 - (c) Submit a completed "Team Membership Renewal Agreement;" and
 - (d) Submit one (1) of the following as documented proof of fulfillment of the continuing education requirement.
 - 1. An official certificate of completion;
 - 2. A statement of completion signed by the course instructor;
- or
- 3. A written approval by the executive director stating that the member has fulfilled the educational requirement by other means resulting in training equivalent to the educational requirements of this administrative regulation.

(2) If continuing education hours are denied a team member for lack of relevant content, the committee shall notify the member, in writing:

- (a) That the hours have been denied approval [status];
- (b) Of the reason for the denial;
- (c) That the member may request reconsideration by the education and [~~denial may be appealed to the~~] training committee, in writing, within thirty (30) working days from the date of receipt of notification; and[-]
- (d) That subsequent formal appeal may be had pursuant to KRS Chapter 13B.

Section 4. [5-] Incorporation by Reference. (1) The following material is incorporated by reference:

- (a) "KCCRT All Hazards Field Manual", 10/2005;
 - (b) "Team Membership Renewal Agreement", 5[+]/2007; and
 - (c) "Team Membership Renewal Continuing Education Form", 1/2007.
- (2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the offices of the Kentucky Community Crisis Board, Pine Hill Plaza, 1121 Louisville Road, Suite 2, Frankfort, Kentucky 40601-6169, Monday through Friday, 8 a.m. to 4:30 p.m.
- (3) This material may also be obtained at the Kentucky Community Crisis Response Board's Internet Web site, <http://www.kccrb.ky.gov/>.

RENELLE GRUBBS, Executive Director
 APPROVED BY AGENCY: August 16, 2006
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GENERAL GOVERNMENT CABINET
 Department of Military Affairs
 Kentucky Community Crisis Response Board
 (As Amended at ARRS, May 8, 2007)

106 KAR 5:030. KCCRT member disciplinary actions.

RELATES TO: KRS Chapter 13B, 36.260, [36.266-
 209.030(2), (3), (4), 209.050, [431-060-] 620 030(1),(2)
 STATUTORY AUTHORITY: KRS 36.260(5), (8)
 NECESSITY, FUNCTION, AND CONFORMITY: KRS

36.260(8) requires the Kentucky Community Crisis Response Board to promulgate administrative regulations as necessary to execute the duties of the Board. KRS 36.260(3) requires the Board to maintain a team of volunteer members to provide crisis response services statewide. This administrative regulation establishes procedures for evaluation of disciplinary complaints against KCCRB [~~KRCCT~~] members and provides sanctions for confirmed violations.

Section 1. Actions Subject to Disciplinary Inquiry. A team member [who engages in one of the following actions] shall be subject to discipline [~~disciplinary inquiry~~] by the KCCRB Membership Committee if he or she:

- (1) Refuses to participate in a crisis or disaster response three (3) or more times when requested to assist, unless excused by the executive director or his or her designee except when [the member has a written exception from] the designated response service due to illness, conflict of interest, or conflict of duty;
- (2) [When,] After committing to participate in a designated response, fails to notify the crisis response team leader, in advance of the response starting time, of an inability to serve;
- (3) Fails to report abuse or neglect of an adult, as required by KRS 209.030(2), (3) and (4);
- (4) Fails to report dependence, abuse, or neglect of a child, as required by KRS 620.030(1) and (2);
- (5) Fails to maintain strict confidentiality relating to a statement made by a participant during a crisis response, except for an exemption permitted or required by law;
- (6) Fails to adhere to guidelines established during crisis response education and training;
- (7) Fails to participate in an assigned team member role, as directed, during a crisis response;
- (8) [~~If arriving at a response site,~~] Fails to first report to the team leader, regional team coordinator upon arrival at a response site, or other delegated KCCRB response coordinator;
- (9) Is convicted [~~adjudged to be guilty~~] of a class A misdemeanor or a felony; [~~as described at KRS 431.060.~~]
- (10) Violates a provision of the KCCRT membership agreement;[-]
- (11) Is found by the member's licensing body to have violated his or her [~~the member's~~] professional code of ethics;
- (12) Solicits clients or conducts personal business while serving in the capacity of a crisis response team member; [or]
- (13) Speaks abusively to a person affected by the crisis or disaster;
- (14) Threatens a team member or person affected by the crisis or disaster;
- (15) Is physically aggressive toward a team member or person affected by the crisis or disaster;
- (16) Sexually harasses a team member or person affected by the crisis or disaster; or
- (17) Engages in highly inappropriate conduct that damages the morale of the response team or the team's relationship with persons affected by the crisis or disaster. [~~is the subject of a written complaint related to the team member role.~~]

Section 2. Informal Inquiry Process for a Disciplinary Action.

- (1) Upon receipt of a written complaint against a team member or information in any form that indicates that a provision in subsections 1(1) through 1(17) of this administrative regulation has been violated, the membership committee shall.
 - (a) Notify the team member who is subject of the complaint or other information received, in writing, within thirty (30) working days of receipt:
 - 1. That the committee has received a written complaint or other information indicating a violation of a provision in subsections 1(1) through 1(17) [~~he or she is the subject of a written complaint or membership violation~~];
 - 2. Of the specific details of the allegation;
 - 3. That a written explanation is requested of the member;
 - 4. That a membership committee inquiry [review] is in process;
 - 5. Of possible sanctions for the specified violation;
 - 6. Of the timeline for the review process; and

7. Whether [if] the member is or is not suspended from team membership during the process of investigation through final decision on appeal, if the decision is appealed;

(b) At the next scheduled committee meeting, review the complaint, the written explanation provided by the team member, and any investigative findings;

(c) Present findings of fact and a recommendation for disposition to the board for final decision [disposition];

(d) Notify the team member, in writing, within thirty (30) working days from the date of final disposition, of the board's decision, any [and, if negative, of the] sanction imposed, and the process for appeal.

(2) Upon receipt of a recommendation for disposition from the membership committee, the board shall consider the following factors in deciding the outcome and assessing a sanction, if any:

(a) The circumstances surrounding the alleged violation;

(b) The response services being rendered;

(c) The gravity of the alleged violation;

(d) The extent of harm caused by the infraction;

(e) The team member's past performance with the KCCRT;

and

(f) The likelihood of recurrence.

(3) Appeal process for a disciplinary action.

(a) A team member aggrieved by a decision of the board regarding his or her disciplinary action may appeal the decision by submitting a written request to the Executive Director [membership committee], within thirty (30) working days of receipt of the written disposition, to appear in person for a hearing at the next scheduled meeting of the Executive Administrative Committee.

(b) The executive director shall inform the appealing party, in writing:

1. That his or her request has been received;
2. Of the time, date, and place of the hearing; and
3. That a final decision of the Board [Executive Administrative Committee] may be formally appealed pursuant to KRS Chapter 13B.

(c) The Executive Administrative Committee shall review the disciplinary matter and the board's decision, conduct a hearing, consider the factors in Section 2(2) of this administrative regulation, and submit to the board a recommendation for final disposition.

(d) The board shall:

1. Consider the matter and the Executive Administrative Committee's recommendation in light of the facts of the case and the factors listed in Section 2(2) of this administrative regulation;

2. Determine the final disposition of the matter;

3. Notify the member within (30) working days, in writing, of:

a. The board's decision; and

b. That the final decision of the board may be formally appealed pursuant to KRS Chapter 13B.

(4) Any sanction assessed shall be held in abeyance during an appeal.

Section 3. Membership Sanctions for Disciplinary Violations.

(1) A member found to have violated Section 1(1) of this administrative regulation shall be removed as a team member until such time as he or she is able to serve if requested.

(2) A member found to have violated one or more of the provisions in Sections 1(2) through 1(17) of this administrative regulation shall be subject to the following sanctions, depending on the severity of the violation:

(a) A verbal reprimand;

(b) A period of suspension from KCCRT membership;

(c) Cancellation of KCCRT membership; or

(d) Cancellation of KCCRT membership and prohibition of future KCCRT membership.

(3) A member whose membership is cancelled shall return all KCCRT credentials, supplies, and equipment to the executive director. [A penalty applied to a member shall be:

(a) Considered by the full membership of the Executive Administrative Committee;

(b) Based upon the severity of the violation, with due consideration to the circumstances of the crisis and the response services rendered; and

(c) Submitted to the board with a recommendation for final disposition.

(2) A penalty shall be held in abeyance during an appeal.

(3) A member found to have spoken abusively or otherwise inappropriately while acting as a team member, or who has violated one of the provisions in Section 1(1) through (8) of this administrative regulation, is subject to a verbal reprimand or a period of suspension from membership, the sanction and length of time depending upon the severity of the violation.

(4) A member found to have:

(a) Behaved in a dismissive, threatening, aggressive, sexual, or other highly inappropriate manner toward a fellow member or another person affected by the crisis or disaster;

(b) Violated a provision of the team membership agreement; or

(c) Been adjudged guilty of a Class A misdemeanor or felony, as defined at KRS 431.060, shall be subject to:

1. Cancellation of membership in the KCCRT;

2. Prohibition from future KCCRT membership; and

3. Surrender of KCCRT credentials, supplies, and equipment.

Section 4. Civil Action Against Members. The Office of the Attorney General, in accordance with KRS 36.265, shall defend a member against whom a civil action has been filed for an act performed in the discharge of his or her KCCRT duties.]

RENELLE GRUBBS, Executive Director

APPROVED BY AGENCY: August 16, 2006

FILED WITH LRC: February 15, 2007 at 10 a.m.

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GENERAL GOVERNMENT CABINET

Department of Military Affairs

Kentucky Community Crisis Response Board

(As Amended at ARRS, May 8, 2007)

106 KAR 5:040. Initiation of a crisis or disaster response.

RELATES TO: KRS 36.250, 36.255, 36.260, 36.270, [202A.400, 209.030, 335.500, 645.270]

STATUTORY AUTHORITY: KRS 36.260(5)

NECESSITY, FUNCTION AND CONFORMITY: KRS 36.260(5) requires the Board to promulgate administrative regulations relating to the operation of crisis response services. This administrative regulation establishes the mechanism for initiating a crisis response.

Section 1. Kentucky Community Crisis Response Board [Services]. The KCCRB shall be the lead agency for crisis or disaster response behavioral health services [management]. Crisis response services shall be initiated by:

(1) Activation by the Kentucky Division of Emergency Management;

(2) Executive Order of the Governor declaring a state of emergency or disaster; or

(3) [Declaration by the President of the United States; or

(4)] Request of an individual designated by the highest authority within an agency, community, school, or other organization impacted by a crisis or disaster.

Section 2. Kentucky Community Crisis Response Team [services].

(1) The KCCRT may support crisis response services for emergency services personnel, survivors, and other affected persons following a crisis or disaster if:

(a) A memorandum of understanding is in place with the requesting organization; or

(b) Requested by the Emergency Management Assistance

Compact.

- (2) A request for KCCRT services shall be made by contacting:
 (a) The Kentucky State Emergency Operations Center Duty Officer; or
 (b) The 24-hour crisis line of the Office of the KCCRB.

RENELLE GRUBBS, Executive Director

APPROVED BY AGENCY: August 16, 2006

FILED WITH LRC: February 15, 2007 at 10 a.m.

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**GENERAL GOVERNMENT CABINET
 Kentucky Board of Pharmacy
 (As Amended at ARRS, May 8, 2007)**

201 KAR 2:260. Automated Pharmacy System in Residential Hospice Facilities.

RELATES TO KRS 315.010(9), 315.020, 315.035, ~~315.191(1)(a);~~ 315.295, 315.300, 216B3195

STATUTORY AUTHORITY: KRS ~~315.020;~~ 315.035, 315.191(1)(a), 315.295

NECESSITY, FUNCTION, AND CONFORMITY: KRS 315.020(1) ~~[315.126(1)]~~ requires that prescription drugs, medicines, and pharmaceuticals be dispensed or manufactured by a licensed pharmacist. KRS 315.295 authorizes the board to regulate an automated pharmacy system in a residential hospice facility. This administrative regulation establishes the standards for the operation of this type of system. ~~[This administrative regulation establishes, consistent with the requirements of KRS 315.191(1)(a), minimum requirements for the control of drugs sold pursuant to a prescription drug order.]~~

Section 1. Definitions. (1) "Automated Pharmacy System" is defined by KRS 315.295(1)(a) ~~[means a mechanical system that delivers substances received from a pharmacy licensed in Kentucky that maintains transaction information].~~

(2) "Residential Hospice Facility" is defined by KRS 315.295(1)(b) ~~[means a facility licensed under KRS Chapter 216B that provides residential skilled nursing care, pain management, and treatment for acute and chronic conditions for terminally ill patients].~~

Section 2. Responsibility. ~~[(1)]~~ The pharmacist-in-charge of a pharmacy utilizing an automated pharmacy system shall be ~~is~~ responsible for all of the following:

- (1)(a) Assuring that the automated pharmacy system is in good working order and accurately dispenses the correct strength, dosage form, and quantity of drug prescribed and complying with the recordkeeping and security safeguards pursuant to Section 3 of this administrative regulation;
- (2)(b) Assuring medications are reviewed by a pharmacist prior to access;
- (3)(e) Implementing an ongoing quality assurance program that monitors performance of the automated system, which is evidenced by written policies and procedures; and
- (4)(e) Notifying the board with prior written notice of the installation or removal of an automated pharmacy system. This notification shall include ~~[but is not limited to]~~ the following:
 - (a)(1) Name and address of pharmacy;
 - (b)(2) Initial location of the automated pharmacy system. The automated pharmacy system may thereafter be relocated within the pharmacy or health care facility without providing subsequent notification to the board; and
 - (c)(3) Pharmacist-in-charge.
- (5)(e) Assigning, discontinuing or changing personnel access to the system;
- (6)(f) Assuring that access to the medications comply with state and federal laws; and

(7)(g) Assuring that the automated pharmacy system is stocked accurately and that the automated pharmacy system stock is checked monthly in accordance with established written policies and procedures, including ~~[but not limited to]~~ the following

- (a)(1) Accuracy;
- (b)(2) Integrity; and
- (c)(3) Expiration date.

Section 3. Standards. ~~[(1)]~~ An automated pharmacy system shall comply with the following provisions:

(1)(a) A pharmacy shall maintain on-site the following documentation relating to an automated pharmacy system:

- (a)(1) Name and address of the pharmacy or inpatient health care facility where the system is being used;
- (b)(2) The automated pharmacy system manufacturer's name, model, and serial number;
- (c)(3) Description of how the system is used;
- (d)(4) Written quality assurance procedures to determine continued appropriate use of the system; and
- (e)(5) Written policies and procedures for system operation, safety, security, accuracy, access and malfunction.

(2)(b) All written policies and procedures shall be maintained in the pharmacy responsible for the automated pharmacy system.

(3)(e) An automated pharmacy system shall maintain adequate security systems and procedures, evidenced by written policies and procedures to prevent unauthorized access to maintain patient confidentiality and to comply with federal and state laws.

(4)(d) Records and data kept by the automated pharmacy system shall meet the following requirements:

- (a)(1) All events involving the contents of the automated pharmacy system shall ~~[must]~~ be recorded electronically; and
- (b)(2) Records shall be maintained by the pharmacy and be available to the Board and shall include the following:
 - 1.(a) The time and location of the system accessed;
 - 2.(b) Identification of the individual accessing the system;
 - 3.(c) Type of transaction;
 - 4.(d) Name, strength, dosage form and quantity of drug accessed;
 - 5.(e) Name of the patient for whom the drug was ordered;
 6. The prescription number;
 7. The name of the prescriber; and
 8. [f.] All events involving user database modifications shall be recorded electronically and maintained ~~[and~~
 - g. Such additional information as the pharmacist-in-charge may deem necessary].

(5)(e) The stocking of all medications in the automated pharmacy system shall be done by a pharmacist, pharmacist intern, or pharmacy technician, who shall ~~[which must]~~ be under the general supervision of a pharmacist on-site.

(6)(f) A record of medications stocked into an automated pharmacy system shall be maintained for five (5) years and shall include identification of the person stocking and pharmacist checking for accuracy.

(7)(g) All containers of medications stored in the automated pharmacy system shall be packaged and labeled in accordance with federal and state laws.

(8)(h) The automated pharmacy system shall provide a mechanism for securing and accounting for medications removed from and subsequently returned to the automated pharmacy system, in accordance with federal and state laws.

(9)(i) The automated pharmacy system shall provide a mechanism for securing and accounting for medications returned to the system and accounting for wasted medications in accordance with federal and state laws.

PETER J. ORZALI, Jr., President

APPROVED BY AGENCY: March 14, 2007

FILED WITH LRC: March 15, 2007 at 10 a.m.

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COMMERCE CABINET
 Kentucky Department of Fish and Wildlife Resources
 (As Amended at ARRS, May 8, 2007)

301 KAR 2:185. Hunter education [training].

RELATES TO: KRS 150.010, 150.015, 150.990

STATUTORY AUTHORITY: KRS 150.025

NECESSITY, FUNCTION, AND CONFORMITY: KRS 150.025 authorizes the department to promulgate administrative regulations to carry out the purposes of KRS Chapter 150, including the management and conservation of wildlife. This administrative regulation establishes the requirements for hunter education instruction, [certification as a hunter education trainer and course requirements] to promote safe hunting, responsible wildlife management and conservation of wildlife.

Section 1. Definitions. (1) "Adult" means a person who has reached [over the] age [of] eighteen (18).

(2) [~~"Apprentice" means a volunteer who may assist a hunter education instructor who is age fourteen (14) and older because he has successfully completed a Kentucky hunter education course, is sponsored by a Kentucky hunter education instructor, and has successfully completed the Kentucky Hunter Education Instructor course.~~]

(3) "Course completion card" means the card issued by the department, another state, province, or country to a student who has successfully completed a hunter education course which meets the standards established by the International Hunter Education Association.

(3) [(4)] "Department" is defined in KRS 150.010(8).

(4) [(5)] "Hunter education instructor" means a person [volunteer] who [has met the requirements established in Section 6 of this administrative regulation and who] has been certified by the department to instruct or assist in the instruction of the Kentucky Hunter Education Program.

(5) [(6)] "~~Hunter training officer" means an employee of the commissioner or his designee who coordinates his assigned region of the hunter education program by recruiting, training, evaluating the work of volunteer hunter education instructors, and assists in the development of the hunter education curriculum.~~

(7) "~~Hunter training officer supervisor" means an employee of the Commissioner or his designee who coordinates the Kentucky Hunter Education Program statewide, including the supervision of the hunter training officers, in accordance with the department's mission, the direction of the commissioner or his designee, and the education standards of the International Hunter Education Association.~~

(8) "International Hunter Education Association" means the organization recognized as the international governing body for teaching hunter education. [professional association for sixty-three (63) state and provincial wildlife conservation agencies and the volunteer instructors who teach hunter education in North America.

(9) "Junior instructor" means a volunteer age ten (10) years and older who may assist in hunter education classes in the presence of a hunter education instructor because he has successfully completed a Kentucky hunter education course and is sponsored by a Kentucky hunter education instructor.

(10) "Master hunter education instructor" means a hunter education instructor who:

(a) Has the knowledge and can teach all components of the hunter education course, including safety, ethics, first aid and wildlife identification;

(b) Has extensive knowledge of the Kentucky Hunter Education Program;

(c) Has conducted workshops for hunter education instructors; and

(d) Is appointed by a committee consisting of a representative of the Kentucky Hunter Education Association, the hunter training officer supervisor and an appointee of the commissioner.

(11) "~~Master hunter education instructor trainer" means a hunter education instructor appointed by the hunter training officer supervisor with the approval of the commissioner or his designee, after assisting in at least fifty (50) hunter education courses and~~

who is authorized to certify hunter education instructors.

(12) "~~Volunteer" means a person who is not an employee of the department who assists by volunteering his time to teach or otherwise assist in the hunter education program.]~~

Section 2. Mandatory Hunter Education Course Completion Card. (1) Except as provided in subsection (4) of this section, a hunter [residents and nonresidents] born on or after January 1, 1975 shall carry a valid hunter education course completion card or other proof verifying that the hunter has completed a [the] hunter education course which meets the standards approved by the International Hunter Education Association.

(2) A bow hunter not in possession of a firearm may carry a state, province or country Issued Bow Hunter Education Certificate which meets the standards approved by the International Hunter Education Association in lieu of the hunter education course completion card.

(3) A valid hunter education course completion card or a bow hunter education certificate shall be presented to a state conservation [wildlife and boating] officer upon [his] request.

(4) Exemptions.

(a) Persons under twelve (12) years of age [Children]:

1. A person [Children] under twelve (12) [ten-(10)] years of age may hunt without a course completion card, but shall be accompanied by an adult who meets the hunter education requirement and who shall be in a position to take immediate control of the [child's] bow or firearm;

2. One (1) adult who meets the hunter education requirement shall not accompany more than two (2) persons [children] under the age of twelve (12) [ten-(10)] at one (1) time.

(b) A person exempt from a hunting license requirement is also exempt from possessing the course completion card.

(c) A person required to carry a course completion card while hunting in Kentucky shall be [e] eligible for a temporary hunter education requirement exemption.

1. A temporary hunter education exemption shall be valid for one (1) year from the date obtained.

2. A person shall not be eligible to obtain more than one (1) exemption.

3. To validate the exemption, a person shall:

(a) Obtain a temporary hunter education exemption permit from the department for a fee;

(b) Carry the exemption form while hunting;

(c) Be accompanied by an adult who meets the hunter education requirement and who shall remain in position to take immediate control of the exempted hunter's bow or firearm while hunting.

Section 3. [~~Hunter Education Instruction.~~] (1) ~~Hunter education training shall be provided by a:~~

(a) ~~Hunter training officer supervisor;~~

(b) ~~Hunter training officer;~~

(c) ~~Master hunter education instructor trainer;~~

(d) ~~Master hunter education instructor;~~

(e) ~~Hunter education instructor;~~

(f) ~~Department approved video;~~

(g) ~~Department approved compact disk; or~~

(h) ~~Department approved independent study workbook; or~~

(i) ~~Department approved Internet site.~~

(2) ~~A department approved video, compact disk, and independent study workbook may be obtained from the department or a local county library. An affidavit shall be provided to the department verifying that a participant has completed the hunter education course by video, compact disk, or department approved independent study workbook.~~

Section 4.] Hunter Education Course Requirements. A participant in the Kentucky Hunter Education Program shall be at least nine (9) years of age before being given a course completion exam and shall be eligible to receive a course completion card when he or she has:

(1) Attended department approved instruction which meets the standards approved by the International Hunter Education Association;

(2) [a minimum of ten (10) hours of required training by a

method described in subsection one (1) of this section.

- (a) The ten (10) hours of instruction shall include:
1. Six (6) hours of classroom instruction; and
 2. Four (4) hours of field training.
- (b) The classroom instruction shall include the following topics:
1. Firearm equipment;
 2. Basic shooting skills;
 3. Basic hunting techniques;
 4. Primitive hunting;
 5. Hunter safety;
 6. Ethics;
 7. Wildlife education, and
 8. Survival and first aid.

(c) The workbook "Today's Hunter, A Guide to Hunting Responsibly and Safely" shall be used to teach the hunter education course and is incorporated by reference.

(3) Answered at least eighty (80) percent of the course completion examination questions correctly;

(4) Completed a minimum of eighty (80) examination questions and answered at least eighty-one (81) percent correctly;

(3) Participated safely in live fire exercises as determined by a Hunter Education Instructor;

(5) Hunter training officer supervisor, hunter training officer, master hunter education instructor, master hunter education instructor-trainer, or hunter education instructor; and

(4) Exhibited a responsible attitude toward others, property, and equipment during the course; and

(6) Provided an affidavit to the Hunter Education Instructor, if alternate means were used to complete the classroom portion of hunter education instruction. The affidavit shall verify [verifies] that a participant has completed the requirement in subsection (1) of this section by department-approved video tapes, compact disk, independent study workbook, or Internet site. The affidavit shall [must] be notarized and signed before attending the required live-fire exercises and taking the course completion examination.

~~Section 4. [A participant who has not exhibited a responsible attitude toward others, property and equipment during a course shall be reported to the Commissioner or his designee by the hunter training officer supervisor, hunter training officer, master hunter education instructor-trainer, master hunter education instructor, or hunter education instructor.]~~

~~Section 6.] Duplicate Cards. A duplicate hunter education course completion card [cards] may be obtained from the Department of Fish and Wildlife Resources for a fee [five (5) dollars].~~

~~Section 5. [6.] Instructor Certification Requirements. (1) An applicant [Applicants] shall fulfill the following requirements to become certified as a hunter education instructor:~~

- (a) Be at least eighteen (18) years of age;
- (b) Complete an application;
- (c) Submit to a background investigation conducted by the Kentucky State Police [department's Division of Law Enforcement];
- (d) Complete the basic hunter education course and possess the hunter education course completion card;[-]
- (e) ~~Complete a department-sponsored [Attend a twelve (12) hour] instructor training course [taught by a hunter training officer supervisor, hunter training officer, or master hunter education instructor-trainer]; and~~

(f) Attain a minimum score of ninety (90) percent on the hunter education instructor examination.

(2) Basis for denial of application or revocation of certification.

(a) An applicant for certification shall be denied certification if the criminal background check required by subsection (1)(c) of this section reveals that the applicant has been:

1. Convicted of a felony;
2. Convicted of a misdemeanor relating to the health, safety, or welfare of a person; or
3. Convicted of a fish and wildlife violation or a boating violation which results in the loss of his hunting or fishing license.

(b) A person who is certified by the department shall have that certification revoked upon a finding by the commissioner that the person has been:

1. Convicted of a felony;
2. Convicted of a misdemeanor relating to the health, safety, or welfare of a person; or
3. Convicted of a fish and wildlife violation or a boating violation which results in the loss of his hunting or fishing license.

(c) A person who is convicted of a fish and wildlife violation that does not result in the loss of his hunting or fishing license may be denied certification or have his certification revoked at the discretion of the commissioner.

(d) A [master] hunter education instructor[-master hunter education instructor-trainer or hunter education instructor] who fails to instruct or assist in the instruction of at least one (1) hunter education course per year shall [may] be purged from active instructor status.

(3) Appeal of decision. A person whose application for certification is denied or whose certification is revoked by the commissioner pursuant to this section may appeal that decision to the Department of Fish and Wildlife Resources Commission.

Section 6. [7.] Incorporation by Reference. (1) "Today's Hunter, A Guide to Hunting Responsibly and Safely", 2002 edition, is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Kentucky Department of Fish and Wildlife Resources, Arnold L. Mitchell Building, #1 Sportsman's Lane, [Game Farm Road,] Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. to 4:30 p.m.

MARK S. CRAMER, Deputy Commissioner
For JONATHAN GASSETT, Commissioner
GEORGE WARD, Secretary

APPROVED BY AGENCY: March 14, 2007

FILED WITH LRC: March 15, 2007 at 10 a.m.

CONTACT PERSON: Rose Mack, Department of Fish and Wildlife Resources, Arnold L. Mitchell Building, #1 Sportsman's Lane, Frankfort, Kentucky 40601, phone (502) 564-3400, fax (502) 564-9136.

COMMERCE CABINET
Department of Fish and Wildlife Resources
(As Amended at ARRS, May 8, 2007)

301 KAR 2:251. Hunting and trapping seasons and limits for furbearers [and small game].

RELATES TO KRS 150.025(1), 150.340, 150.370(1), 150.399, 150.400, 150.410, 150.990

STATUTORY AUTHORITY: KRS 150.025(1)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 150.025(1) authorizes the department to establish hunting seasons and to regulate bag and possession limits, the methods of taking and the devices used to take wildlife. This administrative regulation is necessary to ensure [insure] the permanent and continued supply of [small game and] furbearer species by protecting them from overharvest.

Section 1. Definitions. (1) "Body-gripping trap" means a commercially manufactured spring-loaded trap designed to kill the animal upon capture.

(2) "Dry land set" means a trap not set to drown an animal upon capture.

(3) "Foothold trap" means a commercially manufactured spring-loaded trap with smooth, metallic jaws that close upon an animal's foot.

(4) "Furbearers" mean mink, muskrat, beaver, raccoon, opossum, gray fox, red fox, weasels, river otter, bobcat, coyote and striped skunk.

(5) ["Hunter" means a person hunting small game or furbearers with gun, bow and arrow, dog, or by falconry.]

(6) "Modern gun deer season" means the season established by 301 KAR 2:172. [ten (10) day or sixteen (16) day period established by 301 KAR 2:172 during which hunters may take deer with breech-loading firearms.]

(6) ~~(7)~~ "Nonlocking snare" means a trap consisting of a wire, cable or string loop without a device to keep the loop from loosening.

(7) ~~(8)~~ "Small game" means squirrels, rabbits, quail or grouse.

(8) "Squirrel" means gray squirrel or fox squirrel.

(9) "Water set" means a trap set to drown an animal upon capture.

Section 2. Hunting and Trapping Seasons. Except as specified in 301 KAR 2 049 or 301 KAR 2.125, a person shall not take the following wildlife except during the dates specified in this section:

(1) Squirrel:

(a) The first Saturday in June for fourteen (14) consecutive days;

(b) The third Saturday in August through the last day of February, and

(c) The season shall be closed during the first weekend of modern gun deer season.

(2) Rabbits and quail:

(a) Western Zone: in the first and second wildlife districts, as specified in 301 KAR 4.010, the season shall be the Monday following the opening of modern gun season until February 10.

(b) Eastern Zone: in the third through the ninth wildlife districts, as specified in 301 KAR 4.010, the season shall be November 1st until January 31. The season shall be closed during the first weekend of modern gun deer season.

(3) Grouse: the Monday after the first weekend of modern gun deer season through the last day in February in Adair, Bath, Bell, Boyd, Bracken, Breathitt, Campbell, Carter, Clark, Clay, Clinton, Cumberland, Elliott, Estill, Fleming, Floyd, Garrard, Greenup, Harlan, Harrison, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lewis, Lincoln, McCreary, Madison, Magoffin, Martin, Mason, Menifee, Montgomery, Morgan, Nicholas, Owsley, Pendleton, Perry, Pike, Powell, Pulaski, Robertson, Rockcastle, Rowan, Russell, Wayne, Whitley, and Wolfe Counties.

(4) Furbearers, hunting and trapping:

(1) ~~(a)~~ Raccoon and opossum:

(a) ~~(1-)~~ Hunting - November 1 through noon the last day of February.

(a-) During the modern gun deer season, a raccoon or opossum hunter shall not:

1. Take raccoons or opossums ~~(1-)~~ Hunt during daylight hours, or

2. ~~(1-)~~ Carry a gun ~~(firearm)~~ except a 22 caliber rimfire gun ~~(firearm)~~.

(b) ~~(2-)~~ Trapping - noon the third day of the modern gun deer season through noon the last day of February.

(2) ~~(b)~~ Coyote:

(a) ~~(1-)~~ Hunting: year round.

(b) ~~(2-)~~ Trapping: noon the third day of modern gun deer season through noon the last day of February.

(3) ~~(c)~~ Bobcat:

(a) ~~(1-)~~ Hunting: noon the third Saturday in November through January 31.

(b) ~~(2-)~~ Trapping: noon the third day of the modern gun deer season through January 31.

(4) ~~(d)~~ All other furbearers: noon the third day of the modern gun deer season through noon, the last day of February.

(5) ~~(Small game and)~~ Furbearers taken by falconry: September 1 through March 30.

(6) There shall not be a closed season on:

(a) Chasing red and gray foxes ~~(and rabbits)~~ during daylight hours for sport and not to kill; and

(b) Chasing raccoons or opossums for sport and not to kill.

(7) ~~(Free youth week. For seven (7) consecutive days beginning on the Saturday after Christmas, a youth may take small game without a hunting licence. Statewide requirements and bag limits apply.~~

(8) Free youth ~~(trapping) week. For seven (7) consecutive days beginning on the Saturday after Christmas, a youth may hunt or trap furbearers without a hunting or trapping license ~~(or permit)~~. Statewide requirements and bag limits apply.~~

[Section 3. Small Game Bag and Possession Limits.

	Daily	Possession
Squirrels	6	12
Rabbits	4	8
Quail	8	16
Grouse	4	8

Section 3. ~~(4-)~~ Furbearer] Bag Limits. (1) There shall not be a bag limit on furbearers except bobcats, river otters, and those taken by falconry ~~(and river otters)~~.

(2) A person shall not take more than ~~five (5) [three (3)]~~ bobcats per season; only ~~three (3) bobcats may ~~(can)~~~~ be taken with a gun

(3) A person shall not take more than six (6) river otters per season.

(4) ~~[Section 5. Limits by Falconry.]~~ A falconer hunting within the falconry season but outside the dates specified in Section 2(1) through (4) ~~(6)~~ of this administrative regulation shall not take more than two (2) of any ~~furbearer. [small game or furbearer species, singly or in the aggregate per day.]~~

Section 4. Legal Hours of Take. ~~(6-)~~ Shooting Hours.] A person shall not take ~~(small game or)~~ furbearers by hunting except during the times specified in this section.

(1) Furbearers: daylight hours only, except raccoon and opossum. ~~[Small game or furbearers, except opossum and raccoon; daylight hours only.]~~

(2) Raccoon and opossum: day or night, except that a person shall not take raccoons or opossums ~~(hunt)~~ during daylight hours during the modern gun deer season.

Section 5. ~~(7-)~~ Use of Calls. A hunter may use a hand- or mouth-operated call, electronic call or attracting device.

Section 6. ~~(8-)~~ A hunter shall not possess buckshot.

Section 7. ~~(9-)~~ Raccoon and Opossum ~~(Hunting)~~ Restrictions.

(1) A hunter shall not use a light from a boat to take raccoon or opossum.

(2) Except as specified in subsection (3) of this section, a person chasing raccoon or opossum from noon, March 1 through October 31 shall not use or carry a:

(a) Gun ~~(firearm)~~;

(b) Slingshot;

(c) Tree climber;

(d) Squealer; or

(e) Similar device capable of killing, injuring or forcing a raccoon or opossum from a tree or den.

(3) A person participating in a department-approved raccoon dog trial sanctioned by one (1) of the following organizations may use a squealer:

(a) The American Coon Hunters Association;

(b) The American Kennel Club/American Coon Hunters Association;

(c) The National Kennel Club;

(d) The Professional Kennel Club;

(e) The United Coon Hunters Association; and

(f) The United Kennel Club.

Section 8. ~~(10-)~~ Trapping Methods. (1) ~~[Except for the bag limits listed in Section 4 of this administrative regulation for river otter and bobcat, there shall not be daily or possession limit on a furbearer taken by trapping.~~

(2) A person trapping on dry land shall not:

(a) Set traps closer than ten (10) feet apart; or

(b) Use a trap except a:

1. Deadfall;

2. Wire cage or box trap;

3. Foothold trap with a maximum inside jaw spread of six (6) inches measured perpendicular to the hinges;

4. Body-gripping trap with a maximum inside jaw spread of seven and one-half (7.5) inches measured parallel with the trigger; or

5. A nonlocking snare.

(2) ~~(3)~~ There shall be no restrictions on a trap used as a water

set.

(3) [(4)] A trap shall not be set in a trail or path commonly used by a human or a domestic animal.

(4) [(5)] A trapper may use lights from a boat or a vehicle.

Section 9, [44-] Harvest Recording. Immediately after taking a river otter or bobcat, a person shall:

(1) Record, in writing, the species, date taken, county where taken, and sex of the river otter or bobcat before moving the carcass from the site where taken. This information shall be logged and registered on one (1) of the following:

(a) Hunter's log section on the reverse side of a license or permit;

(b) Hunter's log produced in a hunting guide;

(c) Hunter's log printed from the Internet;

(d) Hunter's log available from any KDSS agent; or

(e) An index card or reasonable facsimile thereof; and

(2) Retain the completed hunter's log in his possession whenever the hunter is in the field during the current season.

Section 10, [42-] Checking a River Otter or Bobcat. (1) A person shall check a harvested river otter or bobcat by:

(a) Calling the toll free number listed in the current fall hunting and trapping guide on the day the river otter or bobcat is harvested;

(b) Providing the information requested by the automated check-in system; and

(c) Writing the confirmation number given by the system on the hunter's log described in Section 10 [41-] of this administrative regulation.

(2) If a harvested river otter or bobcat leaves the possession of a hunter and does not have a Convention on International Trade of Endangered Species of Flora and Fauna (CITES) tag attached to it, the hunter shall attach a handmade tag, which contains the confirmation number, hunter's name, and a phone number, to the carcass.

(3) A person shall not knowingly provide false information when completing the hunter's log, checking a river otter or bobcat, or creating a carcass tag.

(4) A person wishing to sell a river otter or bobcat pelt to a licensed fur processor, fur buyer or for export shall call the department's toll-free information number and request a CITES tag by providing:

(a) A valid confirmation number as described in subsection (1) of this section; and

(b) A street address where the tag is to be mailed.

(5) The CITES tag shall be attached to the skin or unskinned carcass per the instructions provided and remain with the pelt until processing.

(6) Possession of an unused CITES tag is prohibited unless authorized by the department.

Section 11, [43-] Transporting and Processing River Otter or Bobcat. (1) A person shall:

(a) Have proof that a river otter or bobcat or parts brought into Kentucky were legally taken;

(b) Not sell river otter or bobcat pelts except to a licensed:

1. Fur buyer;

2. Fur processor; or

3. Taxidermist.

(2) A taxidermist or other individual who commercially processes river otters [etter] and bobcats shall:

(a) Not accept river otter or bobcat carcasses or any part of a river otter or bobcat without a proper carcass tag or CITES tag described in Section 11 [42] of this administrative regulation; and

(b) Keep accurate records of the hunter's name, address, confirmation or CITES tag number, and date received for each river otter or bobcat in his possession.

[Section 14 - Pheasant Hunting. Dates, bag limits, and application procedures and hunting requirements are established in 301 KAR 2-049-]

MARK S. CRAMER, Deputy Commissioner

For JONATHAN GASSETT, Commissioner

GEORGE WARD, Secretary

APPROVED BY AGENCY: March 14, 2007

FILED WITH LRC: March 15, 2007 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Department for Environmental Protection

Division of Water

(As Amended at ARRS, May 8, 2007)

401 KAR 8:040. Laboratory certification.

RELATES TO: KRS 224.10-100, 224.10-110 [Chapter 224], 40 C.F.R. 141.28

STATUTORY AUTHORITY: KRS 224.10-100, 224.10-110(2), ~~42 U.S.C. Chapter 6A Subchapter XII, 40 C.F.R. 141.28 [Pub.L. 93-523, The Safe Drinking Water Act, as amended in 1986 and by the Lead Contamination and Control Act of 1988, Pub.L. 100-572, 42 U.S.C. A 300f, 300g, 300j]~~

NECESSITY, FUNCTION, AND CONFORMITY: KRS Chapter 224.10-110(2) ~~authorizes the Environmental and Public Protection~~ [directs the] Cabinet to enforce the statutes and administrative regulations ~~promulgated~~ [adopted] by the secretary for the regulation and control of the purification of water for public and semipublic use. ~~[The Safe Drinking Water Act, as amended by the Safe Drinking Water Act Amendments of 1986, provides for primary enforcement responsibility by states that have adopted regulations "no less stringent than the national primary drinking water regulations", as well as meeting other criteria stipulated by the Act. The Commonwealth of Kentucky has accepted and is currently exercising such primary enforcement responsibility.]~~ This administrative regulation ~~establishes~~ [provides] procedures ~~for certification of~~ [whereby] commercial or water system laboratories [may be certified] to test for various contaminant groups or constituents within a contaminant group.

Section 1. Laboratory Certification. (1) The U.S. Environmental Protection Agency or the cabinet shall [may] certify [all] public water systems or commercial laboratories performing analyses for public water systems. Contracting by the cabinet with a third party to evaluate laboratories and make recommendations for certification shall be in accordance with the "Manual for the Certification of Laboratories Analyzing Drinking Water: Criteria and Procedures Quality Assurance".

(3) ~~[The cabinet may choose to contract with a third party to evaluate laboratories and make recommendations to the cabinet for certification.]~~ Certification may be for one (1) or more contaminant groups or for a single constituent within a contaminant group. Each contaminant group shall require [requires] a different certification, but different certifications may be accomplished during one (1) inspection.

Section 2. Application. (1) Laboratories that apply for [which desire] certification shall submit a written request for the certification to the cabinet. The request shall include:

(a) A statement of the contaminant group for which certification is requested; and

(b) Payment of [The] annual fee specified in 401 KAR 8:050 for the contaminant group for which certification is requested.

(2) The cabinet may request other information necessary to determine suitability for certification as described in the "Manual for the Certification of Laboratories Analyzing Drinking Water: Criteria and Procedures Quality Assurance" [to furnish the cabinet with the data needed to determine suitability for certification].

Section 3. Standards. Laboratories shall be certified in accordance with the "Manual for the Certification of Laboratories Analyzing Drinking Water; Criteria and Procedures Quality Assur-

ance" [Fifth Edition, January 2005, incorporated by reference in Section 11 of this administrative regulation], and [other stipulations contained in] this administrative regulation.

Section 4. Performance Evaluations. Performance evaluations shall be performed for laboratories certified[,] or for those laboratories seeking certification to conduct chemical or bacteriological analyses[~~performance evaluations shall be performed~~]

Section 5. The cabinet shall certify [Certification of laboratories are performed by the cabinet for] all public water system laboratories or commercial laboratories performing analyses for public water systems. All analyses required by 401 KAR 8:010 through 8:700, inclusive, shall be performed in a certified laboratory and shall be in accordance with 40 C.F.R. Part 141 Subpart C, March 12, 2007 [methods approved for drinking water by the U.S. Environmental Protection Agency (US EPA) or by the cabinet]. Certifications shall [will] be performed on an annual basis with fees payable as set forth in 401 KAR 8:050.

Section 6. Public Water System Laboratories. (1) Public water systems may establish their own laboratories. These laboratories shall be properly certified and shall maintain annual certification.

(2) Failure to achieve or maintain annual certification shall not relieve the public water system of the responsibility for reporting results of the required analyses from a certified laboratory.

Section 7. Requirements. Maintenance of certification shall be dependent on the following factors:

(1) Analyses A certified laboratory shall perform an analysis for a contaminant group or constituent in accordance with the appropriate approved method found in "U.S. 40 C.F.R. 141.23(k)(1) March 25, 2003, and 141.24(e), October 29, 2002. [Approved methods for drinking water are found in "U.S. Environmental Protection Agency Drinking Water Methods" (40 C.F.R. 141.23 subpart k(1), March 25, 2003, and 141.24 subpart e, October 29, 2002), incorporated by reference in Section 11 of this administrative regulation.]

(2) Submittal of routine results. Except as provided in subsection (5) [(4)] of this section, results of analyses performed in certified laboratories by and for public water systems shall be submitted to the cabinet by the tenth day of the month following the specified testing period for which the samples were taken and shall be submitted to the public water system as soon as possible. The public water system shall be [is] responsible for this reporting requirement.

(3) [(2)] Performance evaluation. Performance evaluation (PE) samples shall be analyzed and the results shall be submitted to the cabinet at times specified in the "Manual for the Certification of Laboratories Analyzing Drinking Water: Criteria and Procedures Quality Assurance" [submitted to the cabinet at the cabinet's request], not to exceed twice a year, unless additional results are needed in accordance with the "Manual for the Certification of Laboratories Analyzing Drinking Water: Criteria and Procedures Quality Assurance" [the cabinet has reason to believe that quality assurance at a lab may be questionable]

(4) [(3)] Deviations. Any deviation from accepted practices specified in the "Manual for the Certification of Laboratories Analyzing Drinking Water: Criteria and Procedures Quality Assurance", listed on a report resulting from an on-site inspection, shall be corrected. A written explanation of the deviation and steps taken to correct it shall be submitted to the cabinet within thirty (30) days of the issuance of the inspection report.

(5) [(4)] Violations. The laboratory shall report any violation of maximum contaminant levels or other violation of tier one violations, as explained in 401 KAR 8:070, to the public water system and the cabinet within twenty-four (24) hours of sample analysis. The public water system shall begin check sampling within twenty-four (24) hours of notification of the violation.

(6) Emergency provision. [(5) Twenty-four (24) hour call:] Laboratories shall make provisions to receive and test samples twenty-four (24) hours a day during emergencies [provision for a twenty-four (24) hour emergency testing service].

[(6) Minimum microbiological requirements. Laboratories certi-

fied to perform microbiological testing shall run a minimum of twenty (20) microbiological samples per month. New laboratories shall meet this standard within six (6) months of certification. Any significant deviation from this standard may result in decertification.]

Section 8. Right of Entry. The certified lab shall permit the cabinet to conduct on-site surveys during normal business hours, without prior notification.

Section 9. Revocation of certification and downgrading of certification shall be in accordance with the procedures set forth in the "Manual for the Certification of Laboratories Analyzing Drinking Water: Criteria and Procedures Quality Assurance" [Fifth Edition, January 2005, incorporated by reference in Section 11 of this administrative regulation]. Laboratories which have been notified of a change of certification shall, within seventy-two (72) hours, notify public water systems which the laboratory serves[,] of the change in certification status and any impact that change could have on the public water system. These laboratories may provide monitoring reports by contracting with a certified laboratory that shall follow the "Manual for the Certification of Laboratories Analyzing Drinking Water: Criteria and Procedures Quality Assurance" [Laboratories may, with permission of the cabinet, and after notice to the public water system, fulfill their obligations to public water systems to provide monitoring reports by contracting with a certified laboratory].

Section 10. Recognition of Out-of-state Laboratories. (1) The cabinet may recognize laboratories outside of Kentucky upon submission of proof of Environmental Protection Agency certification, certification by a state having primary enforcement responsibility for the provisions of the Safe Drinking Water Act, 42 U.S.C. 300f et seq., or proof [such other proof that will satisfy the cabinet] that a laboratory has been certified pursuant to the Safe Drinking Water Act, 42 U.S.C. 300f et seq., requirements [as the cabinet may require].

(2) A [Any] Kentucky water system may enter into a contract with a certified out-of-state laboratory, if reporting time intervals and capabilities are maintained in accordance with the "Manual for the Certification of Laboratories Analyzing Drinking Water: Criteria and Procedures Quality Assurance".

(3) If on-site inspection shall be conducted [is necessary] for certification of out-of-state laboratories, the laboratories shall bear the cost.

Section 11. Incorporation by Reference (1) [All analyses required by 401 KAR 8:010 through 8:700, inclusive, shall be performed in a certified laboratory and shall be in accordance with methods approved for drinking water by the United States Environmental Protection Agency (US EPA) or by the cabinet. The following documents are incorporated by reference, and are available for inspection and copying subject to copyright laws, between 8 a.m. and 4:30 p.m., Monday through Friday, excluding state holidays, at the Division of Water, 14 Reilly Road, Frankfort Office Park, Frankfort, Kentucky 40601:

(1) Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985, prepared and jointly published by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation. This publication is printed, distributed and may be obtained by contacting the Publication Office, American Public Health Association, 1015 15th Street NW, Washington, D.C. 20005.

(2) "Manual for the Certification of Laboratories Analyzing Drinking Water: Criteria and Procedures Quality Assurance: Fifth Edition, January 2005", Publication EPA 815-R-05-004, [844B-92-002, September 1992,] U.S. EPA, Office of Drinking Water, Washington, D.C., is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Kentucky Division of Water, 14 Reilly Road, Frankfort, Kentucky, Monday through Friday, 8 a.m. to 4:30 p.m. [This publication may be obtained through the division.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 8, 2006
FILED WITH LRC: November 14, 2006 at 4 p.m.

CONTACT PERSON: Justin Dearing, Regulations Coordinator, Division of Water, Department for Environmental Protection, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-3410, fax (502) 564-0111.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Water
(As Amended at ARRS, May 8, 2007)

401 KAR 8:070. Public notification.

RELATES TO: KRS 224.10-100, 224.10-110, 40 C.F.R. 141.40, Part 141 Subpart Q Appendix A, 141.201-141.210, 143.3

STATUTORY AUTHORITY: KRS 224.10-100(30), 224.10-110(2), 40 C.F.R. 141.40, Part 141 Subpart Q Appendix A, 141.201-141.210, 42 U.S.C. Chapter 6A Subchapter XII [300f, 300g, 300h, 300j]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(30) and 224.10-110(2) authorize the Secretary of the Environmental and Public Protection Cabinet to promulgate administrative regulations for the regulation and control of the purification of water for public and semipublic use. This administrative regulation establishes the requirements for notification of the public if [when] a public water system violates a provision [provisions] of 401 KAR Chapter 8. Some provisions relating to the certification of a public notification may be considered more stringent than federal requirements. Those provisions relate to documenting how the public notification was performed and information to identify the water system and the violation for which the public notification was performed. The information is administrative only and is necessary so that the cabinet can ensure that the public is adequately notified of violations of the standards of 401 KAR Chapter 8.

Section 1. General Provisions. The owner or operator of a public water system in violation of a provision of 401 KAR Chapter 8 shall give public notice according to this administrative regulation.

(1)(a) The owner or operator of a public water system shall give notice for a violation of the standards in 401 KAR Chapter 8, and for other situations, as listed in this subsection.

(b) Appendix A to 40 C.F.R. [Part] 141, Subpart Q, [July 29, 2004] identifies the tier assignment for each specific violation or situation that requires a public notice. [Appendix A is adopted without change in Section 11 of this administrative regulation.]

1.(a) Violations of 401 KAR Chapter 8 [which] shall be:

a.[1-] Failure to comply with an applicable maximum contaminant level, or MCL, or maximum residual disinfectant level, or MRDL, as required by 401 KAR Chapter 8.

b.[2-] Failure to comply with a prescribed treatment technique, or TT, as required by 401 KAR Chapter 8;

c.[3-] Failure to perform water quality monitoring, as required by 401 KAR Chapter 8, and

d.[4-] Failure to comply with testing procedures as required [prescribed] by 401 KAR Chapter 8.

2. Variance[(b) Variance] and exemptions issued pursuant to 401 KAR 8:060 including:

a.[1-] Operation under a variance or an exemption issued pursuant to 401 KAR 8:060; and

b.[2-] Failure to comply with the requirements of a schedule that has been set under a variance or exemption issued pursuant to 401 KAR 8:060.

3.(e) Special public notices including:

a.(1)(a-) Occurrence of a waterborne disease outbreak, as defined in 401 KAR 8:010, or other waterborne emergency identified in Section 2(1)(f)1 through 3 of this administrative regulation;

(1)(b-) Exceedance of the nitrate MCL by a noncommunity water system[;] if granted permission by the cabinet under 401 KAR 8 250; [40 C.F.R. 141.11(d); and]

(1)(e-) Exceedance of the secondary maximum contaminant level, or SMCL, for fluoride; and

(f)(e-) Availability of unregulated contaminant monitoring data; and

b. Violation of other2- If the cabinet determines that a situation ~~violates the~~ provisions of 401 KAR Chapter 8 [the cabinet may require public notice pursuant to this administrative regulation].

(2)(a) Tiers. Three (3) tiers of public notifications shall be used to categorize [that take into consideration] the seriousness of the violation or situation and [of] potential adverse health effects that may be involved.

(b) The public notice requirements shall be determined by the tier to which the violation is assigned [it is assigned, as follows] Appendix A to 40 C.F.R. [Part] 141, Subpart Q, [July 29, 2004.] identifies the tier assignment for each specific violation or situation;

1.:

(a) Tier 1 public notice: for violations of 401 KAR Chapter 8 and situations with significant potential to have serious adverse effects on human health as a result of short-term exposure;

2.(b) Tier 2 public notice: for all other violations of 401 KAR Chapter 8 and situations with potential to have serious adverse effects on human health; and

3.(e) Tier 3 public notice: for all other violations of 401 KAR Chapter 8 requiring public notification and situations not included in Tier 1 or Tier 2.

(3) Notification.

(a) A public water system shall provide public notice to persons served by the water system in accordance with this administrative regulation.

1. A public water system that sells or otherwise provides drinking water to other public water systems, or consecutive water systems, shall give public notice to the owner or operator of the other system or consecutive system.

2. The consecutive system shall provide public notice to the persons it serves.

(b)1. If a public water system has a violation in a portion of the distribution system that is physically or hydraulically isolated from other parts of the distribution system, the system may limit distribution of the public notice to only persons served by that portion of the system that is out of compliance.

2. The system shall obtain written permission from the cabinet for limiting distribution before distributing the notice.

(c) Certification. After the public notification has been made, the public water system shall send a copy of the public notice and a certification of its distribution to the cabinet in accordance with the following requirements:

1. Within ten (10) days of completing the public notification requirements of this administrative regulation, the public water system shall submit to the cabinet for the initial public notice and any repeat notices, a certification that it has fully complied with the public notification requirements of this administrative regulation.

2. The certification shall include:

a. The public water system's name;

b. PWSID number;

c. The violation's monitoring period covered by the notice;

d. The violation number assigned by the cabinet and printed on the Notice of Violation, type of violation, and contaminants included in the violation;

e. An explanation of how the system distributed the public notification to its customers;

f. The names of the consecutive systems that were given public notice pursuant to paragraph (a)1 of this subsection and their PWSID numbers; and

g. A verification that the public notice contains the ten (10) elements required in a public notification, as specified in Section 5(1) of this administrative regulation.

3. The public water system shall include with the certification a copy of each type of notice distributed, published, posted, and made available to the persons served by the system and to the media. If printed in the newspaper, the page of the newspaper with the public notice shall be submitted[;] showing the name of the newspaper and the date it was published.

4. The certification shall be signed and dated by the person

responsible for preparing and distributing the public notice.

5. The system shall submit the certification and required documentation to the cabinet at the following address: Division of Water [Enforcement], ATTN: PN, 14 Reilly Road, Frankfort, Kentucky 40601.

(d) Record maintenance. The public water system shall retain a copy of each public notice issued pursuant to this administrative regulation and its certification pursuant to paragraph (c) of this subsection for at least three (3) years after its issuance.

Section 2. Tier 1 Public Notice; [-] Form, Manner, and Frequency. (1) Tier 1 notices shall be given for the following violation categories and other situations:

(a) 1. Violation of the MCL for total coliforms if fecal coliform or E. coli are present in the water distribution system, as specified in 401 KAR 8:200; or

2. If the water system fails to test for fecal coliforms or E. coli ~~after [when]~~ a repeat sample tests positive for coliform, as specified in 401 KAR 8:200;

(b) 1. Violation of the MCL for nitrate, nitrite, or total nitrate and nitrite, as specified in 401 KAR 8:250; or

2. If the water system fails to take a confirmation sample within twenty-four (24) hours of the system's receipt of the first sample result showing an exceedance of the nitrate or nitrite MCL, as specified in 401 KAR 8:250;

(c) Exceedance of the nitrate MCL by a noncommunity water system, if permitted to exceed the MCL by the cabinet under 401 KAR 8:250 [40 C.F.R. 141.11(d)], as allowed under Section (9) (9) of this administrative regulation;

(d) 1. Violation of the MRDL for chlorine dioxide, as specified in 401 KAR 8:510, if one (1) or more samples taken in the distribution system the day following an exceedance of the MRDL at the entrance of the distribution system exceeds the MRDL; or

2. If the water system does not submit the required results from samples collected [take the required samples] in the distribution system, as specified in 401 KAR 8:510;

(e) 1. Violation of treatment techniques specified [the surface water treatment rule] in 401 KAR 8:150, [or interim enhanced surface water treatment rule in] 401 KAR 8:160, and 401 KAR 8:162 [treatment technique requirement] resulting from a single exceedance of the maximum allowable turbidity limits, as identified in Appendix A to 40 C.F.R. [Part 141, Subpart Q, [July 29, 2004]], if the cabinet determines after consultation that a Tier 1 notice shall occur; or

2. If consultation with the cabinet does not occur within twenty-four (24) hours after the system learns of the violation.[-]

(f) Occurrence of a waterborne disease outbreak, as defined in 401 KAR 8:010, or other waterborne emergency, such as a:

1. Failure or significant interruption in key water treatment processes;

2. Natural disaster that disrupts the water supply or distribution system; or

3. Chemical spill or unexpected loading of possible pathogens into the source water that significantly increases the potential for drinking water contamination; and

(g) Other violations of 401 KAR Chapter 8 or situations described in 40 C.F.R. 141 Subpart Q, Appendix A, Endnote 21, November 8, 2006 [or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure].

(2) When Tier 1 notice required. A public water system shall:

(a) Provide a public notice of a Tier 1 violation as soon as practical but not [no] later than twenty-four (24) hours after the system learns of the violation;

(b) Initiate consultation with the cabinet as soon as practical, but not [no] later than twenty-four (24) hours after the public water system learns of the violation or situation, to determine additional public notice requirements; and

(c) Comply with additional public notification requirements, including repeat notices or direction on the duration of the posted notice, that are established as a result of [the] consultation and agreement with the cabinet. These requirements may include the timing, form, manner, frequency, and content of any repeat notices, and other actions designed to reach all persons served.

(3) Tier 1 notices,[-] form and manner.

(a) A public water system shall provide the Tier 1 public notice within twenty-four (24) hours in a form and manner reasonably calculated to reach all persons served.

(b) The form and manner of a Tier 1 public notice used by the public water system shall fit the specific situation, and shall be designed to reach residential, transient, and nontransient users of the water system.

(c) To reach all persons served, a water system shall use, at a minimum, one (1) or more of the following forms of delivery, as applicable to the system:

1. [Appropriate] Broadcast media,[-] such as radio and television;

2. Posting of the notice in conspicuous locations throughout the area served by the water system;

3. Hand delivery of the notice to persons served by the water system; or

4. Another delivery method that has been proposed by the public water system and approved in writing by the cabinet.

Section 3. Tier 2 Public Notice;[-] Form, Manner, and Frequency of Notice. (1) Tier 2 public notices shall be given for the following violation categories and other situations:

(a) A violation of the MCL, MRDL, and treatment technique requirements, unless a Tier 1 notice is required under Section 2 of this administrative regulation, or a Tier 1 notice is required pursuant to 40 C.F.R. 141.203, November 8, 2006 [or the cabinet determines that a Tier 1 notice is required];

(b) A violation of the monitoring and testing procedure requirements, if a Tier 2 rather than a Tier 3 public notice is required pursuant to 40 C.F.R. 141.203, November 8, 2006 [the cabinet determines that a Tier 2 rather than a Tier 3 public notice is required, taking into account potential health impacts and persistence of the violation]; and

(c) Failure to comply with the terms and conditions of a variance or exemption in place.

(2) When Tier 2 notice required.

(a) Initial notice.

1. A public water system shall provide public notice of a Tier 2 violation as soon as practical, but not [no] later than thirty (30) days after the system learns of the violation.

2. If the public notice is posted, the notice shall remain in place while the violation or situation persists, but for not [no] less than seven (7) days, even if the violation or situation is resolved.

3.a. Except as provided in clause b of this subparagraph, additional time may be granted in accordance with 40 C.F.R. 141.023, November 8, 2006 [the cabinet may allow additional time] for the initial notice of up to three (3) months from the date the system learns of the violation.

b. The cabinet shall not:

(i) Grant an extension to the thirty (30) day deadline for an unresolved violation; or

(ii) Allow comprehensive [across-the-board] extensions for other violations or situations that require a Tier 2 public notice.

c. Extensions granted by the cabinet shall be in writing.

(b) Repeat notice.

1. The public water system shall repeat the notice every three (3) months while the violation or situation persists, unless the cabinet determines in writing that appropriate circumstances warrant a less frequent repeat notice.

2. The repeat notice shall not be given less frequently than once per year.

3. The system shall not give less frequent repeat notice for:

a. An MCL violation under the total coliform rule; or

b. A treatment technique violation under the federal Surface Water Treatment Rule, 40 C.F.R. 141.70 to 141.75, June 29, 2004 [(December 31, 1990)], [or] Interim Enhanced Surface Water Treatment Rule 40 C.F.R. 141.70 to 141.75, June 29, 2004 [(December 16, 1998)], or Long Term 1 Enhanced Surface Water Treatment Rule 40 C.F.R. 141.500 to 141.571, June 29, 2004 [(January 14, 2002)].

4. There shall not be comprehensive [no-across-the-board] reductions in the repeat notice frequency for other ongoing violations that require a Tier 2 repeat notice.

5. Cabinet determinations allowing repeat notices to be given less frequently than once every three (3) months shall be in writing.

(c) Turbidity violations.

1. Criteria for a violation of the treatment technique requirement resulting from a single turbidity limit exceedance shall be as described in 40 C.F.R. 141 Subpart Q, Appendix A, May 4, 2000. The system shall consult with the cabinet for a violation of the treatment technique requirement from the surface water treatment rule or interim or long term 1 enhanced surface water treatment rule, resulting from a single exceedance of the maximum allowable turbidity limit.

2. For a turbidity violation specified in subparagraph 1 of this paragraph, a public water system shall consult with the cabinet as soon as practical, but not [ne] later than twenty-four (24) hours after the public water system learns of the violation, to determine if a Tier 1 public notice under Section 2 of this administrative regulation shall be [ie] required to protect public health. Conditions under which a Tier 1 public notice shall be required in conjunction with cabinet consultation shall be as established in 40 C.F.R. 141 Subpart Q, Appendix A, May 4, 2000.

3. If consultation does not take place within the twenty-four (24) hour period, the water system shall distribute a Tier 1 notice of the violation within the next twenty-four (24) hours, which shall not be [ne] later than forty-eight (48) hours after the system learns of the violation, following the requirements under Section 2(2) and (3) of this administrative regulation.

(3) Tier 2 notices,[-] form and manner. A public water system shall provide the initial public notice and repeat Tier 2 notices in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of water system, but it shall meet at least the following requirements:

(a) Community water system. A community water system shall provide notice by:

1. Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the public water system; and

2.a. Other methods reasonably calculated to reach other persons regularly served by the system, if they may [would] not normally be reached by the notice required in subparagraph 1 of this paragraph. These persons may include those who do not pay water bills or do not have service connection addresses, for example, house renters, apartment dwellers, university students, nursing home patients, prison inmates, etc.

b. Other methods may include:

(i) Publication in a local newspaper;

(ii) Delivery of multiple copies for distribution by customers who provide their drinking water to others, for instance apartment building owners or large private employers;

(iii) Posting in public places served by the system or on the Internet; or

(iv) Delivery to community organizations.

(b) Noncommunity water system. A noncommunity water system shall provide notice by:

1. Posting the notice in conspicuous locations throughout the distribution system frequented by persons served by the system, or by mail or direct delivery to each customer and service connection, if known; and

2.a. Other methods reasonably calculated to reach other persons served by the system if they may [would] not normally be reached by the notice required in subparagraph 1 of this paragraph. Those persons may include those served who may not see a posted notice because the posted notice is not in a location they routinely pass by.

b. Other methods may include:

(i) Publication in a local newspaper or newsletter distributed to customers;

(ii) Use of e-mail to notify employees or students; or

(iii) Delivery of multiple copies in central locations, for example, community centers.

(c) Upon written request from the water system, a different form and manner of public notice may be allowed pursuant to 40 C.F.R. 141.204, June 21, 2000 [the cabinet may allow a differ-

ent form and manner of public notice].

Section 4. Tier 3 Public Notice;[-] Form, Manner, and Frequency of Notice. (1) The following violations or situations shall require a Tier 3 public notice:

(a) A monitoring violation under 401 KAR Chapter 8, except that required to be a Tier 1 or Tier 2 violation under Section 2 or 3 of this administrative regulation;

(b) Failure to comply with a testing procedure established in 401 KAR Chapter 8, unless a Tier 1 notice is required by Section 2 of this administrative regulation;

(c) Operation under a variance or an exemption granted under 401 KAR 8 060; [and]

(d) Availability of unregulated contaminant monitoring results, as required under Section 7 of this administrative regulation; and

(e) Exceedance of the fluoride secondary maximum contaminant level, as required under Section 8 [7] of this administrative regulation.

(2) When Tier 3 notice provided.

(a)1. Initial notice. A public water system shall provide public notice of a Tier 3 violation not [ne] later than one (1) year after the public water system learns of the violation or situation or begins operating under a variance or exemption.

2. Repeat notice.

a. Following the initial notice, the public water system shall repeat the notice annually while the violation, variance, exemption, or other situation persists.

b. If the public notice is posted, the notice shall remain in place while the violation, variance, exemption, or other situation persists, but for not [ne] less than seven (7) days, even if the violation or situation is resolved.

(b) Instead of individual Tier 3 public notices, a public water system may use an annual report detailing all violations and situations that occurred during the previous twelve (12) months, if the timing requirements of paragraph (a) of this subsection are met.

(3) Tier 3 notices,[-] form and manner. A public water system shall provide the initial notice and any repeat notices of a Tier 3 violation in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of water system, but it shall meet at least the following requirements:

(a) Community water system. A community water system shall provide notice by:

1. Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the public water system; and

2.a. Other methods reasonably calculated to reach other persons regularly served by the system, if they may [would] not normally be reached by the notice required in subparagraph 1 of this paragraph. These persons may include those who do not pay water bills or do not have service connection addresses, for instance house renters, apartment dwellers, university students, nursing home patients, prison inmates, etc.

b. Other methods may include.

(i) Publication in a local newspaper;

(ii) Delivery of multiple copies for distribution by customers who [that] provide their drinking water to others, for example apartment building owners or large private employers;

(iii) Posting in public places or on the Internet; or

(iv) Delivery to community organizations.

(b) Noncommunity water system. A noncommunity water system shall provide notice by:

1. Posting the notice in conspicuous locations throughout the distribution system frequented by persons served by the system, or by mail or direct delivery to each customer and service connection, if known; and

2. Other methods reasonably calculated to reach other persons served by the system, if they may [would] not normally be reached by the notice required in subparagraph 1 of this paragraph. These persons may include those who may not see a posted notice because the notice is not in a location they routinely pass by. Other methods may include:

a. Publication in a local newspaper or newsletter distributed to

customers;

b. Use of e-mail to notify employees or students; or

c. Delivery of multiple copies in central locations, for instance community centers.

(c) Upon written request from the water system, a different form and manner of public notice may be allowed pursuant to 40 C.F.R. 141.204, June 21, 2000 ~~(the cabinet may allow a different form and manner of public notice).~~

(4) Alternative delivery method. For a community water system, the consumer confidence report required by 401 KAR 8:075 may be used as a vehicle for only the initial Tier 3 public notice and all required repeat notices, if:

(a) The report is provided to persons served not ~~(re)~~ later than twelve (12) months after the system learns of the violation or situation as required in subsection (2) of this section;

(b) The Tier 3 notice contained in the system's report meets the content requirements in Section 5 of this administrative regulation;

(c) The report is distributed following the delivery requirements in subsection (3) of this section; and

(d) The system submits a separate certification of the public notification as required by Section 1 of this administrative regulation and a certification of the report as required by 401 KAR 8:075, Section 5 [4].

Section 5. Public Notice Contents. (1) Each public notice required by Section 1 of this administrative regulation shall include the following elements:

(a) A description of the violation or situation, including the contaminants of concern, and as applicable, the contaminant levels;

(b) When the violation or situation occurred;

(c) The potential adverse health effects from the violation or situation, including the standard language under subsection (4)(a) or (b) of this section, whichever is applicable;

(d) The population at risk, including subpopulations particularly vulnerable if exposed to the contamination in their drinking water;

(e) If alternative water supplies should be used,

(f) What actions consumers should take, including if ~~when~~ they should seek medical help, if known;

(g) What the water system is doing to correct the violation or situation;

(h) When the water system expects to return to compliance or resolve the situation;

(i) The name, business address, and phone number of the water system owner, operator, or designee of the public water system as a source of additional information concerning the notice; and

(j) A statement to encourage the notice recipient to distribute the public notice to other persons served, using the standard language in subsection (4)(c) of this section, if applicable.

(2) Exemption or variance. A public water system operating under a variance or exemption shall include the following information in a public notice.

(a) If a public water system has been granted a variance or an exemption, the public notice shall contain:

1. An explanation of the reasons for the variance or exemption;

2. The date on which the variance or exemption was issued;

3. A brief status report on the steps the system is taking to install treatment, find alternative sources of water, or otherwise comply with the terms and schedules of the variance or exemption; and

4. A notice of opportunity, including language described in 40 C.F.R. 205(b)(iv), May 4, 2000, for public input in the review of the variance or exemption.

(b) If a public water system violates the conditions of a variance or exemption, the public notice shall contain the ten (10) elements listed in subsection (1) of this section.

(3) Presentation. A public notice required by Section 1 of this administrative regulation shall.

(a) Be displayed in a conspicuous way if ~~when~~ printed or posted;

(b) Not contain overly-technical language or very small print as described in 40 C.F.R. 141.205(c)(1)(ii), May 4, 2000;

(c) Be formatted in a simple manner to provide clarity;

(d) Use common language understandable by the general population that supports ~~(Not be formatted in a way that defeats the purpose of the notice;~~

~~(d) Not contain language that nullifies~~ the purpose of the notice; and

(e) Comply with the following multilingual requirement:

1. The public notice shall contain information in an appropriate language to reach a large proportion of non-English speaking consumers regarding the importance of the notice or contain a telephone number or address so that persons served by the system may contact the water system to obtain a translated copy of the notice or to request assistance in the ~~[appropriate]~~ language

2. If the cabinet has not determined what constitutes a large proportion of non-English speaking consumers pursuant to 40 C.F.R. 141.205(c)(2), May 4, 2000, the public water system shall include in the public notice the same information required in subparagraph 1 of this paragraph, ~~[as appropriate]~~ to reach a large proportion of non-English speaking persons served by the water system.

(4) Standard language. A public water system shall include the following standard language in its public notice:

(a) Standard health effects language for an MCL or MRDL violation, treatment technique violation, or ~~and~~ violation of the conditions of a variance or exemption. A public water system shall include in each public notice the health effects language specified in Section 11 [49] of this administrative regulation corresponding to each MCL, MRDL, and treatment technique violation listed in Appendix A to 40 C.F.R. Part 141, Subpart Q, ~~[July 29, 2006]~~, and for each violation of a condition of a variance or exemption.

(b) Standard language for monitoring and testing procedure violations. A public water system shall include the following language in its notice, including the language necessary to complete the information in the braces, for all monitoring and testing procedure violations listed in Appendix A to 40 C.F.R. Part 141, Subpart Q, ~~[July 29, 2006]~~: "We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During {compliance period} we {"did not monitor or test" or "did not complete all monitoring or testing"} for {contaminants}, and therefore cannot be sure of the quality of your drinking water during that time".

(c) Standard language to encourage the distribution of the public notice to all persons served. A public water system shall include in its notice the following language, if applicable: "Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail."

Section 6. New Billing Units or Customers. (1) A community water system shall give a copy of the most recent public notice for any continuing violation, the existence of a variance or exemption, or other ongoing situations requiring a public notice to all new billing units or new customers before or when service begins.

(2) A noncommunity water system shall continuously post the public notice in conspicuous locations to inform new consumers of a continuing violation, variance or exemption, or other situation requiring a public notice while the violation, variance, exemption, or other situation persists.

Section 7. Special Notice of Unregulated Contaminant Monitoring Results Availability. (1) The owner or operator of a community or nontransient noncommunity water system [that is] required to monitor under 40 C.F.R. 141.40 (October 29, 2002) shall notify the persons served by the system of the availability of the results of the sampling not [re] later than twelve (12) months after the monitoring results are known.

(2) The form and manner of the public notice required by subsection (1) of this section shall follow the requirements for a Tier 3 public notice prescribed in Section 4(3), (4)(a), (c), and (d) of this administrative regulation. The notice shall also identify a contact person and provide the telephone number to call [contact] for in-

formation on the monitoring results.

Section 8. Special Notice for Fluoride Exceedance. (1)(a) A community water system that exceeds the fluoride secondary maximum contaminant level of two (2) mg/l as specified in 401 KAR 8:600, as determined by the last single sample taken in accordance with 401 KAR 8:250, but does not exceed the maximum contaminant level of four (4) mg/l for fluoride, as specified in 401 KAR 8:250, shall provide the public notice in subsection (3) of this section to persons served by the system.

(b) Public notice shall be provided as soon as practical but ~~not~~ [re] later than twelve (12) months from the date the water system learns of the exceedance.

(c) A copy of the notice shall also be sent to all new billing units and new customers when service begins and to the public health officer of the Cabinet for Health and Family Services.

(d) The public water system shall repeat the notice at least annually while the secondary MCL is being exceeded.

(e) If the public notice is posted, the notice shall remain in place while the secondary MCL is being exceeded, but for ~~not~~ [re] less than seven (7) days, even if the exceedance is eliminated.

(f) Initial notices shall be issued pursuant to 40 C.F.R. 141.208, November 8, 2006 [The cabinet may require an initial notice] sooner than twelve (12) months and repeat notices more frequently than annually, if necessary to notify the customers of an exceedance.

(2) Form and manner. The form and manner of the special public notice required by this section, including repeat notices, shall follow the requirements for a Tier 3 public notice in Section 4(3), (4)(a), [and] (c), and (d) of this administrative regulation.

(3) The notice shall contain the following mandatory language, including the language necessary to complete the information in the braces: "This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/l) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). The drinking water provided by your community water system {name} has a fluoride concentration of {insert value} mg/l.

"Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water.

"Drinking water containing more than 4 mg/l of fluoride (The U.S. Environmental Protection Agency's drinking water standard) can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/l of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/l because of this cosmetic dental problem.

"For more information, please call {name of water system contact} of {name of community water system} at {phone number}. Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP."

Section 9. [8-] Special Notice for Specific Nitrate Exceedances. (1) The owner or operator of a noncommunity water system that has [been granted] permission [by the cabinet] to exceed the nitrate MCL under 401 KAR 8:250 [40 C.F.R. 141.14(d)] shall provide notice to persons served according to the requirements for a Tier 1 notice under Section 2(1) and (2) of this administrative regulation.

(2) A noncommunity water system granted permission by the cabinet to exceed the nitrate MCL under 401 KAR 8:250 [40 C.F.R. 141.14(d)] shall provide continuous posting of the fact that nitrate levels exceed ten (10) mg/l and the potential health effects of ex-

posure, according to the requirements for a Tier 1 notice delivery under Section 2(3) of this administrative regulation and the content requirements in Section 5 of this administrative regulation.

Section 10. [9-] Notice by Cabinet. (1) The cabinet may give the notice required by this administrative regulation on behalf of the owner and operator of the public water system if the cabinet complies with the requirements of this administrative regulation.

(2) The owner or operator of the public water system shall comply with [remain responsible for ensuring that the] requirements of this administrative regulation [are met], even if the cabinet provides the notice on behalf of the owner and operator.

Section 11. [40-] Standard Health Effects Language. In its public notice of a violation required by Section 1 of this administrative regulation, a public water system shall provide the following health effects language for the indicated contaminant:

(1) Microbiological contaminants.

(a) Total coliform. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

(b) Fecal coliform, E. coli. Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

(c) Turbidity. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

(d) Giardia lamblia, viruses, heterotrophic plate count bacteria, Legionella, or Cryptosporidium. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

(2) Inorganic chemicals.

(a) Antimony. Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.

(b) Arsenic. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

(c) Asbestos. Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.

(d) Barium. Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

(e) Beryllium. Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.

(f) Cadmium. Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.

(g) Chromium, total. Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.

(h) Cyanide. Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.

(i) Fluoride. Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine (9) years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they

erupt from the gums.

(j) Mercury, inorganic. Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.

(k) Nitrate. Infants below the age of six (6) months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

(l) Nitrite. Infants below the age of six (6) months who drink water containing nitrite in excess of the MCL could become seriously ill, and if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

(m) Total nitrate and nitrite. Infants below the age of six (6) months who drink water containing nitrate and nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

(n) Selenium. Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.

(o) Thallium. Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.

(3) Lead and copper.

(a) Lead. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

(b) Copper. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

(4) Synthetic organic chemicals.

(a) 2,4-D. Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.

(b) 2,4,5-TP, Silvex. Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.

(c) Alachlor. Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.

(d) Atrazine. Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.

(e) Benzo(a)pyrene, PAHs. Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.

(f) Carbofuran. Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.

(g) Chlordane. Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.

(h) Dalapon. Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.

(i) Di (2-ethylhexyl) adipate. Some people who drink water containing di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience toxic effects such as weight loss, liver enlargement, or possible reproductive difficulties.

(j) Di (2-ethylhexyl) phthalate. Some people who drink water containing di (2-ethylhexyl) phthalate well in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting

cancer.

(k) Dibromochloropropane or DBCP. Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.

(l) Dinoseb. Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.

(m) Dioxin, 2,3,7,8-TCDD. Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.

(n) Diquat. Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.

(o) Endothal. Some people who drink water containing endothal in excess of the MCL over many years could experience problems with their stomach or intestines.

(p) Endrin. Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.

(q) Ethylene dibromide. Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.

(r) Glyphosate. Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.

(s) Heptachlor. Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.

(t) Heptachlor epoxide. Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.

(u) Hexachlorobenzene. Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.

(v) Hexachlorocyclopentadiene. Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.

(w) Lindane. Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.

(x) Methoxychlor. Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.

(y) Oxamyl, or vydate. Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.

(z) Pentachlorophenol. Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.

(aa) Picloram. Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.

(bb) Polychlorinated biphenyls, or PCBs. Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thyroid gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.

(cc) Simazine. Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.

(dd) Toxaphene. Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.

(5) Volatile organic chemicals.

(a) Benzene. Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.

(b) Carbon tetrachloride. Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.

(c) Chlorobenzene, or monochlorobenzene. Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.

(d) o-Dichlorobenzene. Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.

(e) p-Dichlorobenzene. Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.

(f) 1,2-Dichloroethane. Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.

(g) 1,1-Dichloroethylene. Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.

(h) cis-1,2-Dichloroethylene. Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.

(i) trans-1,2-Dichloroethylene. Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.

(j) Dichloromethane. Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.

(k) 1,2-Dichloropropane. Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.

(l) Ethylbenzene. Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.

(m) Styrene. Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.

(n) Tetrachloroethylene. Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.

(o) Toluene. Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.

(p) 1,2,4-Trichlorobenzene. Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.

(q) 1,1,1-Trichloroethane. Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.

(r) 1,1,2-Trichloroethane. Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.

(s) Trichloroethylene. Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.

(t) Vinyl chloride. Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.

(u) Xylenes, total. Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.

(6) Radioactive contaminants.

(a) Beta or photon emitters. Certain minerals are radioactive

and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.

(b) Alpha emitters. Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

(c) Combined radium, 226 and 228. Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

(d) Uranium, for a community water system. Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.

(7) Disinfection by-products, by-product precursors, and disinfectant residuals.

(a) Total trihalomethanes, or TTHMs. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

(b) Haloacetic acids, or HAA. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

(c) Bromate. Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.

(d) Chlorite. Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.

(e) Chlorine. Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.

(f) Chloramines. Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.

(g) Chlorine dioxide.

1. If any two (2) consecutive daily samples taken at the entrance to the distribution system are above the MRDL:

a. Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.

b. Add for public notification only: The chlorine dioxide violations reported today are the result of exceedances at the treatment facility only, not within the distribution system which delivers water to consumers. Continued compliance with chlorine dioxide levels within the distribution system minimizes the potential risk of these violations to consumers.

2. If one (1) or more distribution system samples are above the MRDL for chlorine dioxide:

a. Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.

b. Add for public notification only: The chlorine dioxide violations reported today include exceedances of the EPA standard within the distribution system which delivers water to consumers. Violations of the chlorine dioxide standard within the distribution system may harm human health based on short-term exposures. Certain groups, including fetuses, infants, and young children, may be especially susceptible to nervous system effects from excessive chlorine dioxide exposure.

(h) Control of DBP precursors, or TOC. Total organic carbon, or TOC, has no health effects. However, total organic carbon provides a medium for the formation of disinfection by-products.

These by-products include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

(8) Other treatment techniques.

(a) Acrylamide. Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.

(b) Epichlorohydrin. Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.

~~[Section 11. Federal Regulation Adopted Without Change. (1) Appendix A to 40 C.F.R. Part 141, Subpart C, "NPDWR Violations and Other Situations Requiring Public Notice", as of July 1, 2003, is adopted without change. It is published by the U.S. Government Printing Office, 732 N. Capitol Street, NW, Washington, DC 20401.~~

~~(2) The provisions of the public notification rule related to the public notification here shall be governed by Appendix A.]~~

LLOYD R. CRESS, Deputy Secretary
 For TERESA J. HILL, Secretary
 APPROVED BY AGENCY: February 14, 2007
 FILED WITH LRC: February 15, 2007 at noon
 CONTACT PERSON: Justin Dearinger, Regulations Coordinator, Division of Water, Department for Environmental Protection, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-3410, fax (502) 564-0111.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Water
 (As Amended at AHRs, May 8, 2007)

401 KAR 8:075. Consumer confidence reports.

RELATES TO. KRS 224.10-100, 224.10-110, 40 C.F.R. 141.25(e), 141.40 [141.142, 141.143], 141.151-141.155, 42 U.S.C. Chapter 6A Subchapter XII [300f, 300g, 300h, 300j]

STATUTORY AUTHORITY: KRS 224.10-100(30), 224.10-110(2), 40 C.F.R. 141.25(c), 141.25(e), 141.40 [141.142, 141.143], 141.151-141.155, 42 U.S.C. Chapter 6A Subchapter XII [300f, 300g, 300h, 300j]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(30) and 224.10-110(2) authorize the Secretary of the Environmental and Public Protection Cabinet to promulgate administrative regulations for the regulation and control of the purification of water for public and semipublic use. This administrative regulation establishes the requirements for consumer confidence reports. This administrative regulation establishes requirements different from the federal regulation for reporting and recordkeeping to ensure that accurate reports shall be [are] prepared and distributed to customers by specified dates, and for content and distribution requirements to ensure that a precise and clear report shall be [is] distributed to customers.

Section 1. Applicability. (1)(a) In addition to the requirements in [Notwithstanding] 401 KAR 8:020, Section 2, a community water system shall submit an annual report to its customers and to the cabinet according to the requirements in this administrative regulation.

(b) The report shall contain information on the quality of the water delivered by the system and shall characterize the risks from exposure to contaminants detected in the drinking water in an accurate and understandable manner.

(2)(a) An existing community water system shall deliver its report to its customers and to the cabinet by July 1 of each year.

(b) The report shall contain data prescribed by Section ~~2(3)(2)~~ ~~(3)~~ (c) of this administrative regulation collected during or before the previous calendar year.

(3) A new community water system shall deliver its first report to its customers and to the cabinet by July 1 of the year after its first full calendar year in operation. Subsequent reports shall be delivered by July 1 of each year.

(4) A community water system that sells water wholesale to another community water system shall deliver the applicable information required in Section 2 of this administrative regulation to the buyer system:

(a) By April 1 of each year; or

(b) On a date mutually agreed upon by the seller and the purchaser. The date shall be specifically included in a contract between the parties.

Section 2. Report Contents. The report required by this administrative regulation shall contain the information specified in this section and Section 3 of this administrative regulation. The report shall include the name of the water system near the top of the report[,] or on the front cover.

(1) Information on the source of the water delivered:

(a) The report shall identify each source of the water delivered by providing information on:

1. The type of water, either surface water, groundwater, or other specified water type; and

2. The commonly used name and location of the body of water.

(b)1. If a source water assessment has been completed, the report shall notify consumers of the availability of the information and how to obtain it. A system may highlight in the report significant sources of contamination in the source water area.

2. If the cabinet has performed a source water assessment of the system, the report shall include a brief summary of the system's susceptibility to potential sources of contamination, using language provided by the cabinet or written by the operator.

(2) Definitions. The report shall contain the definitions found in 401 KAR 8:010 for the following terms.

(a) Maximum contaminant level goal, or MCLG;

(b) Maximum contaminant level, or MCL;

(c) Variance and exemption, if the system is operating under a variance or an exemption issued under 401 KAR 8:060; and

(d) Treatment technique;[,] action level;[,] maximum residual disinfectant level goal, or MRDLG;[,] or maximum residual disinfectant level, or MRDL, as applicable;[,] if the report contains data on a contaminant for which the U.S. EPA has set a treatment technique, action level, MRDLG, or MRDL.

~~(3) [Definitions. The report shall contain the definitions found in 401 KAR 8:010 for the following terms.~~

~~(a) Maximum contaminant level goal, or MCLG;~~

~~(b) Maximum contaminant level, or MCL;~~

~~(c) Variance and exemption, if the system is operating under a variance or an exemption issued under 401 KAR 8:060; and~~

~~(d) Treatment technique, action level, maximum residual disinfectant level goal or MRDLG, or maximum residual disinfectant level or MRDL, as applicable, if the report contains data on a contaminant for which the U.S. EPA has set a treatment technique, action level, MRDLG, or MRDL.~~

~~(3) Information on detected contaminants.~~

~~(a) The report shall contain information on the following contaminants [that are] detected in the water, subject to mandatory monitoring, except Cryptosporidium:~~

~~1. The regulated contaminants [that are] subject to an MCL, action level, maximum residual disinfectant level, or treatment technique; and~~

~~2. The unregulated contaminants for which monitoring is required by 40 C.F.R. 141.40. [(October 29, 2002)] [Disinfection by-products or microbial contaminants for which monitoring is required by 40 C.F.R. 141.142 and 141.143, except as provided under subsection (4)(a) of this section, and that are detected in the finished water].~~

(b) The data relating to the contaminants in paragraph (a) of this subsection shall be displayed in one (1) table or several adjacent tables. If a community water system includes in the report other monitoring results including a nondetected contaminant, the results shall be displayed separately.

(c) The data shall be derived from data collected to comply with cabinet and U.S. EPA monitoring and analytical requirements

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during the previous calendar year except [that:

1.] If a system is allowed to monitor for regulated contaminants less often than once a year then:

1. [a-] The table shall include the date and results of the most recent sampling.

2. [b-] The report shall include a brief statement indicating that the data presented in the report are from the most recent testing done in accordance with the administrative regulations in 401 KAR Chapter 8.

3. [e-] Data [that are] older than five (5) years may be reported.

[2. Results of monitoring in compliance with 40 C.F.R. 141.142 and 141.143 shall be included for only five (5) years from the date of the last sample or until the detected contaminant becomes regulated and subject to routine monitoring requirements, whichever occurs first.]

(d) For detected regulated contaminants listed in Table A in this paragraph, the table in the report shall contain the information required in subparagraphs 1 to 10 of this paragraph.

Table A. Converting MCL Compliance Values for Consumer Confidence Reports				
Contaminant	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR Units	MCLG in CCR Units
Microbiological contaminants				
Total coliform bacteria	For a system that collects ≥ 40 samples per month: 5% of monthly samples are positive; For a system that collects < 40 samples per month: 1 positive monthly sample		For a system that collects ≥ 40 samples per month: 5% of monthly samples are positive; For a system that collects < 40 samples per month: 1 positive monthly sample	0
Fecal coliform and E. coli	0		0	0
Total organic carbon	TT, ppm		TT, ppm	n/a
Turbidity	TT, NTU		TT, NTU	n/a
Radioactive contaminants				
Beta or photon emitters	4 mrem/yr**		4 mrem/yr**	0
Alpha emitters	15 pCi/l		15 pCi/l	0
Combined radium	5 pCi/l		5 pCi/l	0
Uranium	30 µg/L		30 µg/L	0
Inorganic contaminants				
Antimony	.006	1000	6 ppb	6
Arsenic, until January 23, 2006; After January 23, 2006	.05 .010	1000 1000	50 ppb 10 ppb	n/a 0
Asbestos	7 MFL		7 MFL	7
Banum	2		2 ppm	2
Beryllium	.004	1000	4 ppb	4
Bromate	.010	1000	10 ppb	0
Cadmium	.005	1000	5 ppb	5
Chloramines	MRDL = 4		MRDL = 4 ppm	MRDLG = 4
Chlorine	MRDL = 4		MRDL = 4 ppm	MRDLG = 4
Chlorine dioxide	MRDL = .8	1000	MRDL = 800 ppb	MRDLG = 800
Chlorite	1		1 ppm	0.8
Chromium	.1	1000	100 ppb	100
Copper	AL = 1.3		AL = 1.3 ppm	1.3
Cyanide	.2	1000	200 ppb	200
Fluoride	4		4 ppm	4
Lead	AL = .015	1000	AL = 15 ppb	0
Mercury, inorganic	.002	1000	2 ppb	2
Nitrate	10		10 ppm	10
Nitrite	1		1 ppm	1
Selenium	.05	1000	50 ppb	50
Thallium	.002	1000	2 ppb	0.5
Synthetic organic contaminants including pesticides and herbicides				
2,4-D	.07	1000	70 ppb	70
2,4,5-TP, Silvex	.05	1000	50 ppb	50
Acrylamide	TT		TT	0
Alachlor	.002	1000	2 ppb	0
Atrazine	.003	1000	3 ppb	3
Benzo(a)pyrene, or PAH	.0002	1,000,000	200 nanogram/L, or ppt	0
Carbofuran	.04	1000	40 ppb	40
Chlordane	.002	1000	2 ppb	0
Dalapon	.2	1000	200 ppb	200
Di(2-ethylhexyl) adipate	.4	1000	400 ppb	400
Di(2-ethylhexyl) phthalate	.006	1000	6 ppb	0
Dibromochloropropane	.0002	1,000,000	200 ppt	0
Dinoseb	.007	1000	7 ppb	7
Diquat	.02	1000	20 ppb	20
Dioxin, 2,3,7,8-TCDD	.00000003, or 3.0 X 10 ⁻⁸	1,000,000,000, or 1 X 10 ⁹	30 ppq	0

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Endothal	.1	1000	100 ppb	100
Endrin	.002	1000	2 ppb	2
Epichlorohydrin	TT		TT	0
Ethylene dibromide	.00005	1,000,000	50 ppt	0
Glyphosate	.7	1000	700 ppb	700
Heptachlor	.0004	1,000,000	400 ppt	0
Heptachlor epoxide	.0002	1,000,000	200 ppt	0
Hexachlorobenzene	.001	1000	1 ppb	0
Hexachlorocyclopentadiene	.05	1000	50 ppb	50
Lindane	.0002	1,000,000	200 ppt	200
Methoxychlor	.04	1000	40 ppb	40
Oxamyl, or Vydate	.2	1000	200 ppb	200
PCBs, or Polychlorinated bi-phenyls	.0005	1,000,000	500 ppt	0
Pentachlorophenol	.001	1000	1 ppb	0
Picloram	.5	1000	500 ppb	500
Simazine	.004	1000	4 ppb	4
Toxaphene	.003	1000	3 ppb	0
Volatile organic contaminants				
Benzene	.005	1000	5 ppb	0
Carbon tetrachloride	.005	1000	5 ppb	0
Chlorobenzene	.1	1000	100 ppb	100
o-Dichlorobenzene	.6	1000	600 ppb	600
p-Dichlorobenzene	.075	1000	75 ppb	75
1,2-Dichloroethane	.005	1000	5 ppb	0
1,1-Dichloroethylene	.007	1000	7 ppb	7
cis-1,2-Dichloroethylene	.07	1000	70 ppb	70
trans-1,2-Dichloroethylene	.1	1000	100 ppb	100
Dichloromethane	.005	1000	5 ppb	0
1,2-Dichloropropane	.005	1000	5 ppb	0
Ethylbenzene	.7	1000	700 ppb	700
Haloacetic acids, or HAA	.060	1000	60 ppb	n/a
Styrene	.1	1000	100 ppb	100
Tetrachloroethylene	.005	1000	5 ppb	0
1,2,4-Trichlorobenzene	.07	1000	70 ppb	70
1,1,1-Trichloroethane	.2	1000	200 ppb	200
1,1,2-Trichloroethane	.005	1000	5 ppb	3
Trichloroethylene	.005	1000	5 ppb	0
TTHMs, or Total trihalomethanes	.10/ 080 *	1000	100/80* ppb	n/a
Toluene	1		1 ppm	1
Vinyl chloride	.002	1000	2 ppb	0
Xylenes	10		10 ppm	10

* For a system that serves >10,000 people and that uses as its source surface water or groundwater under the direct influence of surface water;

For monitoring conducted after January 1, 2004, for a system that serves >10,000 and that uses as its source groundwater not under the influence of surface water or that serves ≤ 10,000 and that uses as its source surface water or groundwater under the direct influence of surface water;[-]

**EPA considers 50 pCi/L to be the level of concern for beta particles.

Key:

- AL = action level
- MCL = maximum contaminant level
- MCLG = maximum contaminant level goal
- MFL = million fibers per liter
- MRDL = maximum residual disinfectant level
- MRDLG = maximum residual disinfectant level goal
- mrem/yr = millirems per year, a measure of radiation absorbed by the body
- n/a = not applicable
- NTU = nephelometric turbidity units, a measure of water clarity
- pCi/l = picocuries per liter, a measure of radioactivity
- ppm = parts per million, or milligrams per liter, mg/l
- ppb = parts per billion, or micrograms per liter, µg/l
- ppt = parts per trillion, or nanograms per liter
- ppq = parts per quadrillion, or picograms per liter
- TT = treatment technique

1. The MCL for that contaminant expressed as a number equal to or greater than one and zero-tenths (1.0), as provided in Table A;
2. The MCLG for that contaminant[-] expressed in the same units as the MCL;
3. a. If there is no MCL for a detected contaminant, the table shall indicate that there is a treatment technique, or specify the action level, applicable to that contaminant.
- b. The report shall include the definition for treatment technique or action level, as applicable [appropriate];
4. a. For a contaminant subject to an MCL[-] except turbidity, total organic compounds, and total coliforms: the highest contaminant level

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used to determine compliance with 401 KAR 8.010 to 401 KAR 8.550 and the range of detected levels, as indicated in this subparagraph, expressed in the same unit as the MCL.

b. If a result is rounded to determine compliance with the MCL, rounding shall be done before multiplying the result by the factor listed in Table A:

(i)[a.] If compliance with the MCL is determined annually or less frequently: the highest detected level at a sampling point and the range of detected levels;

(ii)[b.] If compliance with the MCL is determined by calculating a running annual average of all samples taken at a sampling point: the highest average of any of the sampling points and the range of all sampling points; or

(iii)[c.] If compliance with the MCL is determined on a system-wide basis by calculating a running annual average of all samples at all sampling points: the average and range of detection;

5. For turbidity reported pursuant to 401 KAR 8.150, [or] 401 KAR 8.160, or 401 KAR 8.162: the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in 401 KAR 8.150, [and] 401 KAR 8.160, and 401 KAR 8.162 for the filtration technology being used. The report shall include an explanation of the reason for measuring turbidity;

6. For lead and copper: the 90th percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level;

7. For total coliform:

a. The highest monthly number of positive samples for systems collecting fewer than forty (40) samples per month; or

b. The highest monthly percentage of positive samples for systems collecting at least forty (40) samples per month;

8. For fecal coliform: The total number of positive samples;

9. For total organic carbons, or TOCs: The lowest running annual average of the percent removal of TOCs achieved to the percent removal required, calculated quarterly, the range of the monthly ratios, and an explanation of the treatment technique; and

10. The likely source of each detected contaminant, to the best of the operator's knowledge. Specific information on a contaminant may be available in a sanitary survey or source water assessment[,] and shall be used if it is available to the operator. If the operator lacks specific information on the likely source, the report shall include one (1) or more of the typical sources for that contaminant listed in Table B that are most applicable to the system.

Table B Major Sources and Health Effects Language for Regulated Contaminants		
Contaminant	Major Sources in Drinking Water	Health Effects Language
Microbiological contaminants		
Total coliform bacteria	Naturally present in the environment	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
Fecal coliform and E. coli	Human and animal fecal waste	Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
Total organic carbon	Naturally present in the environment	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes, or THMs, and haloacetic acids, or HAAs. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.
Turbidity	Soil runoff	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
Radioactive contaminants		
Beta or photon emitters	Decay of natural and man-made deposits	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta particle and photon radioactivity in excess of the MCL over many years may have an increased risk of getting cancer.
Alpha emitters	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Combined radium	Erosion of natural deposits	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium	Erosion of natural deposits	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
Inorganic contaminants		
Antimony	Discharge from petroleum refineries, fire retardants; ceramics, electronics; solder	Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.
Arsenic	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of get-

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		ting cancer.
Asbestos	Decay of asbestos cement water mains; erosion of natural deposits	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
Barium	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure
Beryllium	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
Bromate	By-product of drinking water disinfection	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of cancer.
Cadmium	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
Chloramines	Water additive used to control microbes	Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.
Chlorine	Water additive used to control microbes	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Chlorine dioxide	Water additive used to control microbes	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.
Chlorite	Byproduct of drinking water disinfection	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
Chromium	Discharge from steel and pulp mills; erosion of natural deposits	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
Copper	Corrosion of household plumbing systems; erosion of natural deposits	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Cyanide	Discharge from steel and metal factories; discharge from plastic and fertilizer factories	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
Fluoride	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.
Lead	Corrosion of household plumbing systems; erosion of natural deposits	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure
Mercury, inorganic	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
Nitrate	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome
Nitrite	Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Selenium	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.

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Thallium	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.
Synthetic organic contaminants including pesticides and herbicides		
2,4-D	Runoff from herbicide used on row crops	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
2,4,5-TP, or Silvex	Residue of banned herbicide	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
Acrylamide	Added to water during sewage or wastewater treatment	Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.
Alachlor	Runoff from herbicide used on row crops	Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.
Atrazine	Runoff from herbicide used on row crops	Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties
Benzo(a)pyrene, or PAH	Leaching from linings of water storage tanks and distribution lines	Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Carbofuran	Leaching of soil fumigant used on rice and alfalfa	Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.
Chlordane	Residue of banned termiticide	Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.
Dalapon	Runoff from herbicide used on rights of way	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes
Di (2-ethylhexyl) adipate	Discharge from chemical factories	Some people who drink water containing di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience toxic effects such as weight loss, liver enlargement, or possible reproductive difficulties.
Di (2-ethylhexyl) phthalate	Discharge from rubber and chemical factories	Some people who drink water containing di (2-ethylhexyl) phthalate well in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.
Dibromochloropropane	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive problems and may have an increased risk of getting cancer.
Dinoseb	Runoff from herbicide used on soybeans and vegetables	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties
Diquat	Runoff from herbicide use	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts
Dioxin, or 2,3,7,8-TCDD	Emissions from waste incineration and other combustion; discharge from chemical factories	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
Endothall	Runoff from herbicide use	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
Endrin	Residue of banned insecticide	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
Epichlorohydrin	Discharge from industrial chemical factories; an impurity of some water treatment chemicals	Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.
Ethylene dibromide	Discharge from petroleum refineries	Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.
Glyphosate	Runoff from herbicide use	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties
Heptachlor	Residue of banned pesticide	Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.
Heptachlor epoxide	Breakdown of heptachlor	Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.
Hexachlorobenzene	Discharge from metal refineries and agricultural chemical factories	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have

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		an increased risk of getting cancer.
Hexachlorocyclopentadiene	Discharge from chemical factories	Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
Lindane	Runoff or leaching from insecticide used on cattle, lumber, gardens	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
Methoxychlor	Runoff or leaching from insecticides used on fruits, vegetables, alfalfa, livestock	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
Oxamyl, or Vydate	Runoff or leaching from insecticide used on apples, potatoes, and tomatoes	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects
PCBs, or Polychlorinated biphenyls	Runoff from landfills; discharge of waste chemicals	Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
Pentachlorophenol	Discharge from wood preserving factories	Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.
Picloram	Herbicide runoff	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
Simazine	Herbicide runoff	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.
Toxaphene	Runoff or leaching from insecticide used on cotton and cattle	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.
Volatile organic contaminants		
Benzene	Discharge from factories; leaching from gas storage tanks and landfills	Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
Carbon tetrachloride	Discharge from chemical plants and other industrial activities	Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
Chlorobenzene	Discharge from chemical and agricultural chemical factories	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
o-Dichlorobenzene	Discharge from industrial chemical factories	Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.
p-Dichlorobenzene	Discharge from industrial chemical factories	Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
1,2-Dichloroethane	Discharge from industrial chemical factories	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.
1,1-Dichloroethylene	Discharge from industrial chemical factories	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
cis-1,2-Dichloroethylene	Discharge from industrial chemical factories	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
trans-1,2-Dichloroethylene	Discharge from industrial chemical factories	Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
Dichloromethane	Discharge from pharmaceutical and chemical factories	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer
1,2-Dichloropropane	Discharge from industrial chemical factories	Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
Ethylbenzene	Discharge from petroleum refineries	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
Haloacetic acids, or HAA	Byproduct of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Styrene	Discharge from rubber and plastic factories; leaching from landfills	Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.

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Tetrachloroethylene	Discharge from factories and dry cleaners	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer
1,2,4-Trichlorobenzene	Discharge from textile-finishing factories	Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
1,1,1-Trichloroethane	Discharge from metal degreasing sites and other factories	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system
1,1,2-Trichloroethane	Discharge from industrial chemical factories	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.
Trichloroethylene	Discharge from metal degreasing sites and other factories	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
TTHMs, or total trihalomethanes	By-product of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Toluene	Discharge from petroleum factories	Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
Vinyl chloride	Leaching from PVC piping; discharge from plastics factories	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
Xylenes	Discharge from petroleum factories; discharge from chemical factories	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system
<p>Key:</p> <p>AL = action level MCL = maximum contaminant level MCLG = maximum contaminant level goal MFL = million fibers per liter MRDL = maximum residual disinfectant level MRDLG = maximum residual disinfectant level goal mrem/yr = millirems per year, a measure of radiation absorbed by the body n/a = not applicable NTU = nephelometric turbidity units, a measure of water clarity pCi/l = picocuries per liter, a measure of radioactivity ppm = parts per million, or milligrams per liter, mg/l ppb = parts per billion, or micrograms per liter, µg/l ppt = parts per trillion, or nanograms per liter ppq = parts per quadrillion, or picograms per liter TT = treatment technique</p>		

(e)1. If a community water system distributes water to its customers from multiple hydraulically independent distribution systems that are fed by different raw water sources, the table shall contain a separate column for each service area, and the report shall identify each separate distribution system.

2. [Alternatively,] A system may produce separate reports tailored to include data for each service area or use another mechanism to clearly indicate the detections from the various water sources.

(f)1. A table shall clearly identify the data indicating violations of MCLs, MRDLs, or treatment techniques.

2. [and] The report shall contain a clear and readily understandable explanation of the violation, including:

- a. The length of the violation;
- b. [and] The potential adverse health effects; [and]
- c. Actions taken by the system to address the violation.

3. To describe the potential health effects, the system shall use the relevant language from Table B above for the contaminant that has a violation.

(g)1. For detected unregulated contaminants for which monitoring is required, except *Cryptosporidium*, the table shall contain the average and range at which the contaminant was detected.

2. The report may include a brief explanation of the reason for monitoring for unregulated contaminants.

(4) [(3)] [(4)] Information on *Cryptosporidium*, radon, and other contaminants.

(a) If the system has performed monitoring for *Cryptosporidium*, [including monitoring performed to satisfy the requirements of

40 C.F.R. 141.143,] and the monitoring indicates that *Cryptosporidium* may be present in the source water or the finished water, the report shall include:

- 1. A summary of the results of the monitoring; and
- 2. An explanation of the significance of the results.

(b) If the system has performed monitoring for radon that indicates that radon may be present in the finished water, the report shall include:

- 1. The results of the monitoring; and
- 2. An explanation of the significance of the results.

(c)1. If the system has performed additional monitoring that indicates the presence of another contaminant in the finished water, a system shall [may] report results that may indicate a health concern.

2. The system shall contact the Safe Drinking Water Hotline, 800-426-4791, to determine if U.S. EPA has proposed a national primary drinking water regulation or issued a health advisory for that contaminant.

3. [A] Detection above a proposed MCL or health advisory level indicates a possible health concern. For that contaminant, the report shall include:

- a. [1-] The results of the monitoring; and
- b. [2-] An explanation of the significance of the results noting the existence of a health advisory or a proposed federal regulation.

(5) [(4)] [(5)] Compliance with 401 KAR 8:010 to 401 KAR 8:550: In addition to the requirements of subsection (3) [(2)] [(3)] (f) of this section, the report shall note a violation that occurred during

the year covered by the report of a requirement listed in paragraphs (a) through (g) of this subsection[,] and include a clear and readily understandable explanation of the violation, a potential adverse health effect, and the steps the system has taken to correct the violation.

(a) Monitoring and reporting of compliance data.

(b) Filtration and disinfection prescribed by 401 KAR 8:150. For a system that failed to install adequate filtration or disinfection equipment or processes, or had a failure of the filtration or disinfection equipment or processes that constitutes a violation, the report shall include the following language as part of the explanation of potential adverse health effects: "Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches."

(c) Lead and copper control requirements prescribed by 401 KAR 8:300. For a system that fails to take one (1) or more actions prescribed by 401 KAR 8:300, Sections 2(5), 3, 4, 5, or 6, the report shall include the applicable language of subsection (3) [(2)] [(3)] (f) of this section for lead, copper, or both.

(d) Treatment techniques for acrylamide and epichlorohydrin prescribed by 401 KAR 8:100, Section 2. For a system that violates the requirements of 401 KAR 8:100, Section 2, the report shall include the relevant language from subsection (3) [(2)] [(3)] (f) of this section.

(e) Recordkeeping of compliance data.

(f) Special monitoring requirements of 40 C.F.R. 141.40, [(Octo-ber 29, 2002,)] and 401 KAR 8:250, Section 15 [(14)].

(g) Violation of a term of a variance, an exemption, or an administrative or judicial order.

(6) [(5)] [(6)] Variances and exemptions. If a system is operating under the terms of a variance or an exemption issued under 401 KAR 8:060, the report shall contain:

(a) An explanation of the reason for the variance or exemption;

(b) The date on which the variance or exemption was issued;

(c) A brief status report on the steps the system is taking to install treatment, find an alternative source of water, or otherwise comply with the terms and schedules of the variance or exemption; and

(d) A notice of opportunity for public input in the review or renewal of the variance or exemption.

(7) [(6)] [(7)] Additional information.

(a) 1. The report shall contain a brief explanation regarding contaminants that may reasonably be expected to be found in drinking water, including bottled water.

2. This explanation may include the language of subparagraph 3(a) through (c) [subparagraphs 1 through 3] of this paragraph, or a system may use its own comparable language.

3. The report shall include the language of clause d [subparagraph 4] of this subparagraph [paragraph], as a separate paragraph.

a.[4-] The sources of drinking water[,] both tap water and bottled water[,] include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and may pick up substances resulting from the presence of animals or from human activity.

b.[2-] Contaminants that may be present in source water include:

(i)[a-] Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(ii)[b-] Inorganic contaminants, such as salts and metals, that may [can] be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

(iii)[c-] Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

(iv)[d-] Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may [can] also come from gas stations, urban stormwater runoff, and septic systems.

(v)[e-] Radioactive contaminants, which may [can] be natu-

rally-occurring or be the result of oil and gas production and mining activities.

c.[1][3-] To ensure that tap water is safe to drink, U.S. EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems.

(i) U.S. FDA regulations establish limits for contaminants in bottled water that shall provide the same protection for public health.

d.[4-] Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at [(800-426-4791)].

(b) The report shall include the telephone number of the owner, operator, or designee of the community water system as a source of additional information about the report.

(c) If a system has a significant proportion of non-English speaking residents, the system shall include in the report information in the appropriate language regarding the importance of the report or contain a telephone number or address where non-English speaking residents may contact the system to obtain a translated copy of the report or assistance in the [appropriate] language.

(d) The report shall include information, including time and place of regularly - scheduled board meetings, about opportunities for public participation in decisions that may affect the quality of the water.

(e) A system may include additional information [deemed] necessary for public education consistent with, and not detracting from, the purpose of the report.

Section 3. Additional Health Information. (1) A report shall prominently display the following language as a separate paragraph: "Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791)."

(2) A system that detects arsenic above 0.005 mg/L and up to and including 0.010 mg/L shall:

(a) Include in its report a short informational statement about arsenic, using language such as: "While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems."; or

(b) Write its own educational statement that shall be approved by the cabinet, with criteria for approval in accordance with 40 C.F.R. 141.154(2), March 25, 2003, before including it in the report.

(3) A system that detects nitrate at levels above five (5) mg/l, but below the MCL shall:

(a) Include a short informational statement about the impacts of nitrate on children using language such as: "Nitrate in drinking water at levels above ten (10) ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider."; or

(b) Write its own educational statement that shall be approved by the cabinet, with criteria for approval in accordance with 40 C.F.R. 141.154(2), March 25, 2003, before including it in the re-

port.

(4) A system that detects lead above the action level in more than five (5) percent, and up to and including ten (10) percent, of homes sampled shall:

(a) Include a short informational statement about the special impact of lead on children using language such as: "Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for thirty (30) seconds to two (2) minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline, 800-426-4791."; or

(b) Write its own educational statement that shall be approved by the cabinet t, with criteria for approval in accordance with 40 C.F.R. 141.154(2), March 25, 2003, before including it in the report.

(5) ~~A community water system that detects TTHM above 0.080 mg/L, but below the MCL in 401 KAR 8-500 as an annual average, monitored and calculated under the provision of 401 KAR 8-500, shall include health effects language for TTHMs prescribed by Section 2(3)(d) of this administrative regulation.~~

(6) Beginning in the report due after January 4, 2005 [the effective date of this administrative regulation], and ending January 22, 2006, a community water system that detects arsenic above 0.010 mg/L and up to and including 0.05 mg/L shall include the health effects language for arsenic prescribed by Section ~~2(3)(2)(3)(d)~~ (3)(d) of this administrative regulation.

Section 4. Report Delivery and Recordkeeping. (1) Except as provided in subsection (6) of this section, a community water system shall mail or otherwise directly deliver a copy of the report to each customer.

(2) The system shall also make a good-faith effort to reach consumers who do not get water bills. ~~A~~ [An adequate] good-faith effort shall be tailored to the consumer who is served by the system[,] but is not a bill-paying customer, such as a renter or worker. The system shall describe the good-faith efforts in the certification required in subsection (3) of this section. The good-faith efforts shall be made in addition to the distribution method that is used by the system to distribute its report as required for the size of the system. A good-faith effort to reach consumers may be a mix of methods appropriate to the particular system, such as:

- (a) Posting the report on the Internet;
- (b) Mailing to postal patrons in metropolitan areas;
- (c) Advertising the availability of the report in the news media;
- (d) Publishing the report in a local newspaper;
- (e) Posting in a public place such as a cafeteria or lunch room of a public building;

(f) Delivering of multiple copies for distribution by single-biller customers such as apartment buildings or large private employers; or

(g) Delivering the report to a community organization; or

(h) Other means that accomplish the goal of notifying the consumer as described in 40 C.F.R. 141.155(a) and (b), May 4, 2000.

(3)(a)1. Within fourteen (14) days of distributing the report to its customers, but not [no] later than the date specified in Section 1(2)(a) of this administrative regulation, the community water system shall also mail a copy of the report and the certification required in paragraph (b) of this subsection to the cabinet at the following address: Division of Water, Drinking Water Branch, Attn: CCR, 14 Reilly Road, Frankfort, Kentucky 40601.

2. The system shall include a copy of the report and certification for each PWSID the system has[,] and shall include the name of the system and its PWSID number on all submittals.

3. The system shall not mail the report or the certification to the cabinet until it has distributed the report to its customers.

(b) Certification.

1. The community water system shall mail a certification to the cabinet by July 1 annually.

2. The certification shall include the typed or printed name and

title of the person responsible for the overall operation or management of the system[,] and shall be signed by that person. The certification shall contain the following documentation:

a. The following two (2) statements that shall be [are] true for the system. If the system cannot make the true statement, then it shall qualify the statement to make it true for the system:

(i) "The report was prepared and distributed according to the requirements for our system"; and

(ii) "The report contains information that is correct and consistent with the compliance monitoring data previously submitted to the Division of Water."

b. An explanation of how and when the report was distributed to its customers. If a system serves a population of less than 10,000 and used the mailing waiver pursuant to subsection (6)(a) of this section, it shall include a copy of the report from the local newspaper[,] showing the date the report was printed[,] and the name of the newspaper;

c. If the system serves a population of less than 10,000[,] and used the mailing waiver allowed in subsection (6)(a) of this section, a description of how the system qualified for the mailing waiver by demonstrating that it performed all three (3) actions required for the mailing waiver;

d. If the system serves a population of less than 500 and used the waiver allowed in subsection (6)(b) of this section, documentation of how it notified its customers that the report was available; and

e. A description of the system's good-faith efforts to reach its nonbill-paying customers, as required in subsection (2) of this section;

(4) A community water system shall make its report available to the public upon request.

(5) By the date specified in Section 1 of this administrative regulation, a community water system serving 100,000 or more persons shall post its current year's report to a publicly-accessible site on the Internet. The version that is posted shall be identical to the report that is made available to the customers, to the extent achievable [allowed] by the computer or electronic system.

(6) Waiver. A system shall document in the certification required in subsection (3)(b) of this section how it qualified for the waiver[,] by showing how it performed either the three (3) actions in paragraph (a) of this subsection, or the action required in paragraph (b) of this subsection, as applicable for the system's size.

(a) A community water system that serves fewer than 10,000 persons shall be waived from the mailing requirement in subsection (1) of this section if the system performs the following three (3) actions before the date specified in Section 1 of this administrative regulation:

1. Publishes the report in at least one (1) newspaper serving the area in which the system is located. The version that is printed in the newspaper shall be the same as the report [ie] submitted to the cabinet, to the extent allowed by the newspaper;

2. Informs the customers that the reports shall [will] not be mailed unless requested, either in the newspapers publishing the reports or by another means approved by the cabinet in accordance with 40 C.F.R. 141.155(a) and (g), May 4, 2000 [in which the reports are published, or by another means approved by the cabinet] by which the customers shall be [are] notified, and

3. Makes the reports available to the public upon request.

(b) A system that serves no more than 500 persons may forego the requirements of paragraph (a) 1 and 2 of this subsection if it provides notice to its customers at least once per year before the date specified by Section 1 of this administrative regulation by mail, door-to-door delivery, or by posting in an appropriate location that the report is available upon request.

(7) A community water system shall retain a copy of its consumer confidence report and certification for at least three (3) years.

LLOYD R. CRESS, Deputy Secretary
for TERESA J. HILL, Secretary

APPROVED BY AGENCY: February 14, 2007
FILED WITH LRC: February 15, 2007 at noon

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Water
 (As Amended at ARRS, May 8, 2007)

401 KAR 8:150. Disinfection, filtration, and recycling.

RELATES TO: KRS 224.10-100, 224.10-110, 40 C.F.R. 141.70-141.76, 142.16

STATUTORY AUTHORITY: KRS 224.10-100(30), 224.10-110(2), 40 C.F.R. 141.70-141.76, 142.16, 42 U.S.C. Chapter 6A Subchapter XII [300f, 300g, 300h, 300j]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(30) and 224.10-110(2) authorize the Secretary of the Environmental and Public Protection Cabinet to promulgate administrative regulations for the regulation and control of the purification of water for public and semipublic use. This administrative regulation establishes [~~is necessary to establish~~] requirements for the disinfection, filtration, recycling, and testing of drinking water in a public or semipublic water system using surface water or groundwater under the direct influence of surface water. This administrative regulation differs from the federal regulation by requiring filtration on all water supplies that have surface water sources and disinfection of water supplies whose source is groundwater. Filtration on all systems with surface water sources is necessary because those systems would not be able to meet the applicable standards without filtration. Groundwater disinfection is necessary due to the karstic nature of Kentucky's geology and to protect against bacteria that could develop in water systems.

Section 1. Disinfection. A public and semipublic water system shall provide disinfection, except as provided in this section. A semipublic water system shall [may] satisfy this requirement either by complying with the requirements of this section for public water systems or by meeting the requirements of Section 2(4)(5) of this administrative regulation.

(1) A public water system using groundwater or surface water as a source.

(a) A public water system that uses chlorine shall:

1. Use continuous automatic disinfection by chlorination;

2. Provide a minimum free chlorine residual of two-tenths (0.2) milligrams per liter, or ppm, throughout the distribution system measured as described in subsection (2) of this section;

3. Provide a contact period of at least thirty (30) minutes between the chlorine and the water to allow adequate time for disinfection.

4. Check free chlorine residuals daily at representative points throughout the system; and

5. Report the free chlorine residuals monthly pursuant to 401 KAR 8:020, Section 2(7)(a).

(b) 1. Disinfecting agents other than chlorine, such as chloramines and chlorine dioxide, may be acceptable pursuant to conditions in 40 C.F.R. 141.130(d), January 16, 2001.

~~2. [to the cabinet but shall be specifically approved by the cabinet on a case-by-case basis.]~~ If chloramination is used, a minimum combined residual of five-tenths (0.5) milligrams per liter, or ppm, shall be provided throughout the distribution system.

(2) A public water system using surface water as a source[,] or groundwater under the direct influence of surface water[,] shall provide disinfection treatment as follows:

(a) The disinfection treatment shall be sufficient to ensure that the total treatment processes of that system achieve at least ~~ninety-nine and nine-tenths (99.9%)~~ percent (3-log) inactivation or removal of Giardia lamblia cysts and at least 99.99 percent (4-log) inactivation or removal of viruses. In accordance with 40 C.F.R. 141 Subpart H, June 29, 1989 [as determined by the cabinet], consistent with the "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems using Surface Water Sources" [~~October 1989~~ incorporated by reference in Section 7] [8] [of this administrative regulation].

(b) The residual disinfectant concentration in the water entering the distribution system measured as specified in Section 3(1) of this administrative regulation shall not be less than required by subsection (1) of this section for more than four (4) hours.

(c) 1. The residual disinfectant concentration in the distribution system measured as free chlorine, total chlorine, combined chlorine, or chlorine dioxide as specified in Section 3(1) of this administrative regulation[,] shall not be less than two-tenths (0.2) milligrams per liter, or ppm, in more than five (5) percent of the samples each month, for two (2) consecutive months that the system serves water to the public.

2. Water in the distribution system with a heterotrophic bacteria concentration less than or equal to 500/ml, measured as heterotrophic plate count, or HPC, as specified in Section 3(1) of this administrative regulation, shall be deemed to have an adequate disinfectant residual for purposes of determining compliance with this requirement.

3. [Thus] The value, "V", in the following formula shall not exceed five (5) percent in one (1) month for two (2) consecutive months.

$$V = \frac{c + d + e}{a + b} \times 100$$

where:

a = number of instances that the residual disinfectant concentration is measured;

b = number of instances that the residual disinfectant concentration is not measured but heterotrophic bacteria plate count, or HPC, is measured;

c = number of instances that the residual disinfectant concentration is measured but does not measure at least two-tenths (0.2) milligrams per liter, or ppm, or the equivalent, and [no] HPC is not measured;

d = number of instances that residual disinfectant concentration is below two-tenths (0.2) milligrams per liter, and where the HPC is greater than 500/ml; and

e = number of instances that the residual disinfectant concentration is not measured, and HPC is greater than 500/ml.

(d) If [~~the cabinet determines, based on site-specific considerations, that]~~ a system has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions specified in Section 3(1) of this administrative regulation, and [~~that]~~ the system is providing adequate disinfection in the distribution system as required by 40 C.F.R. 141.72(b)(3)(ii), June 29, 2004, the requirements of paragraph (c) of this subsection shall not apply.

(e) If a disinfection residual fails to comply with Section 1(1) of this administrative regulation, the public shall be notified [~~The cabinet may, through its own or independent testing, determine that residual disinfection is not present throughout the distribution system, take action necessary to correct the problem and, if necessary, notify the public in accordance with 401 KAR 8:020, Section 2(9).~~]

(3) Variances or exemptions shall not be granted for subsection (2) of this section.

(4) In addition to the requirements of this administrative regulation, a public water system that serves fewer than 10,000 people shall [also] comply with the requirements in 401 KAR 8:162.

Section 2. Filtration. A public water system using a surface water source, a ground water system with wells with variable or high turbidity due to characteristics of the raw water that may cause an adverse health effect, and a groundwater system under the direct influence of surface water shall establish a filtration system. The design for the system shall be submitted to the cabinet in accordance with 401 KAR 8:100[,] and shall comply with this section [the following]:

(1) [Conventional filtration treatment or direct filtration - (a) If a public water system uses conventional filtration or direct filtration, the turbidity level of representative samples of the system's filtered water shall be less than or equal to five-tenths (0.5) NTU in at least ninety-five (95) percent of the measurements taken each month, measured as specified in Section 3(1) of this administrative regulation, except that if the cabinet determines that the system is capable of achieving at least ninety-nine and nine-tenths

~~(99.9) percent removal or inactivation of Giardia lamblia cysts at some turbidity level higher than five tenths (0.5) NTU in at least ninety-five (95) percent of the measurements taken each month; the cabinet may substitute this higher turbidity limit for that system. However, the cabinet shall not approve a turbidity limit that allows more than one (1) NTU in more than five (5) percent of the samples taken each month measured as specified in Section 3(1) of this administrative regulation.~~

~~(b) The turbidity level of representative samples of a system's filtered water shall not exceed five (5) NTU, measured as specified in Section 3(1) of this administrative regulation.~~

~~(c) A system serving at least 10,000 people shall meet the turbidity requirements in 401 KAR 8:160, Section 4(1).~~

~~(2) Slow sand filtration.~~

~~(a) If a public water system uses slow sand filtration, the turbidity level of representative samples of the system's filtered water shall be less than or equal to one (1) NTU in at least ninety-five (95) percent of the measurements taken each month[,] measured as specified in Section 3(1) of this administrative regulation, except that if the cabinet determines there is no significant interference with disinfection at a higher turbidity level, the cabinet may substitute this higher turbidity limit for that system. Conditions constituting significant interference and conditions if higher turbidity limits are substituted shall be as established in 40 C.F.R. 141.71 and 141.73(b), June 29, 2004.~~

~~(b) The turbidity level of representative samples of a system's filtered water shall not exceed five (5) NTU[,] measured as specified in Section 3(1) of this administrative regulation.~~

~~(2) [(3)] Diatomaceous earth filtration.~~

~~(a) If a public water system uses diatomaceous earth filtration, the turbidity level of representative samples of the system's filtered water shall be less than or equal to one (1) NTU in at least ninety-five (95) percent of the measurements taken each month[,] measured as specified in Section 3(1) of this administrative regulation.~~

~~(b) The turbidity level of representative samples of a system's filtered water shall not exceed five (5) NTU measured as specified in Section 3(1) of this administrative regulation.~~

~~(3) [(4)] Other filtration technologies. [(a)] A public water system may use a filtration technology not listed in subsection (b) (1) or (2) [(3)] of this section if demonstrated in accordance with 40 C.F.R. 141.73(d), June 29, 2004 [(it demonstrates to the cabinet)], using pilot plant studies or other means described in 40 C.F.R. 141.73(d), June 29, 2004, that the alternative filtration technology, in combination with disinfection treatment that meets the requirements of this administrative regulation, consistently achieves ninety-nine and nine-tenths (99.9) percent (3-log) removal or inactivation of Giardia lamblia cysts and 99.99 percent (4-log) removal or inactivation of viruses. If a system makes this demonstration, the requirements of subsection (1) [(2)] of this section shall apply.~~

~~(4)(a) [(b) A system serving at least 10,000 people shall meet the requirements for other filtration technologies in 401 KAR 8:160, Section 4(2).~~

~~(b) A semipublic water system may enter into a protocol with the cabinet whereby the filtration and disinfection requirements of this administrative regulation are achieved using filtration technology, disinfection technology, or a combination of both, if the technology will achieve a ninety-nine and nine-tenths (99.9) percent (3-log) removal or inactivation of Giardia lamblia cysts and 99.99 percent (4-log) removal or inactivation of viruses.~~

~~(b) The protocol shall contain a schedule for maintenance and testing of the filtration and disinfection equipment to assure that the requirements of this subsection are met.~~

~~(c) Intensive bacteriological testing shall be included in the protocol.~~

~~(d) [may be included in the protocol.] If surface water is a source of water, filtration shall be an element of the protocol.~~

~~(e) If groundwater is the only source of water, the semipublic and public water systems eligible under this subsection may enter into a protocol with the cabinet to demonstrate through a regular schedule of bacteriological testing[,] that filtration or disinfection is not needed in accordance with the "Manual for the Certification of Laboratories Analyzing Drinking Water: Criteria and Procedures Quality Assurance". [The protocol shall stipulate that any~~

~~positive bacteriological test shall require disinfection of the water, unless the cabinet has reason to believe that the positive result was due to error.~~

~~(5) [(6)] [A variance or exemption shall not be granted for this section.]~~

Section 3. Analytical and Monitoring Requirements. (1) Analytical requirements. Analyses required by this administrative regulation shall be conducted in accordance with the requirements of 40 C.F.R. 141.74, [June 29, 2004] ~~[-in effect on July 1, 2003, adopted without change in Section 7 of this administrative regulation].~~

(2) Monitoring requirements. A public water system that uses a surface water source or a groundwater source under the influence of surface water shall monitor in accordance with paragraphs (a) and (b) of this subsection or if [when] filtration is installed.

(a)1. Turbidity measurements shall be performed by a public water system on representative samples of the system's filtered water at least every four (4) hours that the system serves water to the public.

2. If a public water system substitutes [may substitute] continuous turbidity monitoring for grab sample monitoring, [if] it shall validate [validates] the continuous measurement with accuracy on a regular basis using a protocol approved pursuant to 40 C.F.R. 141.74, June 29, 2004.

3. [by the cabinet.] In addition, a system using continuous monitoring shall submit to the cabinet a schedule of times when the monitoring will be recorded.

4. The schedule shall reflect monitoring at least every four (4) hours the system serves water to the public.

5. If a system uses slow sand filtration or filtration treatment other than conventional treatment, direct filtration, or diatomaceous earth filtration, the cabinet may reduce the sampling frequency to once per day if it determines in writing[,] that less frequent monitoring is sufficient to indicate effective filtration performance in accordance with 40 C.F.R. 141.74(c)(1), June 29, 2004.

6. If a system serves 500 or fewer persons, the cabinet may reduce the turbidity sampling frequency to once per day, regardless of the type of filtration treatment used, if the cabinet determines, in writing, that less frequent monitoring is sufficient to indicate effective filtration performance in accordance with 40 C.F.R. 141.74(c)(1), June 29, 2004.

(b)1. The residual disinfectant concentration of the water entering the distribution system shall be monitored by a public water system continuously, and the lowest value shall be recorded each day, except that if there is a failure in the continuous monitoring equipment, grab sampling every four (4) hours may be conducted in lieu of continuous monitoring, but for not [re] more than five (5) working days following the failure of the equipment, and systems serving 3,300 or fewer persons may take grab samples in lieu of providing continuous monitoring on an ongoing basis at the frequencies each day prescribed below

System Size by Population	Samples/Day
less than 500	1
501 to 1,000	2
1,001 to 2,500	3
2,501 to 3,300	4

2. The day's samples shall not be taken at the same time.

3. The sampling intervals shall be subject to cabinet review and approval in accordance with 40 C.F.R. 141.74(c)(2), June 29, 2004.

4. If the residual disinfectant concentration falls below the requirements of Section 1(1) of this administrative regulation in a system using grab sampling in lieu of continuous monitoring, the system shall take a grab sample every four (4) hours until the residual disinfectant concentration meets the requirements of Section 1(1) of this administrative regulation.

(c)1. The residual disinfectant concentration shall be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in 401 KAR 8 200, except that the cabinet may allow a public water system which uses both a surface water source, or a groundwater source under direct influence of surface water, and a groundwater source to take disinfectant residual samples at points other than the total

coliform sampling points if the cabinet determines in writing that the points are more representative of treated, or disinfected, water quality within the distribution system. Criteria for determining sampling points representative of treated water quality in the distribution system shall be as established in 40 C.F.R. 141.74(c)(3)(i), June 29, 2004.

2. Heterotrophic bacteria, measured as heterotrophic plate count, or HPC as specified in subsection (1) of this section, may be measured in lieu of residual disinfectant concentration.

(d) If the cabinet determines in writing, based on site-specific considerations in accordance with 40 C.F.R. 141.74(c)(3)(ii), June 29, 2004, that a system has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions specified by subsection (1) of this section and that the system is providing adequate disinfection in the distribution system, the requirements of paragraph (c) of this subsection shall not apply to that system.

Section 4. Disinfection of New and Repaired Water Lines. (1) New construction projects and line extensions.

(a) Disinfection of water lines. A water distribution system, including storage distribution tanks, or all extensions to existing systems, shall be thoroughly disinfected before being placed in service.

(b) A water distribution system shall disinfect with chlorine or chlorine compounds[,] in amounts as to produce a concentration of at least fifty (50) ppm and a residual of at least twenty-five (25) ppm at the end of twenty-four (24) hours, and the disinfection shall be followed by a thorough flushing.

(c) Other methods and testing procedures that provide an equivalent level of protection may be used if the cabinet grants prior written approval in accordance with 40 C.F.R. 141.21, November 8, 2006.

(d) A new water distribution line shall not be placed into service until bacteriological samples taken at the points specified in paragraph (f) of this subsection are examined and are shown to be negative following disinfection.

(e) A water distribution system shall submit to the cabinet results of bacteriological samples for each new construction project, replacement, or extension to existing systems, after the disinfection and flushing.

(f) A sample shall be taken in the newly-constructed line at each of the following points:

1. Within 1,200 feet downstream of each connection point between the existing and new lines;
2. One (1) mile intervals; and
3. Each dead end, without omitting any branch.

(g) A new or routine replacement line shall not be placed in service until negative laboratory results are obtained on the bacteriological analyses.

(h) Sample bottles shall be clearly identified as "special" construction tests, and the results submitted to the cabinet shall be clearly marked as "special" samples.

(i) Notification of analytical results shall be submitted to the cabinet with the routine monthly compliance bacteriological samples, unless the bacteriological samples are to be used to lift a boil water advisory. Samples [to be] used to lift a boil water advisory shall be submitted to the cabinet as soon as results are known.

(2) Line repairs due to breaks or ruptures.

(a) The system shall thoroughly flush the break area and maintain at least a minimum disinfectant residual, pursuant to Section 1(1) of this administrative regulation.

(b) The system may leave the line in service or return the line to service before receiving bacteriological results[,] and may forego a boil water advisory if:

1. Pressure is maintained;
2. The break area is thoroughly flushed; and
3. At least the minimum disinfectant residual, pursuant to Section 1(1) of this administrative regulation is maintained.

(c)1. The system shall take at least two (2) bacteriological tests, one (1) located before, or just upstream of, the break or rupture, and one (1) located behind, or just downstream of, the break or rupture, as close to the break or rupture as practical pursuant to 40 C.F.R. 141.21, November 8, 2006,[-] additional samples

may be required, if necessary to be representative of the area affected by the break.

2. Sample bottles shall be clearly identified as "special" tests, and the results submitted to the cabinet shall be clearly marked as "special" samples

(d) Records of results shall be submitted to the cabinet with routine monthly compliance samples unless the samples are required to lift a boil water advisory, and shall be maintained for one (1) year. Samples needed to remove a boil water advisory shall be submitted to the cabinet as soon as the results are known.

(e) A water system shall notify the cabinet immediately if:

1. The pressure drops below twenty (20) pounds per square inch in the distribution system surrounding the break[,-]; or

2. A break or rupture occurs that requires more than eight (8) hours to repair, with the eight (8) hours beginning when the water system becomes aware of the break.

(f) Boil Water Advisories shall be issued in accordance with 401 KAR 8:020, Section 2(9) [The system shall issue a boil water advisory if the cabinet determines that a boil water advisory is necessary to protect the public health].

(g) Reports pursuant to 401 KAR 8:020, Section 2(7)(c) shall not be [are not] required for a loss of pressure, break, or rupture occurring in service lines serving only one (1) single family residence.

(h)1. A community or nontransient noncommunity public water system shall maintain a log of all breaks or ruptures, which shall include the;

- a. Date and location of the break or rupture;
 - b. Time it was discovered;
 - c. Population affected;
 - d. Length of time required to repair the break or rupture;
 - e. Date and time disinfectant residuals are detected; and
 - f. Date and time bacteriological samples are taken.
2. The log shall be available for inspection by the cabinet.

Section 5. Uncovered Facility. A public or semipublic water system subject to this administrative regulation shall not begin construction of an uncovered finished water storage facility.

Section 6. Recycling. (1) Applicability. A public water [The following type of] system shall comply with the requirements in subsections (2) through (4) [to (5)] of this section [if the [A] public water system [that]:

(a) Uses as its source surface water or groundwater under the direct influence of surface water;

(b) Uses conventional filtration or direct filtration treatment; and

(c) Recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes.

(2) Reporting. A system shall have notified the cabinet in writing by January 4, 2005 [the effective date of this administrative regulation][,-] if the system recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes. The notification shall include at least the following information:

(a) A plant schematic that shows:

1. The origin of all flows that are recycled, including:

- a. Spent filter backwash water;
- b. Thickener supernatant; and
- c. Liquids from dewatering processes;

2. The hydraulic conveyance used to recycle them; and

3. The location where they are reintroduced back into the treatment plant.

(b) Typical recycle flow, in gallons per minute, or gpm;

(c) The highest observed plant flow experienced in the previous year, gpm;

(d) Design flow for the treatment plant in gpm; and

(e) The operating capacity for the plant, if the cabinet has approved the operating capacity.

(3) Required treatment technique. ~~[(a)]~~ A system that recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes shall return these flows through the processes of a system's existing conventional or direct filtration system or an alternative location ~~[approved by the cabinet by the effective date of this administrative regulation].~~

(b) If capital improvements are required to modify the recycle

location to comply with paragraph (a) of this subsection, the capital improvements shall be completed no later than June 8, 2006.

(4) Recordkeeping. The system shall collect and retain on file the following recycle flow information for review and evaluation by the cabinet beginning June 8, 2004 [~~the effective date of this administrative regulation~~]:

(a) A copy of the recycle notification and information submitted to the cabinet as required by [~~under~~] subsection (2) of this section;

(b) A list of all recycle flows and the frequency with which they are returned;

(c) The average and maximum backwash flow rate through the filters[,] and the average and maximum duration of the filter backwash process in minutes;

(d) The typical filter run length and a written summary of how filter run length is determined;

(e) The type of treatment provided for the recycle flow;

(f) Data on the physical dimensions of the equalization or treatment unit;

(g) The typical and maximum hydraulic loading rates;

(h) The type of treatment chemicals used[,] and average dose and frequency of use; and

(i) The frequency at which solids are removed, if applicable.

~~Section 7. [Federal Regulation Adopted Without Change. 40 C.F.R. 141.74, as in effect on July 1, 2003, is adopted without change. The subject matter of this administrative regulation relating to analytical methods shall be governed by this federal regulation.]~~

~~Section 8. Incorporation by Reference. (1) "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources, October 1989", as published by the United States Environmental Protection Agency, Science and Technology Branch, Criteria and Standards Division, Office of Drinking Water, Washington, D.C. is incorporated by reference. [It is available from the American Water Works Association, Management Services, 6666 West Quincy Avenue, Denver, Colorado 80235, (303) 794-7744.]~~

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at Division of Water, 14 Reilly Road, Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. to 4.30 p.m. or at [~~through~~] www.water.ky.gov/dw.

(3) This material may also be obtained from the American Water Works Association, Management Services, 6666 West Quincy Avenue, Denver, Colorado 80235, phone (303) 794-7711.

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 8, 2006

FILED WITH LRC: November 14, 2006 at 4 p.m.

CONTACT PERSON: Justin Dearinger, Regulations Coordinator

Division of Water, Department for Environmental Protection, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-3410, fax (502) 564-0111.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Department for Environmental Protection

Division of Water

(Amended at ARRS, May 8, 2007)

401 KAR 8:160. Enhanced filtration and disinfection for large systems serving at least 10,000 people.

RELATES TO: KRS 224.10-100, 224.10-110, 40 C.F.R. 141.74[, 141.140-141.144]

STATUTORY AUTHORITY: KRS 224.10-100(30), 224.10-110(2), 40 C.F.R. 141.74, [141.140-141.144,] 141.170-141.175, 42 U.S.C. Chapter 6A Subchapter XII [300f, 300g, 300h, 300i]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(30) and 224.10-110(2) authorize the Secretary of the Environmental and Public Protection Cabinet to promulgate administrative regulations for the regulation and control of the purification

of water for public and semipublic use. This administrative regulation establishes requirements for filtration and disinfection for a public water system that serves at least [~~more than~~] 10,000 people.

Section 1. Applicability. ~~(1)(+)~~ This administrative regulation shall be considered a national primary drinking water regulation.

~~(2)~~ This administrative regulation establishes requirements for filtration and disinfection [~~that are~~] in addition to the criteria in 401 KAR 8:150 under which filtration and disinfection are required for a public water system that uses surface water or groundwater under the direct influence of surface water.

~~(3)(2)~~ Beginning ~~January 1, 2002,~~ unless otherwise specified ~~in~~ This administrative regulation, this administrative regulation shall apply to a system that serves at least 10,000 people and uses surface water or groundwater under the direct influence of surface water.

Section 2. General Provisions. ~~(1)(a)~~ This administrative regulation establishes or extends treatment technique requirements instead of maximum contaminant levels for the following contaminants:

1. Giardia lamblia;[;]

2. Viruses;[;]

3. Heterotrophic plate count bacteria;[;]

4. Legionella;[;]

5. Cryptosporidium;[;] and

6. Turbidity.

~~(b)~~ A system that uses surface water or groundwater under the direct influence of surface water and that serves at least 10,000 people shall provide treatment of its source water that complies with these treatment technique requirements[~~and that are~~] in addition to those identified in 401 KAR 8:150.

~~(c)~~ The treatment technique requirements shall consist of installing and properly operating water treatment processes that reliably achieve:

1. [(a)] At least ninety-nine (99) percent (2-log) [or two (2)-log] removal[;] of Cryptosporidium between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer; and

2. [(b)] Compliance with the profiling and benchmark requirements in Section 3 of this administrative regulation.

(2) A public water system subject to this administrative regulation shall be considered to be in compliance with subsection (1) of this section if it meets:

~~(a)~~ The applicable filtration requirements in either Section 4 of this administrative regulation or 401 KAR 8:150, Section 2; and

~~(b)~~ The disinfection requirements in Section 3 of this administrative regulation and 401 KAR 8:150, Section 1.

Section 3. Disinfection Profiling and Benchmarking. (1) Determination of systems required to profile. A public water system subject to this administrative regulation shall determine its total trihalomethane, or TTHM, annual average and its haloacetic acid five (5), or HAA5, annual average using the procedures in [~~using the procedures in paragraph (a) of] this subsection[and its haloacetic acid five (5), or HAA5, annual average using the procedure in paragraph (b) of this subsection]. The annual average shall be the arithmetic average of the quarterly averages of four (4) consecutive quarters of monitoring.~~

~~(a) [The TTHM annual average shall be the annual average during the same period as is used for the HAA5 annual average.]~~

~~[1. A system that collected data under the provisions of 40 C.F.R. 141.140 to 141.144 shall use the results of the samples collected during the last four (4) quarters of required monitoring under 40 C.F.R. 141.142.~~

~~2. A system that uses grandfathered HAA5 occurrence data that meet the provisions of paragraph (b)2 of this subsection shall use TTHM data collected at the same time under the provisions of 401 KAR 8:500.~~

~~3. A system that uses HAA5 occurrence data that meet the provisions of paragraph (b)3 of this subsection shall use TTHM data collected at the same time under the provisions of 401 KAR 8:500.]~~

~~[(b)]~~ The HAA5 annual average shall be the annual average

during the same period as is used for the TTHM annual average.

~~(b)1. [A system that collected data under the provisions of 40 C.F.R. 141.140 to 141.144 shall use the results of the samples collected during the last four (4) quarters of required monitoring under 40 C.F.R. 141.142.~~

~~2.] A system that collected four (4) quarters of HAA5 occurrence data that meet the routine monitoring sample number and location requirements for TTHM in 401 KAR 8:510 [8:500] [and handling and analytical method requirements of 40 C.F.R. 141.142(b)(1)] may use those data to determine if the requirements of this section apply.~~

~~2. [3. A system without four (4) quarters of HAA5 occurrence data that meet the requirements of subparagraph 1 or 2 of this paragraph by March 31, 1999 shall have either:~~

~~a. Conducted monitoring for HAA5 that meets the routine monitoring sample number and location requirements for TTHM in 401 KAR 8:500 and handling and analytical method requirements of 40 C.F.R. 141.142(b)(1) to determine if the requirements of subsection (2) of this section apply. This monitoring shall have been completed so that the applicability determination was able to be made not later than March 31, 2000; or~~

~~b. Complied with the other provisions of this section as if the HAA5 monitoring had been conducted and the results required compliance with subsection (2) of this section.~~

~~(c) The system may request that the cabinet approve a more representative annual data set than the data set determined under paragraph (a) or (b) of this subsection for the purpose of determining applicability of the requirements of this section.~~

~~(d) The cabinet may require that a system use a more representative annual data set than the data set determined under paragraph (a) or (b) of this subsection for the purpose of determining applicability of the requirements of this section.~~

~~(e) The system shall submit data to the cabinet according to the following schedule.~~

~~1. A system that collected TTHM and HAA5 data under 40 C.F.R. 141.140 to 141.144, as required by paragraph (a)1 and (b)1 of this subsection, shall submit the results of the samples collected during the last twelve (12) months of required monitoring under 40 C.F.R. 141.142 not later than December 31, 1999;~~

~~2. A system that collected four (4) consecutive quarters of HAA5 occurrence data that meet the routine monitoring sample number and location for TTHM in 401 KAR 8:500 and handling and analytical method requirements of 40 C.F.R. 141.142(b)(1), as allowed by paragraphs (a)2 and (b)2 of this subsection, shall have submitted those data to the cabinet not later than April 16, 1999. Until the cabinet has approved the data, the system shall conduct monitoring for HAA5 using the monitoring requirements specified under paragraph (b)3 of this subsection;~~

~~3. A system that conducts monitoring for HAA5 using the monitoring requirements specified by paragraphs (a)3 and (b)3a of this subsection shall have submitted TTHM and HAA5 data no later than March 31, 2000;~~

~~4. A system that elects to comply with all other provisions of this section as if the HAA5 monitoring had been conducted and the results required compliance with this section, as allowed under paragraph (b)3b of this subsection, shall have notified the cabinet in writing of its decision no later than December 31, 1999; or~~

~~5. If the system elects to request that the cabinet approve a more representative annual data set than the data set determined under paragraph (b)1 of this subsection, the system shall have submitted this request in writing no later than December 31, 1999.~~

~~(f) A system that has either a TTHM annual average of greater than or equal to 0.064 mg/L or an HAA5 annual average of greater than or equal to 0.048 mg/L [during the period identified in paragraphs (a) and (b) of this subsection] shall comply with subsection (2) of this section.~~

~~(2) Disinfection profiling.~~

~~(a) A system that meets the criteria in subsection (1)(f) of this section shall develop a disinfection profile of its disinfection practice for a period of up to three (3) years.~~

~~(b) The system shall monitor daily for twelve (12) consecutive months to determine the total logs of inactivation for each day of operation, based on the applicable [appropriate] CT_{99.9} values in Tables 1.1 - 1.6, 2.1, and 3.1 of 40 C.F.R. 141.74(b), June 29,~~

~~2004, as applicable[as appropriate], through the entire treatment plant. April 1, 2000 shall be the beginning date for required monitoring. [This system shall have begun this monitoring no later than April 1, 2000.]~~

~~1. As a minimum, the system with a single point of disinfectant application before the entrance to the distribution system shall conduct the monitoring in subparagraphs 3a to d [1 to 4] of this paragraph.~~

~~2. A system with more than one (1) point of disinfectant application shall conduct the monitoring in subparagraphs 3a to d [1 to 4] of this paragraph for each disinfection segment.~~

~~3. The system shall monitor the parameters necessary to determine the total inactivation ratio, using analytical methods in 40 C.F.R. 141.74(a), June 29, 2004, as follows:~~

~~a.[1-] The temperature of the disinfected water shall be measured once each day at each residual disinfectant concentration sampling point during peak hourly flow;~~

~~b.[2-] If the system uses chlorine, the pH of the disinfected water shall be measured once per day at each chlorine residual disinfectant concentration sampling point during peak hourly flow; .~~

~~c.[3-] The disinfectant contact time, or T, shall be determined for each day during peak hourly flow; and~~

~~d.[4-] The residual disinfectant concentration, or C, of the water before or at the first customer and before each additional point of disinfection shall be measured each day during peak hourly flow.~~

~~(c)1. Instead of the monitoring conducted under the provisions of paragraph (b) of this subsection to develop the disinfection profile, the system may elect to meet the requirements of subparagraph 2a [1] of this paragraph.~~

~~2. In addition to the monitoring conducted under the provisions of paragraph (b) of this subsection to develop the disinfection profile, the system may elect to meet the requirement of clause b [subparagraph 2] of this subparagraph [paragraph].~~

~~a.(i)[1-] A public water system that has three (3) years of existing operational data may submit those data, a profile generated using those data, and a request that the cabinet approve use of those data instead of monitoring under the provisions of paragraph (b) of this subsection not later than March 31, 2000.~~

~~(ii) The cabinet shall determine if these operational data are substantially equivalent to data collected under the provisions of paragraph (b) of this subsection.~~

~~(iii) These data shall also be representative of Giardia lamblia inactivation through the entire treatment plant and not just of certain treatment segments.~~

~~(iv) The system shall continue to conduct monitoring under the provisions of paragraph (b) of this subsection until receipt of written approval from the cabinet.~~

~~b.(i) [Until the cabinet approves this request, the system shall conduct monitoring under the provisions of paragraph (b) of this subsection.~~

~~2.] In addition to the disinfection profile generated under paragraph (b) of this subsection, a public water system that has existing operational data may use those data to develop a disinfection profile for additional years.~~

~~(ii) The system may use the additional yearly disinfection profiles to develop a benchmark under the provisions of subsection (3) of this section.~~

~~(iii) In accordance with 40 C.F.R. 141.72(b)(3)(ii), January 16, 2001, the cabinet shall determine if these operational data are substantially equivalent to data collected under the provisions of paragraph (b) of this subsection. These data shall also be representative of inactivation through the entire treatment plant and not just of certain treatment segments.~~

~~(d) The system shall calculate the total inactivation ratio as follows:~~

~~1. If the system uses only one (1) point of disinfectant application, the system shall determine the total inactivation ratio for the disinfection segment based on either of the following methods:~~

~~a. Determine one (1) inactivation ratio, CT_{calc}/CT_{99.9}, before or at the first customer during peak hourly flow; or~~

~~b.(i) Determine successive ratio values, CT_{calc}/CT_{99.9}, representing sequential inactivation ratios[.] between the point of disinfectant application and a point before or at the first customer during peak hourly flow.~~

(ii) Under this alternative, the system shall calculate the total inactivation ratio by determining $CT_{calc}/CT_{99.9}$ for each sequence and then adding the $CT_{calc}/CT_{99.9}$ values together to determine their summation, or $\sum(CT_{calc}/CT_{99.9})$.

2.g. If the system uses more than one (1) point of disinfectant application before the first customer, the system shall determine the CT value of each disinfection segment immediately before the next point of disinfectant application, or for the final segment, before or at the first customer, during peak hourly flow.

b. The $CT_{calc}/CT_{99.9}$ value of each segment and $\sum(CT_{calc}/CT_{99.9})$ shall be calculated using the method in subparagraph 1 of this paragraph.

3. The system shall determine the total logs of inactivation by multiplying the value calculated in subparagraph 1 or 2 of this paragraph by three and zero-tenths (3.0).

(e) A system that uses either chloramines or ozone for primary disinfection shall also calculate the logs of inactivation for viruses using a method pursuant to 40 C.F.R. 141.172(b)(5), January 16, 2001 [approved by the cabinet].

(f) The system shall retain disinfection profile data in graphic form, as a spreadsheet, or in some other format in accordance with 40 C.F.R. 141.172(b)(b), January 16, 2001, [acceptable to the cabinet] for review as part of a sanitary survey conducted by the cabinet.

(3) Disinfection benchmarking.

(a) A system required to develop a disinfection profile under the provisions of subsections (1) and (2) of this section and that decides to make a significant change to its disinfection practice shall submit the proposed change to the cabinet for its approval in accordance with conditions in 40 C.F.R. 141.172(c), January 16, 2001, before initiating any change. A significant change to disinfection practice shall be:

1. A change to the point of disinfection,
2. A change to the disinfectant used in the treatment plant;
3. A change to the disinfection process; and
4. Any other modification as provided by 40 C.F.R. 141.172(c)(iv), January 16, 2005 [identified by the cabinet].

(b) A system that is modifying its disinfection practice shall calculate its disinfection benchmark using the following procedure:

1.a. For each year of profiling data collected and calculated under subsection (2) of this section, the system shall determine the lowest average monthly Giardia lamblia inactivation in each year of profiling data.

b. The system shall determine the average Giardia lamblia inactivation for each calendar month for each year of profiling data by dividing the sum of daily Giardia lamblia of inactivation by the number of values calculated for that month; and

2. The disinfection benchmark shall be the lowest monthly average value[.] for a system with one (1) year of profiling data[.] or the average of lowest monthly average values[.] for a system with more than one (1) year of profiling data, of the monthly logs of Giardia lamblia inactivation in each year of profiling data.

(c) A system that uses either chloramines or ozone for primary disinfection shall also calculate the disinfection benchmark for viruses using a method in accordance with 40 C.F.R. 141.172(b)(5), January 16, 2001 [approved by the cabinet].

(d) The system shall submit the following information to the cabinet as part of the approval process:

1. A description of the proposed change;
2. The disinfection profile for Giardia lamblia and viruses, if necessary[.] under subsection (2) of this section, and benchmark as required by paragraph (b) of this subsection; and
3. An analysis of how the proposed change will affect the current levels of disinfection.

Section 4. Filtration. A public water system subject to the requirements of this administrative regulation shall provide treatment consisting of both disinfection, as specified in 401 KAR 8:150, Section 1, and filtration treatment that complies with the requirements of subsections (1) and (2) of this section or 401 KAR 8:150, Section 2(2) or (3) [by December 31, 2004].

(1) Conventional filtration treatment or direct filtration.

(a) For a system using conventional filtration or direct filtration, the turbidity level or representative samples of a system's filtered

water shall be less than or equal to three-tenths (0.3) NTU in at least ninety-five (95) percent of the measurements taken each month, measured as specified in 401 KAR 8:150, Section 3.

(b) The turbidity level of representative samples of a system's filtered water shall not exceed one (1) NTU, measured as specified in 401 KAR 8:150, Section 3.

(c) A system that uses lime softening may acidify representative samples before analysis using a protocol approved by the cabinet pursuant to 40 C.F.R. 141.173(e)(3), January 16, 2001.

(2) Filtration technologies other than conventional filtration treatment, direct filtration, slow sand filtration, or diatomaceous earth filtration.

(a) A public water system may use a filtration technology not listed in subsection (1) of this section or in 401 KAR 8:150, Section 2(2) or (3), if it demonstrates to the cabinet, using a pilot plant study or other means in accordance with 40 C.F.R. 141.173(b), January 16, 2001, that the alternative filtration technology, in combination with disinfection treatment that meets the requirements of 401 KAR 8:150, Section 1, consistently achieves ninety-nine and nine-tenths (99.9) percent (3-log) removal or inactivation of Giardia lamblia cysts and 99.99 percent (4-log) removal or inactivation of viruses, and ninety-nine (99) percent (2-log) removal of Cryptosporidium oocysts, and the cabinet approves the use of the filtration technology in accordance with conditions listed in 40 C.F.R. 141.173(b), January 16, 2001.

(b) For an approval, the cabinet shall set turbidity performance requirements as listed in 40 C.F.R. 141.173(b), January 16, 2001, that the system shall meet at least ninety-five (95) percent of the time and that the system shall not exceed at a level that consistently achieves ninety-nine and nine-tenths (99.9) percent removal or inactivation of Giardia lamblia cysts, 99.99 percent removal or inactivation of viruses, and ninety-nine (99) percent removal of Cryptosporidium oocysts.

Section 5. Filtration Sampling Requirements. (1) Monitoring requirements for a system using filtration treatment.

(a) In addition to monitoring required by 401 KAR 8:150, Section 3, a public water system subject to the requirements of this administrative regulation that provides conventional filtration treatment or direct filtration shall conduct continuous monitoring of turbidity for each individual filter using a method approved [an approved method] in 40 C.F.R. 141.74(a), January 29, 2004, [adopted without change in Section 8 of this administrative regulation] and shall calibrate a turbidimeter [turbidimeter] using the procedure specified by the manufacturer.

(b) A system shall record the results of individual filter monitoring every fifteen (15) minutes.

(2)(a) If there is a failure in the continuous turbidity monitoring equipment, the system shall conduct grab sampling every four (4) hours instead of continuous monitoring until the turbidimeter is repaired and back on-line.

(b) A system shall have a maximum of five (5) working days after failure to repair the equipment.

(c) If the equipment is not repaired in the five (5) days, the system shall be in violation.

Section 6. Reporting and Recordkeeping Requirements. In addition to the reporting and recordkeeping requirements in 401 KAR 8:020, Section 2(7), a public water system subject to the requirements of this administrative regulation that provides conventional filtration treatment or direct filtration shall report monthly to the cabinet the information required in this section [beginning January 1, 2002]. In addition to the reporting and record keeping requirements in 401 KAR 8:020, Section 2(7), a public water system subject to the requirements of this administrative regulation that provides filtration approved under Section 4(2) of this administrative regulation shall report monthly to the cabinet the information specified in subsection (1) of this section [beginning January 1, 2002]. The reporting in subsection (1) of this section shall be required instead of the reporting specified in 401 KAR 8:020, Section 2(7)(a)1.

(1) Turbidity measurements as required by Section 4 of this administrative regulation shall be reported within ten (10) days after the end of each month the system serves water to the public.

The following information shall be reported:

(a) The total number of filtered water turbidity measurements taken during the month;

(b) The number and percentage of filtered water turbidity measurements taken during the month that are less than or equal to the turbidity limits specified in Section 4(1) or (2) of this administrative regulation; and

(c) The date and value of a turbidity measurement taken during the month that exceeds one (1) NTU for a system using conventional filtration treatment or direct filtration, or that exceeds the maximum level ~~[set by the cabinet]~~ under Section 4(2) of this administrative regulation.

(2)(a) A system shall maintain the results of individual filter monitoring taken under Section 5 of this administrative regulation for at least three (3) years.

(b) A system shall report that it has conducted individual filter turbidity monitoring under Section 5 of this administrative regulation within ten (10) days after the end of each month the system serves water to the public.

(c) A system shall report individual filter turbidity measurement results taken under Section 5 of this administrative regulation within ten (10) days after the end of each month the system serves water to the public only if measurements demonstrate one (1) or more of the conditions in paragraphs (d)1 to (g) [(a)-to-(e)] of this subsection.

(d) A system that uses lime softening may apply to the cabinet for an alternative exceedance level for the level specified in sub-paragraphs 1 to 4 [paragraphs (a)-to-(d)] of this paragraph [subsection] if [it demonstrates that] a higher turbidity level in an individual filter is due to lime carryover only and is not due to degraded filter performance.

[(a)]1. For an individual filter that has a measured turbidity level of greater than one and zero-tenths (1.0) NTU in two (2) consecutive measurements taken fifteen (15) minutes apart, the system shall report the filter number, the turbidity measurement, and the date on which the exceedance occurred.

2. In addition, the system shall either:

a. Produce a filter profile for the filter within seven (7) days of the exceedance, if the system is not able to identify an obvious reason for the abnormal filter performance, and report that the profile has been produced; or

b. Report the obvious reason for the exceedance.

[(e)]1. For an individual filter that has a measured turbidity level of greater than five-tenths (0.5) NTU in two (2) consecutive measurements taken fifteen (15) minutes apart at the end of the first four (4) hours of continuous filter operation after the filter has been backwashed or otherwise taken offline, the system shall report the filter number, the turbidity, and the date on which the exceedance occurred.

2. In addition, the system shall either:

a. Produce a filter profile for the filter within seven (7) days of the exceedance, if the system is not able to identify an obvious reason for the abnormal filter performance, and report that the profile has been produced; or

b. Report the obvious reason for the exceedance.

[(f)]1. For an individual filter that has a measured turbidity level of greater than one and zero-tenths (1.0) NTU in two (2) consecutive measurements taken fifteen (15) minutes apart during each of three (3) consecutive months, the system shall report the filter number, the turbidity, and the date on which the exceedance occurred.

2.a. In addition, the system shall conduct a self-assessment of the filter within fourteen (14) days of the exceedance and report that the self-assessment was conducted.

b. The self-assessment shall consist of at least the following components:

(i)[a-] Assessment of filter performance;

(ii)[b-] Development of a filter profile;

(iii)[c-] Identification and prioritization of factors limiting filter performance;

(iv)[d-] Assessment of the applicability of corrections; and

(v)[e-] Preparation of a filter self-assessment report.

[(g)]1. For an individual filter that has a measured turbidity level of greater than two and zero-tenths (2.0) NTU in two (2) con-

secutive measurements taken fifteen (15) minutes apart in each of two (2) consecutive months, the system shall report the filter number, the turbidity measurement, and the date on which the exceedance occurred.

2.a. In addition, the system shall arrange for the cabinet or a third party approved by the cabinet in accordance with criteria listed in 40 C.F.R. 141.175(b)(4), January 16, 2001, to conduct a comprehensive performance evaluation pursuant to Section 7 of this administrative regulation not [re] later than thirty (30) days after the exceedance.

b. The evaluation shall be completed and submitted to the cabinet not [re] later than ninety (90) days after the exceedance.

(3) Additional reporting requirements.

(a) If the turbidity exceeds one (1) NTU in representative samples of filtered water in a system using conventional treatment or direct filtration, the system shall notify the cabinet as soon as possible, but not [re] later than the end of the next business day.

(b) If the turbidity in representative samples of filtered water exceed the maximum level ~~[set by the cabinet]~~ under Section 4(2) of this administrative regulation for filtration technologies other than conventional filtration treatment, direct filtration, slow sand filtration, or diatomaceous earth filtration, the system shall notify the cabinet as soon as possible, but not [re] later than the end of the next business day.

Section 7. Comprehensive Performance Evaluation. (1) If notified by a system pursuant to Section 6(2)(g)[(d)] of this administrative regulation, the cabinet or third party approved by the cabinet shall conduct a comprehensive performance evaluation to:

(a) Identify factors that may be adversely impacting a plant's capability to achieve compliance; and

(b) Emphasize an approach that a system may be able to implement without significant capital improvements.

(2) The comprehensive performance evaluation shall consist of at least the following:

(a) Assessment of plant performance;

(b) Evaluation of major unit processes;

(c) Identification and prioritization of performance-limiting factors;

(d) Assessment of the applicability of comprehensive technical assistance; and

(e) The final report of the results of the evaluation.

~~[Section 8. Federal Regulation Adopted Without Change. 40 C.F.R. 141.74, as in effect on July 1, 2000, is adopted without change. The provisions of this administrative regulation relating to analyses and monitoring requirements shall be governed by the federal regulation.]~~

LLOYD R. CRESS, Deputy Secretary

For TERESA J. HILL, Secretary

APPROVED BY AGENCY: February 14, 2007

FILED WITH LRC: February 15, 2007 at noon

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Department for Environmental Protection

Division of Water

(As Amended at ARRS, May 8, 2007)

401 KAR 8:162. Enhanced filtration and disinfection for small systems serving less than 10,000 people.

RELATES TO: KRS 224.10-100, 224.10-110, 40 C.F.R. 141.74, 141.500-141.571

STATUTORY AUTHORITY: KRS 224.10-100(30), 224.10-110(2), 40 C.F.R. 141.74, 141.500-141.571, 42 U.S.C. Chapter 6A Subchapter XII

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-

100(30) and 224.10-110(2) authorize the Secretary of the Environmental and Public Protection Cabinet to promulgate administrative regulations for the regulation and control of the purification of water for public and semipublic use. This administrative regulation establishes requirements for filtration and disinfection for a public water system that serves fewer than 10,000 people.

Section 1. Applicability. (1)(a) This administrative regulation shall be considered a national primary drinking water regulation for the surface water treatment rules of enhanced filtration and disinfection for small systems.

(b) This administrative regulation establishes requirements for filtration and disinfection that are in addition to the criteria in 401 KAR 8:150 under which filtration and disinfection are required for a public water system that uses surface water or groundwater under the direct influence of surface water.

(2) This administrative regulation shall apply to a public water system that serves fewer than 10,000 persons and that uses as its source surface water or groundwater under the direct influence of surface water.

Section 2. General Provisions. (1)(a) This administrative regulation establishes or extends treatment technique requirements instead of maximum contaminant levels for the following contaminants:

1. Giardia lamblia;
2. Viruses;
3. Heterotrophic plate count bacteria;
4. Legionella;
5. Cryptosporidium; and
6. Turbidity.

(b) The treatment technique requirements shall consist of installing and properly operating water treatment processes that reliably achieve:

1. At least ninety-nine (99) percent (2-log) removal[.] of Cryptosporidium between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer; and

2. Compliance with the profiling and benchmark requirements in Sections 3 and 4 of this administrative regulation.

(2) General requirements. A public water system that is subject to this administrative regulation shall comply with the following five (5) requirements, as applicable to the system:

(a) A community or nontransient noncommunity water system shall develop a disinfection profile as described in Section 3 of this administrative regulation;

(b) A water system that is considering making a significant change to its disinfection practices shall develop a disinfection benchmark and consult with the cabinet for approval of the change as described in Section 4 of this administrative regulation;

(c) A system shall comply with the combined filter effluent requirements in Section 5 of this administrative regulation;

(d) A system that uses conventional or direct filtration shall comply with the individual filter turbidity requirements of Section 6 of this administrative regulation; and

(e) A system shall comply with the reporting and recordkeeping requirements described in Section 7 of this administrative regulation.

Section 3. Disinfection Profile. (1)(a) Determination of systems required to profile. A community or nontransient noncommunity water system shall develop a disinfection profile unless pursuant to [the cabinet determines under] subsection (2) of this section, [that] a system profile is unnecessary.

(b) The disinfection profile shall contain a graphical representation of the system's level of Giardia lamblia or virus inactivation measured during the course of a year.

(c) The cabinet may approve the use of a more representative data set using criteria established in 40 C.F.R. 141.530, January 14, 2002, for disinfection profiling than the data set required in subsections (3) to (7) of this section.

(2) ~~[The cabinet shall use]~~ Only the following information shall be used to determine [in determining] if a system's profiling shall not be [is not] required

(a) The system's total trihalomethane level is below 0.064 mg/L, and the haloacetic acid level is below 0.048 mg/L; and

(b) The data used to determine the levels shall have been collected after January 1, 1998, during the month with the warmest water temperature, and at the point of maximum residence time in the distribution system.

(3) Developing profile. A disinfection profile shall consist of three (3) steps specified in paragraphs (a) to (c) of this subsection:

(a) 1. The system shall collect the data specified in subsection (4) of this section over the course of twelve (12) months.

2. a. A system that serves between 500 and 9,999 persons shall have begun to collect the data not [ne] later than July 1, 2003.

b. A system that serves fewer than 500 persons shall have begun to collect the data not [ne] later than July 1, 2004.

(b) The system shall use the data collected to calculate weekly log inactivations, as discussed in subsections (5) and (6) of this section; and

(c) The system shall use the weekly log inactivations to develop a disinfection profile as specified in subsection (7) of this section.

(4) Data required. The following parameters shall be monitored to determine the total log inactivation using the analytical methods in 40 C.F.R. 141.74(a), September 18, 1998, once per week on the same calendar day[.] over twelve (12) consecutive months:

(a) The temperature of the disinfected water at each residual disinfectant concentration sampling point during peak hourly flow;

(b) If chlorine is used, the pH of the disinfected water at each sampling point during peak hourly flow;

(c) The disinfectant contact time, or "T", during peak hourly flow; and

(d) The residual disinfectant concentration, or "C", of the water before or at the first customer and before each additional point of disinfection during peak hourly flow.

(5) Calculation of inactivation ratio and log inactivation.

(a) The total inactivation ratio shall be calculated as follows:

1. If the system uses only one (1) point of disinfectant application:

a. One (1) inactivation ratio before or at the first customer during peak hourly flow as follows: $CT_{calc}/CT_{99.9}$; or

b. Successive ratio values, $CT_{calc}/CT_{99.9}$, representing sequential inactivation ratios[.] between the point of disinfectant application and a point before or at the first customer during peak hourly flow. Under this alternative, the system shall calculate the total inactivation ratio by determining $CT_{calc}/CT_{99.9}$ for each sequence and then adding the $CT_{calc}/CT_{99.9}$ values together to determine their summation, or $\sum(CT_{calc}/CT_{99.9})$.

2. If a system uses more than one (1) point of disinfectant application before the first customer, the system shall determine the CT value of each disinfection segment immediately before the next point of disinfectant application, or for the final segment, before or at the first customer, during peak hourly flow. The $CT_{calc}/CT_{99.9}$ value of each segment and $\sum(CT_{calc}/CT_{99.9})$ shall be calculated using the method in subparagraph 1b of this paragraph.

(b) The log inactivation of Giardia lamblia shall be determined by multiplying the total inactivation ratio by three and zero-tenths (3.0).

(6) A system that uses chloramines, ozone, or chlorine dioxide for primary disinfection shall calculate the logs of inactivation for viruses and shall develop an additional disinfection profile using a method specified in 401 KAR 8:150.

(7) Disinfection profile.

(a) 1. A system shall calculate the inactivation ratio every week for fifty-two (52) consecutive weeks.

2. Each log inactivation ratio shall serve as a data point in the disinfection profile.

3. The system shall retain the disinfection profile data in a graphic form, such as a spreadsheet.

(b) The disinfection profile shall be available for review by the cabinet as part of a sanitary survey pursuant to 401 KAR 8:022.

(c) If the system is considering changes to disinfection practices, these data shall be used to calculate a benchmark pursuant to Section 4 of this administrative regulation.

Section 4. Disinfection Benchmark. A public water system required to perform a disinfection profile under Section 3 of this administrative regulation shall develop a disinfection benchmark before making a significant change in the distribution practice and shall consult with the cabinet for its approval before initiating any change, according to the procedures in this section.

- (1) A significant disinfectant practice change shall include:
- (a) A change to the point of disinfection;
 - (b) A change to the disinfectant used in the treatment plant;
 - (c) A change in the disinfection process; or
 - (d) Another modification identified pursuant to 40 C.F.R. 141.541, January 14, 2002 [by the cabinet].

(2)(a) A system that is considering a significant change to the disinfection practice pursuant to subsection (1) of this section shall submit the information required in subsection (3) of this section and the disinfection benchmark calculated according to subsections (4) and (5) of this section to the cabinet for its approval.

(b) Criteria for cabinet approval shall be in accordance with 40 C.F.R. 141.542, January 14, 2002 [A system shall not implement a significant change until it has obtained cabinet approval].

(3) The following information shall be submitted to the cabinet as part of the consultation and approval process:

- (a) A description of the proposed change;
- (b) The disinfection profile for Giardia lamblia and viruses, if necessary, and the disinfection benchmark;
- (c) An analysis of how the proposed change will affect the current levels of disinfection; and
- (d) Any other information pursuant to 40 C.F.R. 141.542, January 14, 2002, [requested by the cabinet] that is necessary for the cabinet to determine whether to approve the significant change.

(4) Calculation. The disinfection benchmark shall be calculated according to the following procedure:

- (a) Using the data collected to develop the disinfection profile, determine the average Giardia lamblia inactivation for each calendar month by dividing the sum of all Giardia lamblia inactivations for that month by the number of values calculated for that month.
- (b) Determine the lowest monthly average value out of the twelve (12) values. This lowest value shall be the disinfection benchmark.

(5)(a) A system that uses chloramine, ozone, or chlorine dioxide for primary disinfection shall calculate the disinfection benchmark from the data collected for viruses to develop the disinfection profile, in addition to the Giardia lamblia disinfection benchmark calculated under subsection (4) of this section.

(b) This viral benchmark shall be calculated in the same manner used to calculate the Giardia lamblia disinfection benchmark in subsection (4) of this section.

Section 5. Combined Filter Effluent Requirements. A public water system that uses filtration other than slow sand filtration or diatomaceous earth filtration shall meet the combined filter effluent turbidity requirements specified in subsections (1) to (3) of this section. A system that uses slow sand or diatomaceous earth filtration may meet the combined filter effluent turbidity limits of this administrative regulation[,] but shall continue to meet the combined filter effluent turbidity limits in 401 KAR Chapter 8:150 Section 2(2) and (3).

(1) Turbidity treatment technique requirements:

- (a) A system that uses conventional filtration or direct filtration shall meet the following two (2) combined filter effluent turbidity limits:
 1. 0.3 NTU in ninety-five (95) percent of the readings each month. This shall be the 95th percentile reading; and
 2. A maximum turbidity limit of one (1) NTU, which shall not be exceeded.

(b) A system that uses alternative filtration shall meet the two (2) turbidity limits, which are determined in accordance with 40 C.F.R. 141.552, January 14, 2002, [by the cabinet] based on the demonstration described in subsection (2) of this section, of:

- 1. A 95th percentile value, which shall not be more than one (1) NTU; and
- 2. A maximum turbidity limit, which shall not be more than five

(5) NTU.

(c) The measurements for paragraphs (a) and (b) of this subsection shall be taken as described in 40 C.F.R. 141.74(a) and (c), September 18, 1998.

2.[.] The system shall complete and submit monthly reports pursuant to Section 7 of this administrative regulation.

(2) Alternative filtration demonstration. A system that uses filtration other than slow sand filtration, diatomaceous earth filtration, conventional filtration, or direct filtration shall demonstrate to the cabinet, using criteria established in 40 C.F.R. 141.73(d), June 29, 2004 [pilot plant studies or other means], that the system's filtration, in combination with disinfection treatment, consistently achieves:

- (a) Ninety-nine (99) percent (2-log) removal of Cryptosporidium oocysts;
- (b) Ninety-nine and nine-tenths (99.9) percent (3-log) removal or inactivation of Giardia lamblia cysts; and
- (c) 99.99 percent (4-log) removal or inactivation of viruses.

(3) Lime softening. A system that practices lime softening may acidify representative combined filter effluent turbidity samples before analysis using a protocol specified by the "Long Term 1 Enhanced Surface Water Treatment Rule Turbidity Provisions: Technical Guidance Manual[, August 2004", incorporated by reference in Section 8 of this administrative regulation].

Section 6. Individual Filter Turbidity Requirements. (1) A system that uses as its source surface water or groundwater under the direct influence of surface water, that serves fewer than 10,000 persons, and that uses conventional filtration or direct filtration shall conduct continuous monitoring for turbidity at each individual filter in the system. The system shall

- (a) Conduct monitoring using a method approved [an approved method] in 40 C.F.R. 141.74(a), September 18, 1998;
- (b) Calibrate the turbidimeter using procedures specified by the manufacturer;
- (c) Record every fifteen (15) minutes the results of the turbidity monitoring;
- (d) Complete and submit monthly reports according to Section 7(1) of this administrative regulation; and
- (e) Maintain records according to Section 7 of this administrative regulation.

(2) Equipment failure.
(a) If there is a failure in the continuous turbidity monitoring equipment, the system shall conduct grab sampling every four (4) hours instead of continuous monitoring, until the turbidimeter is back on line.

(b) If the continuous monitoring is not resumed within fourteen (14) days, the system shall be in violation of this administrative regulation.

(3) Special provisions.
(a) If a system consists of two (2) or fewer filters, the system may conduct continuous monitoring of combined filter effluent turbidity instead of individual filter effluent turbidity monitoring.

(b) The continuous monitoring shall meet the requirements set forth in subsections (1)(a) to (d) and (2) of this section.

(4) Follow-up action.
(a) If the turbidity of an individual filter, or the turbidity of combined filter effluent for a system with two (2) filters that monitors the combined filter effluent instead of individual filters, exceeds one and zero-tenths (1.0) NTU in two (2) consecutive recordings fifteen (15) minutes apart, the system shall report to the cabinet by the tenth day of the following month. The report shall include:

1. The filter number;
2. The date of exceedance;
3. Turbidity values that exceeded one and zero-tenths (1.0) NTU; and
4. The cause of the exceedance, if known.

(b)1. If a system shall [is required to] report to the cabinet:
a. For three (3) consecutive months, and the turbidity exceeds one and zero-tenths (1.0) NTU in two (2) consecutive recordings fifteen (15) minutes apart at the same filter, or combined filter effluent for a system with two (2) filters that monitors combined filter effluent instead of individual filters, the system shall conduct a self-assessment of each filter within fourteen (14) days of the date

[day] the filter exceeded one and zero-tenths (1.0) NTU in two (2) consecutive measurements for the third straight month, unless a comprehensive performance evaluation shall be performed pursuant to [is specified in] clause b of this subparagraph [is required]. A system with two (2) filters that monitors combined filter effluent instead of individual filters shall conduct a self-assessment on both filters. The self-assessment shall consist of at least the following:

- (i) Assessment of filter performance;
- (ii) Development of a filter profile;
- (iii) Identification and prioritization of factors that limit filter performance;
- (iv) Assessment of the applicability of corrections;
- (v) Preparation of a filter self-assessment report;
- (vi) The date the report was triggered; and
- (vii) The date the report was completed.

b. For two (2) consecutive months and, the turbidity exceeded two and zero-tenths (2.0) NTU in two (2) consecutive recordings that were fifteen (15) minutes apart at the same filter, or combined filter effluent for a system with two (2) filters that monitors combined filter effluent instead of individual filters, the system shall arrange to have a comprehensive performance evaluation conducted by the cabinet or a third party approved by the cabinet, no later than sixty (60) days following the date [day] the filter exceeded two and zero-tenths (2.0) NTU in two (2) consecutive measurements for the second straight month. Requirements for third party approval shall be in accordance with 40 C.F.R. 141.563(c), June 29, 2004.

(i) If a comprehensive performance evaluation has been completed by the cabinet or a third party approved by the cabinet within the twelve (12) previous months, or the system and cabinet are jointly participating in an ongoing comprehensive technical assistance project at the system, a new comprehensive performance evaluation shall not be required.

(ii) If conducted, a comprehensive performance evaluation shall be completed and submitted to the cabinet not [no] later than 120 days after the day the filter exceeded two and zero-tenths (2.0) NTU in two (2) consecutive measurements for the second straight month.

(5) Lime softening.

(a) A system that practices lime softening may apply to the cabinet for alternative turbidity exceedance levels for the levels specified in the follow up actions required in subsection (4) of this section.

(b) The system shall [be able to] demonstrate to the cabinet that higher turbidity levels are due only to lime carryover and are not due to degraded filter performance.

Section 7. Reporting and Recordkeeping. (1) A system shall report combined filter effluent information[.] by the tenth day of the following month. This report shall include

- (a) Total number of filtered water turbidity measurements taken during the month;
- (b) Number and percentage of filtered water turbidity measurements taken during the month that are less than or equal to the system's required 95th percentile limit; and
- (c) Date and value of any turbidity measurements taken during the month that exceed the maximum turbidity value for the filtration system.

(2) A system shall report individual filter effluent information by the tenth day of the following month [unless noted otherwise]. This report shall include:

- (a) That the system has conducted individual filter turbidity monitoring;
- (b) The filter number, corresponding date, and turbidity values that exceeded one and zero-tenths (1.0) NTU during the month, but only if two (2) consecutive measurements exceeded one and zero-tenths (1.0) NTU;

(c) 1. If a self-assessment shall be [is] required, the date that it was triggered and the date that it was completed.

2. This information shall be submitted to the cabinet by the tenth day of the following month, or, if the self assessment was triggered only during the last four (4) days of the month, within fourteen (14) days after the self-assessment was triggered;

(d) If a comprehensive performance evaluation shall be [is] required, the fact that the evaluation was required and the date that it was triggered; and

(e) A copy of the completed comprehensive performance evaluation within 120 days after the evaluation was triggered.

(3) Disinfection profiling. The following information shall have been submitted to the cabinet by July 1, 2003 for a system that serves 500 to 9999, or July 1, 2004 for a system that serves less than 500:

- (a) The fact that the system has begun disinfection profiling; or
- (b) If the system forgoes profiling, the results of optional monitoring that shows levels of total trihalomethanes less than 0.064 mg/L and levels of haloacetic acids less than 0.048 mg/L.

(4) Disinfection benchmarking. If the system is considering a significant change to its disinfection practice, the system shall submit to the cabinet

- (a) A description of the proposed change in disinfection;
- (b) The system's disinfection profile for Giardia lamblia and viruses if necessary;
- (c) The system's disinfection benchmark; and
- (d) An analysis of how the proposed change will affect the current levels of disinfection.

(5) Recordkeeping. In addition to the recordkeeping requirements of 40 C.F.R. 141.75, [January 16, 2001 []], the system shall maintain the following records for the indicated period.

- (a) Results of individual filter monitoring: At least three (3) years; and
- (b) Results of profile and benchmark data, including raw data and analyses. Permanently [indefinitely].

Section 8. Incorporation by Reference. (1) "Long Term 1 Enhanced Surface Water Treatment Rule Turbidity Provisions: Technical Guidance Manual", August 2004,[] as published by the U.S. [United States] Environmental Protection Agency, Washington, D.C. is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at Division of Water, 14 Reilly Road, Frankfort, Kentucky 40601, Monday through Friday, 8:00 a.m. to 4:30 p.m. or through www.water.ky.gov.

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 8, 2006

FILED WITH LRC: November 14, 2006 at 4 p.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Water
 (As Amended at ARRS, May 8, 2007)

401 KAR 8:250. Inorganic chemical sampling, analytical techniques, and maximum contaminant levels.

RELATES TO: KRS 224.10-100(30), 224.10-110 [Chapter 224], 40 C.F.R. Part 141 [(4995)]

STATUTORY AUTHORITY: KRS 224.10-100(30) [224.10-400], 224.10-110(2), 40 C.F.R. 141.11, 141.23(k) [441-23], 141.41, 141.62 [(4995)], 42 U.S.C. Chapter 6A Subchapter XII [U.S.C.-A-f, 300g-300j]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-110(2) authorizes the Environmental and Public Protection [directs the] Cabinet to enforce administrative regulations promulgated [adopted] by the secretary for the regulation and control of the purification of water for public and semipublic use. [The Safe Drinking Water Act, as amended by the Safe Drinking Water Act Amendments of 1986, provides for primary enforcement responsibility by states that have adopted regulations "no less stringent than the national primary drinking water regulations", as well as meeting other criteria stipulated by the Act. The Commonwealth of Kentucky has accepted and is currently exercising this primary

enforcement responsibility.] This administrative regulation estab-
lishes [sets] sampling and analytical requirements for certain inor-
 ganic chemicals and sets maximum contaminant levels for those
 chemicals which, if exceeded, may [could] affect public health.
 [This administrative regulation conforms to, and is no more strin-
 gent than, federal regulations.]

Section 1. A community water system [systems] and a non-
 transient[,] noncommunity water system [systems] shall conduct
 monitoring to determine compliance with the maximum contaminant
 levels specified in Section 12 of this administrative regulation
 in accordance with this administrative regulation [section]. A tran-
 sient[,] noncommunity water system [systems] shall conduct moni-
 toring to determine compliance with the nitrate and nitrite maximum
 contaminant levels in Section 12 of this administrative regulation.
 Monitoring shall be conducted as follows:

(1)(a) A groundwater system [systems] shall take a minimum of
 one (1) sample at every entry point to the distribution system that
 [which] is representative of each well after treatment, [(hereafter
 called a sampling point,)] beginning in the initial compliance period
 [starting January 1, 1993].

(b) The system shall take each sample at the same sampling
 point unless conditions pursuant to 40 C.F.R. 141.23(a)(1), March
25, 2003, make another sampling point more representative of
 each source or treatment plant.

(2)(a) A surface water system, including a system [systems,
 including systems] using a combination of surface and groundwa-
 ter, shall take a minimum of one (1) sample at every entry point to
 the distribution system after any application of treatment or in the
 distribution system at a point that [which] is representative of each
 source after treatment, [(hereafter called a sampling point,)] be-
 ginning in the initial compliance period [beginning January 1,
 1993].

(b) The system shall take each sample at the same sampling
 point unless conditions make another sampling point more repre-
 sentative of each source or treatment plant.

(3) If a system draws water from more than one (1) source and
 the sources are combined before distribution, the system may
 sample at an entry point to the distribution system during periods of
 normal operating conditions, [(i.e., if [when] water is representa-
 tive of all sources being used)].

(4)(a) The cabinet may reduce the total number of samples
that [which] shall be analyzed in accordance with conditions
established in 40 C.F.R. 141.23(a)(4), March 25, 2003, by allow-
 ing the use of compositing.

(b) Composite samples from a maximum of five (5) sampling
 points are allowed, if the detection limit of the method used for
 analysis is less than one-fifth (1/5) of the MCL.

(c) Compositing of samples shall be done in the laboratory.

1.a.(a) If the concentration in the composite sample is greater
 than or equal to one-fifth (1/5) of the MCL of any inorganic chemi-
 cal, then a follow-up sample shall be taken within fourteen (14)
 days at each sampling point included in the composite.

b. These samples shall be analyzed for the contaminants that
 [which] exceeded one-fifth (1/5) of the MCL in the composite sam-
 ple.

c. Detection limits for each analytical method and MCLs for
 each inorganic contaminant are the following:

DETECTION LIMITS FOR INORGANIC CONTAMINANTS			
Contami- nant	MCL (mg/l)	Methodology	Detection Limit (mg/l)
Antimony	0.006	Atomic Absorption; Furnace	0.003
		Atomic Absorption; Platform	0.0008 ^b
		ICP-Mass Spectrome- try	0.0004
		Hydride-Atomic Ab- sorption	0.001
Arsenic	0.05, until	Atomic Absorption; Furnace	0.001

	January 23, 2006; 0.010, on or after January 23, 2006.	Atomic Absorption; Platform-Stabilized Temperature	0.0005 ^b
		Atomic Absorption; Gaseous Hydride	0.001
		ICP-Mass Spectrome- try	0.0014 ^c
Asbestos	7 MFL ¹	Transmission Electron Microscopy	0.01 MFL
Barium	2	Atomic Absorption; furnace technique	0.002
		Atomic Absorption; direct aspiration	0.1
		Inductively Coupled Plasma	0.002(0.001)
Beryllium	0.004	Atomic Absorption; Furnace	0.0002
		Atomic Absorption, Platform	0.00002 ^b
		Inductively Coupled Plasma ²	0.0003
		ICP-Mass Spectrome- try	0.0003
Cadmium	0.005	Atomic Absorption; furnace technique	0.0001
		Inductively Coupled Plasma	0.001
Chromium	0.1	Atomic Absorption; furnace technique	0.001
		Inductively Coupled Plasma	0.007(0.001)
Cyanide	0.2	Distillation, Spectro- photometric ³	0.02
		Distillation, Auto- mated Spectrophotometric ³	0.005
		Distillation, Selective Electrode ³	0.05
		Distillation, Amenable, Spectrophotometric ⁴	0.02
Mercury	0.002	Manual Cold Vapor Technique	0.0002
		Automated Cold Va- por Technique	0.0002
Nickel ²	0.1	Atomic Absorption; Furnace	0.001
		Atomic Absorption; Platform	0.0006 ^b
		Inductively Coupled Plasma ²	0.005
		ICP-Mass Spectrome- try	0.0005
Nitrate	10 (as N)	Manual Cadmium Reduction	0.01
		Automated Hydrazine Reduction	0.01
		Automated Cadmium Reduction	0.05
		Ion Selective Elec- trode	1
Nitrite	1 (as N)	Ion Chromatography	0.01
		Spectrophotometric	0.01
		Automated Cadmium Reduction	0.05
		Manual Cadmium Reduction	0.01
Selenium	0.05	Ion Chromatography	0.004
		Atomic Absorption; furnace	0.002

		Atomic Absorption; gaseous hydride	0.002
Thallium	0.002	Atomic Absorption; Furnace	0.001
		Atomic Absorption; Platform	0.0007 ⁵
		ICP-Mass Spectrometry	0.0003

¹MFL = million fibers per liter greater than ten (10) µm.
²Using a 2X preconcentration step as noted in U.S. EPA Method 200.7. Lower MDLs may be achieved by ~~when~~ using a 4X preconcentration.
³Screening method for total cyanides.
⁴Measures "free" cyanides.
⁵Lower MDLs are reported using stabilized temperature graphite furnace atomic absorption.
⁶The MDL reported for U.S. EPA Method 200.9, Atomic Absorption; Platform-Stabilized Temperature, was determined using a 2X concentration step during sample digestion. The MDL determined for samples analyzed using direct analyses, or no sample digestion, will be higher. Using multiple depositions, U.S. EPA Method 200.9 is capable of obtaining MDL of 0.0001 mg/L.
⁷Using selective ion monitoring, U.S. EPA Method 200.8, ICP-Mass Spectrometry, is capable of obtaining a MDL of 0.0001 mg/L.
⁸Remanded MCL for Nickel on February 9, 1995.

2.(b) If the population served by the system is greater than 3,300 persons, then compositing ~~shall~~ ~~may~~ ~~occur~~ ~~only~~ ~~be~~ ~~permitted~~ at sampling points within a single system. In a system that serves ~~(systems serving)~~ less than or equal to 3,300 persons, the cabinet ~~shall permit compositing among systems in accordance with conditions established in 40 C.F.R. 141.23(a)(4)(ii), March 25, 2003~~ ~~may permit compositing among different systems if the five (5) sample limit is maintained~~

3.a.(e) If duplicates of the original sample taken from each sampling point used in the composite are available, the system may use these instead of resampling

b. The duplicates shall be analyzed by a certified laboratory, ~~(laboratories)~~ and the results ~~shall be~~ reported to the cabinet within fourteen (14) days after completing analysis of the composite sample, ~~if the holding time is not exceeded (if collection).~~

(5)(a) The frequency of monitoring for asbestos shall be in accordance with Section 2 of this administrative regulation;

(b) The frequency of monitoring for antimony, arsenic, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, and thallium shall be in accordance with Section 3 of this administrative regulation;

(c) The frequency of monitoring for nitrate shall be in accordance with Section 4 of this administrative regulation; and

(d) The frequency of monitoring for nitrite shall be in accordance with Section 5 of this administrative regulation.

Section 2. Asbestos. The frequency of monitoring conducted to determine compliance with the maximum contaminant level for asbestos specified in Section 12 of this administrative regulation shall be as follows:

(1) Each community and nontransient(-) noncommunity water system shall monitor for asbestos during the first three (3) year compliance period of each nine (9) year compliance cycle beginning in the initial compliance period ~~(starting January 1, 1993).~~

(2) If the system believes it is not vulnerable to either asbestos contamination in its source water or due to corrosion of asbestos-cement pipe, or both, it may apply to the cabinet for a waiver of the monitoring requirement in subsection (1) of this section. If the cabinet grants the waiver pursuant to subsection 3(a) and (b) of this section, the system shall not be, ~~(the system is not)~~ required to monitor for asbestos pursuant to subsection (1) of this section.

(3) The cabinet may, in accordance with conditions established in 40 C.F.R. 141.23(b)(3), March 25, 2003, grant a waiver of the monitoring requirement in subsection (1) of this section based on a consideration of the following factors:

- (a) Potential asbestos contamination of the water source; and
- (b) The use of asbestos-cement pipe for finished water distribution and the corrosive nature of the water.

(4)(a) A waiver ~~shall remain~~ ~~(remains)~~ in effect until the com-

pletion of the three (3) year compliance period.

(b) A new waiver shall be requested and received for each compliance period.

(c) A system ~~(Systems)~~ not receiving a waiver shall monitor in accordance with the provisions of subsection (1) of this section.

(5) A system vulnerable to asbestos contamination due solely to corrosion of asbestos-cement pipe shall take one (1) sample at a tap served by asbestos-cement pipe and under conditions where asbestos contamination is most likely to occur.

(6) A system vulnerable to asbestos contamination due solely to source water shall monitor in accordance with the provision of Section 1 of this administrative regulation.

(7) A system vulnerable to asbestos contamination due both to its source water supply and corrosion of asbestos-cement pipe shall take one (1) sample at a tap served by asbestos-cement pipe and under conditions where asbestos contamination is most likely to occur.

(8) A system that ~~(which)~~ exceeds the maximum contaminant levels specified in Section 12 of this administrative regulation, as determined in Section 9 of this administrative regulation, shall monitor quarterly beginning in the next quarter after the violation occurred.

(9)(a) The cabinet may decrease the quarterly monitoring requirement to the frequency specified in subsection (1) of this section if ~~(the cabinet has determined that)~~ the system is reliably and consistently below the maximum contaminant level.

(b) This determination by the cabinet shall ~~(not)~~ be made ~~if~~ ~~(unless)~~ a groundwater system takes a minimum of two (2) quarterly samples, and a surface ~~(for combined surface and ground)~~ water system takes a minimum of four (4) quarterly samples.

(10) If monitoring data collected after January 1, 1990 are ~~(generally)~~ consistent with the requirements of this section, then the cabinet ~~shall~~ ~~(may)~~ allow systems to use that data to satisfy the monitoring requirement for the initial compliance period that began ~~(beginning)~~ January 1, 1993.

Section 3. Inorganic Contaminants other than Asbestos, Nitrate, and Nitrite. The frequency of monitoring conducted to determine compliance with the maximum contaminant levels in Section 12 (4) of this administrative regulation for antimony, arsenic, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, and thallium shall be as follows:

(1) Groundwater systems shall take one (1) sample at each sampling point once every three (3) years.

(2) Surface water systems, ~~(for combined surface and ground,~~ ~~)~~ shall take one (1) sample annually at each sampling point.

~~(a)1.(4)~~ A groundwater system ~~(systems)~~ shall take one (1) sample at each sampling point during each compliance period ~~(beginning in the compliance period starting January 1, 1993).~~

2. A surface water system ~~(systems)~~, or combined surface and groundwater system ~~(system)~~, shall take one (1) sample annually at each sampling point ~~(beginning January 1, 1993).~~

~~(b)1.(2)~~ The system may apply to the cabinet for a waiver from the monitoring frequencies specified in subsection (1) of this section.

2. The cabinet may grant a waiver for cyanide only if it is determined that the system is not vulnerable pursuant to 40 C.F.R. 141.23(c)(2), March 25, 2003 ~~(may be granted)~~ ~~(if the cabinet determines that the system is not vulnerable due to lack of any industrial source of cyanide).~~

~~(c)1.(3)~~ A public water system ~~(systems)~~ shall take a minimum of one (1) sample while a waiver granted under subsection (2) of this section is effective.

2. A waiver shall not be effective for more than one (1) compliance cycle of ~~(i.e.,)~~ nine (9) years~~()].~~

~~(d)1.(4)~~ A waiver may be granted in accordance with criteria established in 40 C.F.R. 141.23(c)(4), March 25, 2003, if surface water systems have monitored annually for at least three (3) years and groundwater systems have conducted a minimum of three (3) rounds of monitoring.

2. A system that uses a new water source shall not be ~~(At least one (1) sample shall have been taken since January 1, 1990. Both surface and groundwater systems shall demonstrate that all previous analytical results were less than the maximum contaminant~~

level. ~~Systems that use a new water source are not~~ eligible for a waiver until three (3) rounds of monitoring from the new source have been completed.

~~(e)(6)~~ In determining the applicable [appropriate] reduced monitoring frequency, the cabinet shall consider:

- ~~1.(a)~~ Reported concentrations from all previous monitoring;
- ~~2.(b)~~ The degree of variation in reported concentrations; and
- ~~3.(c)~~ Other factors that [which] may affect contaminant concentrations such as:

- ~~a.(1)~~ Changes in groundwater pumping rates;
- ~~b.(2)~~ Changes in the system's configuration;
- ~~c.(3)~~ Changes in the system's operating procedures; and
- ~~d.(4)~~ Changes in stream flows or characteristics.

~~(f)(6)~~ A decision by the cabinet in accordance with criteria established in 40 C.F.R. 141.23(c)(6), March 25, 2003 to grant a waiver shall be [made] in writing and shall establish [set forth] the basis for the determination. The determination may be initiated by the cabinet or upon an application by the public water system.

2. The public water system shall specify the basis for its request.

3. The cabinet shall review and, if applicable [appropriate], revise [its determination of] the [appropriate] monitoring frequency if [when] the system submits new monitoring data or if [when] other data relevant to the system's [appropriate] monitoring frequency become available.

~~(g)(7)~~ A system that exceeds [Systems which exceed] the maximum contaminant levels as calculated in Section 9 of this administrative regulation shall monitor quarterly beginning in the next quarter after the violation occurred.

~~(h)(9)~~ The cabinet shall [may] decrease the quarterly monitoring requirement to the frequencies specified in subparagraphs (a) and (b) [subsections (1) and (2)] of this subsection if [section if it has determined that] the system is reliably and consistently below the maximum contaminant level.

2. This determination shall [may] only be made if [when] a groundwater system takes a minimum of two (2) quarterly samples and a surface water system takes a minimum of four (4) quarterly samples.

~~(i)(9)(a)~~ A new system or a system that uses a new source of water that began operation after November 15, 1990 [the effective date of this administrative regulation] shall demonstrate compliance with the maximum contaminant levels in Section 12 of this administrative regulation within a period of time specified by 40 C.F.R. 141.23(c)(9), March 25, 2003 [the cabinet].

2.(b) The system shall also comply with the initial sampling frequencies specified by this administrative regulation [the cabinet] to ensure that the [a] system is able to demonstrate compliance with the maximum contaminant levels.

3.(e) Routine and increased monitoring frequencies shall be conducted in accordance with the requirements of this administrative regulation.

Section 4. Nitrate. A public water system; [either community, nontransient noncommunity or transient noncommunity system;] [All public water systems (community, nontransient, noncommunity, and transient, noncommunity systems)] shall monitor to determine compliance with the maximum contaminant level for nitrate in Section 12 of this administrative regulation.

(1)(a) A community or nontransient noncommunity water system served by a groundwater source shall monitor annually; and

(b) A community or nontransient noncommunity water system served by a surface water source shall monitor quarterly [and nontransient, noncommunity water systems served by groundwater systems shall monitor annually beginning January 1, 1993, systems served by surface water shall monitor quarterly beginning January 1, 1993].

(2)(a) For a community or [and] nontransient [noncommunity] water system [systems], the repeat monitoring frequency for groundwater systems shall be quarterly for at least one (1) year following any one (1) sample in which the concentration is greater than or equal to fifty (50) percent of the maximum contaminant level.

(b) The cabinet may allow a groundwater system to reduce the

sampling frequency to annually if [after] four (4) consecutive quarterly samples are reliably and consistently less than the maximum contaminant level in accordance with conditions established in 40 C.F.R. (d)(2), March 25, 2003.

(3)(a) For a community or [and] nontransient [noncommunity] water system [systems], the cabinet shall [may] allow a surface water system to reduce the sampling frequency to annually if all analytical results from four (4) consecutive quarters are less than fifty (50) percent of the maximum contaminant level.

(b) A surface water system shall return to quarterly monitoring if any one (1) sample is greater than or equal to fifty (50) percent of the maximum contaminant level (MCL).

(4) Each transient noncommunity water system shall monitor annually [beginning January 1, 1993].

(5) After the initial round of quarterly sampling is completed, each community and nontransient [noncommunity] system that monitors [which] [is monitoring] annually shall take subsequent samples during the quarters that [which] previously resulted in the highest analytical result.

(6) A noncommunity water system may exceed the maximum contaminant level for nitrates if the conditions of Section 17 of this administrative regulation are met.

Section 5. Nitrite. A [All] public water system [systems] (community, [nontransient, [noncommunity, or [and] transient, noncommunity system] systems)] shall monitor to determine compliance with the maximum contaminant level for nitrite in Section 12 of this administrative regulation.

(1) A [All] public water system shall collect [have taken] [systems shall take] one (1) sample at each sampling point in the compliance period [beginning January 1, 1993 and ending December 31, 1995].

(2) After the initial sample, a system with [systems where] an analytical result for nitrite of [is] less than fifty (50) percent of the MCL shall monitor at the frequency specified in subsection (3) of this section [by the cabinet].

(3)(a) For a community, nontransient [noncommunity, or [and] transient noncommunity water system] [systems], the repeat monitoring frequency for a water system shall be quarterly for at least one (1) year following any one (1) sample in which the concentration is greater than or equal to fifty (50) percent of the maximum contaminant level.

(b) The cabinet may allow a system to reduce the sampling frequency to annually if [after] determining the system is reliably and consistently less than the maximum contaminant level in accordance with conditions established in 40 C.F.R. 141.23(d)(2), March 25, 2003.

(4) A system that is [Systems which are] monitoring annually shall take each subsequent sample during the quarters that [which] previously resulted in the highest analytical result.

Section 6. Confirmation Sampling. (1) If the results of sampling for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, or thallium indicate an exceedance of the maximum contaminant level, the cabinet may, in accordance with conditions established in 40 C.F.R. 141.23(f)(1), March 25, 2003, require that one (1) additional sample be collected within two (2) weeks after the initial sample was taken at the same sampling point.

(2)(a) If nitrate or nitrite sampling results indicate an exceedance of the maximum contaminant level, the system shall take a confirmation sample within twenty-four (24) hours of the system's receipt of notification of the analytical results of the first sample.

(b) A public water system [systems] unable to comply with the twenty-four (24) hour sampling requirement shall immediately notify the consumers served by the area served by the public water system in accordance with the requirements for a Tier 1 notice in 401 KAR 8 070.

(c) A system [Systems] exercising this option shall take and analyze a confirmation sample within two (2) weeks of notification of the analytical results of the first sample.

(3)(a) If a confirmation sample is taken for any contaminant, then the results of the initial and confirmation sample shall be averaged.

(b) The resulting average shall be used to determine the system's compliance in accordance with Section 9 of this administrative regulation.

(c) The cabinet shall [may] delete results of obvious sampling errors.

Section 7. The cabinet may require more frequent monitoring than specified in Sections 2 to 5 of this administrative regulation or may require confirmation samples for positive and negative results, if necessary to ensure the protection of public health.

Section 8. Public water systems may apply to the cabinet to conduct more frequent monitoring than the minimum monitoring frequencies specified in this administrative regulation.

Section 9. Compliance Determinations. Compliance with Section 12 of this administrative regulation shall be determined based on the analytical result obtained at each sampling point.

(1)(a) For a system that is [systems which are] conducting monitoring at a frequency greater than annual, compliance with the maximum contaminant levels for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, or thallium shall be determined by a running annual average at any sampling point.

(b) If the average at any sampling point is greater than the maximum contaminant level, then the system shall be [deemed to be] out of compliance.

(c) If any one (1) sample causes [would cause] the annual average to be exceeded, then the system shall be [deemed to be] out of compliance immediately.

(d) Any sample below the method detection limit shall be calculated at zero for the purpose of determining the annual average.

(e) If a system fails to collect the required number of samples, compliance or the average concentration shall be based on the total number of samples collected.

(2)(a) For a system that is [systems which are] monitoring annually, or less frequently, the system shall be deemed to be out of compliance with the maximum contaminant levels for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, or thallium if the level of a contaminant at any sampling point is greater than the maximum contaminant level.

(b) If a confirmation sample shall be [is] required [by the cabinet], the determination of compliance shall [will] be based on the average of the two (2) samples.

(c) If a system fails to collect the required number of samples, compliance or the average concentration shall be based on the total number of samples collected.

(3)(a) Compliance with the maximum contaminant levels for nitrate and nitrite shall be [is] determined based on one (1) sample if the levels of these contaminants are [is] below the maximum contaminant levels.

(b) If the levels of nitrate or nitrite exceed the maximum contaminant levels in the initial sample, the system shall take and submit a confirmation sample [is required] in accordance with Section 6(2) of this administrative regulation, and compliance shall be determined based on the average of the initial and confirmation samples.

(4) Arsenic sampling results shall be reported to the nearest 0.001 mg/L.

(5) If a public water system has a distribution system separable from other parts of the distribution system without [with-are] interconnections, public notice shall be provided in accordance with 401 KAR 8:070, Section 1(3)(b) [the cabinet may allow the system to give public notice to only the area served by that portion of the system that] [which] [is out of compliance].

Section 10. Each public water system shall monitor when [at the times] [time] designated by the cabinet during each compliance period, as specified in writing to the public water system.

Section 11. Inorganic Analysis. Analytical methods for inorganic chemicals. Analyses for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel,

nitrate, nitrite, selenium, sodium, and thallium shall be conducted in accordance with 40 C.F.R. 141.23(k), January 25, 2003 [in effect on July 1, 1995, hereby adopted without change].

Section 12. Maximum Contaminant Levels. (1) The maximum contaminant levels for inorganic contaminants specified in subsection (4)(b) to (f) and (l) to (p) [subsections (2) to (6) and (10) to (16)] [and (11) to (15)] of this section shall apply to community water systems and nontransient[;] noncommunity water systems.

(2) The maximum contaminant level specified in subsection (4)(a) and (p) [subsections (1) and (16)] of this section shall apply only to community water systems.

(3) The maximum contaminant levels specified in subsection (4)(g), (h) and (p) [subsections (7), (8), and (9)] of this section shall apply to community water systems, [;] nontransient[;] noncommunity water systems, [;] and transient noncommunity water systems.

(4) The MCLG for each of the inorganic contaminants specified in paragraphs (a) to (p) of this subsection [subsections (1) to (16)] are listed in 40 C.F.R. 141.51(b), January 22, 2001.

CONTAMINANT	MAXIMUM CONTAMINANT LEVEL (mg/l)
(a)[(1)] Fluoride	4.0
(b)[(2)] Asbestos	7 Million Fibers/liter (longer than 10 micrometers)
(c)[(3)] Barium	2
(d)[(4)] Cadmium	0.005
(e)[(5)] Chromium	0.1
(f)[(6)] Mercury	0.002
(g)[(7)] Nitrate	10 (as Nitrogen)
(h)[(8)] Nitrite	1 (as Nitrogen)
(l)[(9)] Total Nitrate and Nitrite	10 (as Nitrogen)
(i)[(10)] Selenium	0.05
(k)[(11)] Antimony	0.006
(l)[(12)] Beryllium	0.004
(m)[(13)] Cyanide, [(as free Cyanide)]	0.2
(n)[(14)] Nickel	U.S. EPA remanded MCL February 9, 1995 [0.4]
(o)[(15)] Thallium	0.002
(p)[(16)] Arsenic	0.05, until January 23, 2006 0.010, on or after January 23, 2006

Section 13. Best Available Technology. The following shall be [are hereby] identified as the best technology, treatment technique, or [either] means available for achieving compliance with the maximum contaminant levels for inorganic contaminants identified in Section 12 of this administrative regulation, except fluoride:

BAT FOR INORGANIC COMPOUNDS	
CHEMICAL NAME	BAT
Antimony	2,7
Arsenic ¹	1,2,5,6,7,9,12 ²
Asbestos	2,3,8
Barium	5,6,7,9
Beryllium	1,2,5,6,7
Cadmium	2,5,6,7
Chromium	2,5,6 ³ ,7
Cyanide	5,7,10
Mercury	2 ¹ ,4,6 ¹ ,7 ¹
Nickel	5,6,7
Nitrate	5,7,9
Nitrite	5,7
Selenium	1,2 ³ ,6,7,9
Thallium	1,5

¹BAT only if influent Hg concentrations are less than or equal to 10 µg/l.

²BAT for Chromium III only.

³BAT for Selenium IV only.

⁴BAT for Arsenic V. Preoxidation may be required to convert Arsenic III to Arsenic V.

⁵To obtain high removals, iron to arsenic ratio shall be at least 20:1.

KEY TO BATS IN TABLE	
1 = Activated Alumina	6 = Lime Softening, <u>Not BAT for systems with less than 500 service connections</u>
2 = Coagulation and Filtration, <u>Not BAT for systems with less than 500 service connections.</u>	7 = Reverse Osmosis
3 = Direct and Diatomite Filtration	8 = Corrosion Control
4 = Granular Activated Carbon	9 = Electrodialysis
5 = Ion Exchange	10 = Chlorine
	11 = Ultraviolet
	12 = Oxidation/Filtration

Section 14. Affordable Technology. The following table identifies the affordable technology, treatment technique, or other means available to systems serving ten thousand (10,000) or fewer persons for achieving compliance with the maximum contaminant level for arsenic in Section 12 of this administrative regulation.

Small System Compliance Technologies ¹ for Arsenic ²	
Small system compliance technology.	Affordable for listed small system categories ³
Activated Alumina, centralized	All size categories
Activated Alumina, point-of-use ⁴	All size categories
Coagulation, Filtration ⁵	501 - 3,300; 3301 - 10,000
Coagulation-assisted Microfiltration	501 - 3,300; 3301 - 10,000
Electrodialysis reversal ⁶	501 - 3,300; 3301 - 10,000
Enhanced coagulation, filtration	All size categories
Enhanced lime softening, pH>10.5	All size categories
Ion Exchange	All size categories
Lime Softening ⁷	501 - 3,300; 3301 - 10,000
Oxidation, Filtration ⁷	All size categories
Reverse Osmosis, centralized ⁸	501 - 3,300; 3301 - 10,000
Reverse Osmosis, point-of-use ⁴	All size categories

¹ Small system compliance technologies shall be affordable and technically feasible for small systems.

² Small system compliance technologies for Arsenic V. Preoxidation may be required to convert Arsenic III to Arsenic V.

³ Three (3) categories of small systems: those serving more than twenty-five (25) but fewer than 501; those serving more than 500, but fewer than 3,301; and those serving more than 3,300 but fewer than 10,001.

⁴ If point of use or point of entry devices are used for compliance, the programs to ensure proper long-term operation, maintenance, and monitoring shall be provided by the system to ensure adequate performance.

⁵ Unlikely to be installed solely for arsenic removal. May require pH adjustment to optimal range if high removals are needed.

⁶ Technologies reject a large volume of water. May not be applicable [appropriate] for areas where water quantity may be an issue.

⁷ To obtain high removals, iron to arsenic ratio shall be at least 20:1.

Section 15. Special Monitoring for Sodium. (1) Those required to sample. Suppliers of water for community public water systems shall collect and analyze one (1) sample per plant at the entry point of the distribution system for the determination of sodium concentration levels.

(2) Sampling frequency.

(a) 1. Community water systems, surface source. A system that uses [Systems utilizing] surface water sources in whole or in part shall collect and analyze samples semiannually.

2. Samples shall be collected one (1) time during the wet season and one (1) time during the dry season per calendar year.

(b) Community water systems, groundwater sources. A system that uses [Systems utilizing] only groundwater sources shall collect and analyze samples annually.

(c) Samples required.

1. The minimum number of samples required to be taken by the system shall be based upon the number of treatment plants used by the system, except the cabinet shall [may] consider multiple wells drawing raw water from a single aquifer to be one (1) treatment plant for the purpose of determining the minimum number of samples.

2. The supplier of water may be required to collect and analyze water samples for sodium more frequently in locations where the sodium content is variable.

(d) Analyses for sodium shall be in accordance with methods approved for drinking water by the U.S. EPA [Environmental Protection Agency] in 40 C.F.R. 141.23(k), January 25, 2003 [in-effect on July 1, 1995, hereby adopted without change].

(3) Reporting.

(a) The supplier of water shall report to the cabinet the results of the analyses for sodium within ten (10) days of the end of the month in which the sample results were received or within ten (10) days following the end of the required monitoring period, as determined by the cabinet, in accordance with 40 C.F.R. 141.41, December 5, 2004 whichever of these is first.

(b) If more than annual sampling shall be [is] required, the supplier shall report the average sodium concentration within ten (10) days of the end of the month in which the analytical results of the last sample used for the annual average was received.

(4) Acceptable sodium limits.

(a) A level of twenty (20) mg/l of sodium shall be considered an optimum concentration for drinking water.

(b) The supplier of water shall notify appropriate local and state public health officials of the sodium levels, by written notice by direct mail, within three (3) months of testing.

(c) A copy of each notice required to be provided by this subsection shall be sent to U.S. EPA and the cabinet within ten (10) days of its issuance. [The supplier of water shall not be required to notify appropriate local and state public health officials of the sodium levels where the state provides the notices in lieu of the supplier.]

(5) Public notification. The provisions of 401 KAR 8:070 shall [do] not apply to sodium levels unless the water supplier chooses [opts] to notify the public.

Section 16. [45.] Variance and Exemptions for Fluoride. In addition to the requirements for requesting a variance or exemption provided in 401 KAR 8.060, the following provisions shall be [are] applicable if a variance or exemption from the maximum contaminant level for fluoride is requested:

(1) Best available technology. The following are the best available technology, treatment techniques or other means generally available for achieving compliance with the maximum contaminant level for fluoride:

(a) Activated alumina absorption, centrally applied; and

(b) Reverse osmosis, centrally applied.

(2) Public water systems shall apply the best available technology, treatment techniques, or other means generally available to the water system and specified in subsection (1)[(a)-or-(b)] of this section, prior to the cabinet's consideration of a variance request for fluoride, unless:

(a) Pursuant to 401 KAR 8.060, the public water system submits to the cabinet information, based upon studies of the public water system and other relevant information, described in 40 C.F.R. 142.61(b), April 2, 1986 that demonstrates that the technology, treatment technique, or other available means identified in subsection (1) of this section is not available and effective for the public water system; and

(b) [The cabinet determines, based upon the information submitted that] The best available technology, treatment technique, or other means generally available is not available and effective for the system.

(3) Prior to granting a variance, the cabinet shall issue a compliance schedule that [which] requires the public water system to examine the following treatment techniques to determine the probability that any of these methods will significantly reduce the level of fluoride for that system, and, if so, to determine if those methods are technically feasible and economically reasonable; and to de-

termine if the fluoride reductions obtained are commensurate with the costs incurred with the installation and use of the treatment methods for that system:

- (a) Modification of lime softening;
- (b) Alum coagulation;
- (c) Electrodialysis;
- (d) Anion exchange resins;
- (e) Well field management;
- (f) Alternate source; and
- (g) Regionalization.

(4) If the cabinet determines, In accordance with 40 C.F.R. 142.61(c), April 2, 1986, that a treatment technique identified in subsection (3) of this section is technically feasible, economically reasonable, and will achieve fluoride reductions commensurate with costs incurred with the installation and use of the treatment technique for the public water system, the cabinet shall require the system to install and use that treatment method in connection with a compliance schedule issued pursuant to 401 KAR 8 060.

Section 17. Nitrate Exemption (1) A noncommunity water system may exceed the maximum contaminant level for nitrates, but shall not exceed twenty (20) mg/L, if the system demonstrates to the satisfaction of the cabinet, in accordance with 40 C.F.R. 141.11(d), January 22, 2001, that the conditions of subsection (2)(a) to (d) [subsections (1) to (4)] of this section shall be met.

(2) A monitoring value above twenty (20) mg/L, or if a condition of this section is not met for monitoring values above ten (10) mg/L, shall be considered a violation.

(a)[(1)] The water shall not be available to children under six (6) months of age;

(b)[(2)] The noncommunity water system shall notify the public according to the requirements for a Tier 1 notification in 401 KAR 8.070, including continuous posting;

(c)[(3)] The water system shall notify local and state health officials of the exceedance; and

(d)[(4)] Adverse health effects shall not result.

LLYOD R. CRESS, Deputy Secretary
 For TERESA J. HILL, Secretary
 APPROVED BY AGENCY: February 14, 2007
 FILED WITH LRC: February 15, 2007 at noon
 CONTACT PERSON: Justin Dearing, Regulations Coordinator
 Division of Water, Department for Environmental Protection, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-3410, fax (502) 564-0111.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Water
 (As Amended at ARRS, May 8, 2007)

401 KAR 8:510. Disinfectant residuals, disinfection by-products, and disinfection by-product precursors.

RELATES TO: KRS 224.10-100, 224.10-110, 40 C.F.R. [141.140-141.144,] 142.60

STATUTORY AUTHORITY: KRS 224.10-100(30), 224.10-110(2), 40 C.F.R. [141.20,] 141.30, 141.64, 141.65, 141.130-141.135, [141.140-141.144,] 42 U.S.C. Chapter 6A Subchapter XII [300f, 300g, 300h, 300j]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(30) and 224.10-110(2) authorize the Environmental and Public Protection [require the] Cabinet to enforce administrative regulations promulgated [adopted] by the secretary for the regulation and control of the purification of water for public and semipublic use. This administrative regulation establishes the maximum contaminant levels for total trihalomethanes and haloacetic acid five (5) to limit the levels of known and unknown disinfection by-products.

Section 1. Applicability. (1) This administrative regulation shall be considered a national primary drinking water regulation.

(2) This administrative regulation establishes criteria under which:

(a) A community water system or [and] a nontransient noncommunity water system that adds [add] a chemical disinfectant as a part of the drinking water treatment process shall:

1. Modify its [their] practices to meet maximum contaminant levels, or MCLs, and maximum residual disinfectant levels, or MRDLs, listed in Section 3 of this administrative regulation; and

2. Meet the treatment technique requirements for disinfection by-product precursors in Section 9 of this administrative regulation; and

(b) A transient noncommunity water system that uses chlorine dioxide as a disinfectant or oxidant shall modify its practices to meet the MRDL for chlorine dioxide in Section 3 of this administrative regulation

(3) This administrative regulation establishes MCLs for TTHM and HAA5 and treatment technique requirements for disinfection by-product precursors to limit the levels of known and unknown disinfection by-products, which may have adverse health effects.

(4) Control of disinfectant residuals. ~~[The cabinet recognizes that]~~ The addition of a disinfectant is necessary for control of waterborne microbial contaminants. Notwithstanding the MRDLs in Section 3 of this administrative regulation, a system may increase the residual disinfectant level in the distribution system of chlorine or chloramines, except [but not] chlorine dioxide, to a level and for the amount of time necessary to protect public health, to address a specific microbiological contamination problem caused by circumstances such as:

- (a) A distribution line break;
- (b) Storm run-off event;
- (c) Source water contamination event; or
- (d) Cross-connection event.

Section 2. Compliance Dates. (1) Community water system and nontransient noncommunity water system. Unless otherwise noted, a community water system or [and] a nontransient noncommunity water system that uses as its source a surface water or groundwater under the direct influence of surface water shall comply with this administrative regulation ~~[by the date indicated as follows:~~

~~(a) If the system serves 10,000 or more persons: Beginning January 1, 2002;~~

~~(b) If the system serves fewer than 10,000 persons or if the system uses only groundwater not under the direct influence of surface water: Beginning January 1, 2004].~~

(2) Transient noncommunity water system. ~~[Unless otherwise noted,] A transient noncommunity water system that [uses as its source a surface water or groundwater under the direct influence of surface water shall comply with this administrative regulation by the date indicated as follows:~~

~~(a) If the system serves 10,000 or more persons and] uses chlorine dioxide as a disinfectant or oxidant[; the system] shall comply with the requirement for chlorine dioxide in this administrative regulation, [beginning January 1, 2002; and~~

~~(b) If the system serves fewer than 10,000 persons and uses chlorine dioxide as a disinfectant or oxidant, or the system uses only groundwater not under the direct influence of surface water and uses chlorine dioxide as a disinfectant or oxidant, the system shall comply with the requirement for chlorine dioxide in this administrative regulation beginning January 1, 2004].~~

(3) ~~[A system that is installing GAC or membrane technology to comply with the MCLs for disinfection by-products may apply to the cabinet for an extension of up to twenty-four (24) months past the dates in subsections (1) and (2) of this section, but not beyond December 31, 2003. In granting the extension, the cabinet shall set a schedule for compliance and may specify any interim measure that the system shall take. Failure to meet the schedule or interim treatment requirements shall constitute a violation of this administrative regulation.~~

~~(4)] Consecutive systems. Consecutive water systems shall monitor for trihalomethanes and HAA5 as follows:~~

~~(a) For purposes of determining the applicability and compliance dates, the sum of the populations of the system producing the water and the system purchasing the water shall be used.~~

(b) Producers.

1. a. A public water system that produces water and that provides water to another system shall be responsible for monitoring throughout the joint distribution system, which shall consist of the distribution systems of both the producing system and all purchasing systems.

b. Monitoring shall be performed pursuant to this administrative regulation at a point in the joint distribution system that reflects the longest period of retention.

2. a. If more than one (1) system produces water sold to a distribution system, monitoring shall be divided between or among the producing systems by a plan that reflects the likely flow of each producing system's water.

b. A monitoring plan for total trihalomethanes and HAA5s shall be submitted by all producing systems and shall be approved by the cabinet pursuant to Section 6(6) of this administrative regulation.

(c) Purchasers.

1. a. A system that purchases water shall alter distribution operation and maintenance practices necessary to alleviate any potential exceedance of the MCL for TTHM or HAA5 anywhere in its distribution system.

b. The altered practices may include line flushing and replacement, changes to points of disinfection, elimination of points of disinfection, tank turnover practices, or other changes to facilitate reductions in levels of contamination, and shall be approved by the cabinet in accordance with conditions listed in 40 C.F.R. 141.130(b), January 16, 2001, before the altered practices begin.

2. a. A purchasing system shall cooperate in the development of a monitoring plan required from the producing system under paragraph (b) of this subsection.

b. A purchasing system shall monitor for maximum residual disinfectant levels at the same points in the distribution system, and at the same time as total coliforms are sampled as specified in 401 KAR 8:200.

Section 3. Maximum Levels. (1) Maximum contaminant level. The maximum contaminant level or MCL for disinfection by-products shall be:

- (a) Total trihalomethanes, or TTHMs: 0.080 mg/L;
- (b) Haloacetic acids five, or HAA5: 0.060 mg/L;
- (c) Bromate: 0.010 mg/L; and
- (d) Chlorite: one and zero-tenths (1.0) mg/L.

(2) Maximum residual disinfectant level.

(a) The maximum residual disinfectant level, or MRDL, shall be:

- 1. Chlorine: four and zero-tenths (4.0) mg/L as Cl₂;
- 2. Chloramines: four and zero-tenths (4.0) mg/L as Cl₂; and
- 3. Chlorine dioxide: zero and eight-tenths (0.8) mg/L as ClO₂.

(b) 1. For chlorine and chloramines, a public water system shall be in compliance with the MRDL if the running annual average of monthly averages of samples taken in the distribution system quarterly [is] is less than or equal to the MRDL.

2. For chlorine dioxide, a public water system shall be in compliance with the MRDL if daily samples are taken at the entrance to the distribution system, and [are] two (2) consecutive daily samples shall not exceed the MRDL.

(c) The MRDL shall be required [enforceable] in the same manner as [are] maximum contaminant levels.

Section 4. Best Available Technology. (1) Disinfection by-products listed. The following shall be the best technology, treatment techniques, or other means available for achieving compliance with the MCLs for disinfection by-products in Section 3 of this

administrative regulation:

(a) TTHM: Enhanced coagulation or enhanced softening or GAC10, with chlorine as the primary and residual disinfectant;

(b) HAA5: Enhanced coagulation or enhanced softening or GAC10, with chlorine as the primary and residual disinfectant;

(c) Bromate: Control of ozone treatment process to reduce production of bromate; and

(d) Chlorite: Control of treatment processes to reduce disinfectant demand and control of disinfection treatment processes to reduce disinfectant levels.

(2) Disinfectant residuals. The best technology, treatment techniques, or other means available for achieving compliance with the MRDL listed in Section 3 of this administrative regulation shall be:

(a) Control of treatment processes to reduce disinfectant demand, and

(b) Control of disinfection treatment processes to reduce disinfectant levels.

Section 5. Analytical Requirements. (1) Except as provided in this section, a system shall sample and analyze according to the procedures in 40 C.F.R. 141.131, [January 16, 2001], ~~adopted without change in Section 10 of this administrative regulation~~.

(2) A system shall have the samples analyzed by a laboratory that has been certified by the U.S. EPA [Environmental Protection Agency] or the cabinet, pursuant to 40 C.F.R. 141.131(b)(3), June 29, 2006, according to 401 KAR 8.040.

(3) A party approved by the U.S. Environmental Protection Agency or the cabinet shall measure daily chlorite samples at the entrance to the distribution system.

(4) A public water system may measure residual disinfectant concentrations for chlorine, chloramines, and chlorine dioxide by using a N,N'-diethyl-p-phenylenediamine (DPD) colorimetric test kit.

(5) Residual disinfectant concentrations, alkalinity, and total organic carbon: or [f]TOC, specific ultraviolet absorbance (including dissolved organic carbon and UV-254) and pH shall be measured by an operator certified pursuant to 401 KAR 8.030, or a person under the direct supervision of a certified operator, or a certified laboratory pursuant to 401 KAR 8.040.

Section 6. Monitoring Requirements. (1) General requirements.

(a) A system shall take all samples during normal operating conditions.

(b) A system may consider multiple wells drawing water from a single aquifer as one (1) treatment plant for determining the minimum number of TTHM and HAA5 samples required, as approved pursuant to 40 C.F.R. 142.16(h)(5), April 17, 1989 [by the cabinet].

(c) Failure to monitor in accordance with the monitoring plan required in subsection (6) of this section shall be a monitoring violation.

(d) Failure to monitor shall be treated as a violation for the entire period covered by the annual average, if compliance is based on a running annual average of monthly or quarterly samples or averages and the system's failure to monitor makes it impossible to determine compliance with an MCL or MRDL.

~~[(e) To qualify for reduced monitoring, a system shall use only data collected under the provisions of this administrative regulation or 40 C.F.R. 141.140 to 141.144.]~~

(2) Monitoring requirements for disinfection by-products.

(a) TTHMs and HAA5.

1. Routine monitoring. A system shall monitor at the frequency and locations indicated in the following table:

Routine Monitoring Frequency for TTHMs and HAA5		
System Type	Minimum monitoring frequency	Sample location in the distribution system
A system that uses as its source surface water or groundwater under the direct influence of surface water and that serves at least 10,000 persons.	Four (4) water samples per quarter per treatment plant.	At least twenty-five (25) percent of all samples collected each quarter at locations representing maximum residence time. Remaining samples shall be taken at locations representative of at least average residence time in the distribution system and representing the entire distribution system, taking into account the number of persons served, different sources of water, and different treatment

		methods. ¹
A system that uses as its source surface water or groundwater under the direct influence of surface water and that serves from 500 to 9,999 persons.	One (1) water sample per quarter per treatment plant.	Locations representing maximum residence time. ¹
A system that uses as its source surface water or groundwater under the direct influence of surface water and that serves fewer than 500 persons.	One (1) sample per year per treatment plant during month of warmest water temperature.	Locations representing maximum residence time. ¹ If the sample, or average of annual samples if more than one (1) sample is taken, exceeds the MCL, system shall increase monitoring to one (1) sample per treatment plant per quarter, taken at a point reflecting the maximum residence time in the distribution system, until system meets reduced monitoring criteria in subparagraph 4 of this paragraph.
System using only groundwater not under direct influence of surface water, using chemical disinfectant, and serving at least 10,000 persons.	One (1) water sample per quarter per treatment plant ² .	Location representing maximum residence time. ¹
System using only groundwater not under direct influence of surface water, using chemical disinfectant, and serving fewer than 10,000 persons.	One (1) sample per year per treatment plant ² during month of warmest water temperature.	Locations representing maximum residence time. ¹ If the sample, or average of annual samples, if more than one (1) sample is taken, exceeds the MCL, system shall increase monitoring to one (1) sample per treatment plant per quarter, taken at a point reflecting the maximum residence time in the distribution system, until the system meets criteria in subparagraph 4 of this paragraph for reduced monitoring.
¹ If a system elects to sample more frequently than the minimum required, at least twenty-five (25) percent of all samples collected each quarter, including those taken in excess of the required frequency, shall be taken at locations that represent the maximum residence time in the distribution system. The remaining samples shall be taken at locations representative of at least average residence time in the distribution system.		
² Multiple wells drawing water from a single aquifer may be considered one (1) treatment plant for determining the minimum number of samples required.		

2. A system may reduce monitoring, except as otherwise provided, in accordance with the following table:

Reduced Monitoring Frequency for TTHM and HAA5		
If the system type is:	And the system has monitored at least one (1) year and the	Then the system may reduce monitoring to this level
System that uses as its source surface water or groundwater under the direct influence of surface water, that serves at least 10,000 persons, and that has a source water annual average TOC level, before treatment, of ≤ 4.0 mg/L.	TTHM annual average ≤ 0.040 mg/L and HAA5 annual average ≤ 0.030 mg/L.	One (1) sample per treatment plant per quarter at distribution system location reflecting maximum residence time.
System that uses as its source surface water or groundwater under the direct influence of surface water that serves from 500 to 9,999 persons, and that has a source water annual average TOC level, before treatment, of ≤ 4.0 mg/L.	TTHM annual average ≤ 0.040 mg/L and HAA5 annual average ≤ 0.030 mg/L.	One (1) sample per treatment plant per year at distribution system location reflecting maximum residence time during month of warmest water temperature. A system that uses as its source surface water or groundwater under the direct influence of surface water that serves fewer than 500 persons shall not reduce its monitoring to less than one (1) sample per treatment plant per year.
System using only groundwater not under direct influence of surface water, using chemical disinfectant, and serving at least 10,000 persons.	TTHM annual average ≤ 0.040 mg/L and HAA5 annual average ≤ 0.030 mg/L.	One (1) sample per treatment plant per year at distribution system location reflecting maximum residence time during month of warmest water temperature.
System using only groundwater not under direct influence of surface water, using chemical disinfectant, and serving fewer than 10,000 persons.	TTHM annual average ≤ 0.040 mg/L and HAA5 annual average ≤ 0.030 mg/L for two (2) consecutive years, or TTHM annual average ≤ 0.020 mg/L and HAA5 annual average ≤ 0.015 mg/L for one (1) year.	One (1) sample per treatment plant per three (3) year monitoring cycle at distribution system location reflecting maximum residence time during month of warmest water temperature, with the three (3) year cycle beginning on January 1 following quarter in which system qualifies for reduced monitoring

3.g. A system on a reduced monitoring schedule may remain on that reduced schedule if the average of all samples taken in the year, for systems that shall monitor quarterly, or the result of the sample, for systems that shall not monitor [re] more frequently than annually, is not more than 0.060 mg/L and 0.045 mg/L for TTHMs and HAA5, respectively.

b. A system that does not meet these levels shall resume monitoring at the frequency identified in the sample location column in subparagraph 1 of this paragraph in the quarter immediately following the quarter in which the system exceeds 0.060 mg/L for TTHM and 0.045 mg/L for HAA5.

c. For a system that uses only groundwater not under the direct influence of surface water and that serves fewer than 10,000

persons, if either the TTHM annual average is >0.080 mg/L or the HAA5 annual average is >0.060 mg/L, the system shall go to increased monitoring identified in the sample location column in subparagraph 1 of this paragraph in the quarter immediately following the quarter in which the system exceeds 0.080 mg/L for TTHMs or 0.060 mg/L for HAA5s.

4. A system on increased monitoring, may return to routine monitoring if the TTHM annual average is ≤ 0.040 mg/L and HAA5 annual average is ≤ 0.030 mg/L.

5. The criteria for returning a system to routine monitoring shall be as established in 40 C.F.R. 141.132(b)(vi), January 4, 2006 [The cabinet may return a system to routine monitoring].

(b) Chlorite. A community or [~~and~~] nontransient noncommunity water system using chlorine dioxide for disinfection or oxidation shall conduct monitoring for chlorite.

1. Routine monitoring.

a. Daily monitoring. A system shall take daily samples at the entrance to the distribution system. For a daily sample that exceeds the chlorite MCL, the system shall take additional samples in the distribution system the following day at the locations required by subparagraph 2 of this paragraph, in addition to the sample required at the entrance to the distribution system.

b. Monthly monitoring. A system shall take a three (3) sample set each month in the distribution system. Additional routine sampling shall be conducted in the same manner as three (3) sample sets, at the specified locations. The system may use the results of additional monitoring conducted under subparagraph 2 of this paragraph to meet the requirement for monitoring in this clause. The system shall take one (1) sample at each of the following locations:

- (i) Near the first customer;
- (ii) At a location representative of average residence time; and
- (iii) At a location reflecting maximum residence time in the distribution system.

2. Additional monitoring. On each day following a routine sample monitoring result that exceeds the chlorite MCL at the entrance to the distribution system, the system shall take three (3) chlorite distribution samples at the following locations:

- a. As close to the first customer as possible;
- b. In a location representative of average residence time; and
- c. As close to the end of the distribution system as possible[.] to reflect maximum residence time in the distribution system.

3. Reduced monitoring.

a. Chlorite monitoring at the entrance to the distribution system required by subparagraph 1a of this paragraph shall not be reduced.

b. (i) Chlorite monitoring in the distribution system required by subparagraph 1b of this paragraph may be reduced to one (1) three (3) sample set per quarter after one (1) year of monitoring if no individual chlorite sample taken in the distribution system under subparagraph 1b of this paragraph has exceeded the chlorite MCL and the system has not been required to conduct monitoring under subparagraph 2 of this paragraph.

(ii) The system may remain on the reduced monitoring schedule until either any of the three (3) individual chlorite samples taken quarterly in the distribution system under subparagraph 1b of this paragraph exceed the chlorite MCL or the system shall be [is] required to conduct monitoring under subparagraph 2 of this paragraph. The system shall then revert to routine monitoring.

(c) Bromate.

1. a. Routine monitoring. A community or [~~and~~] nontransient noncommunity water system using ozone for disinfection or oxidation shall take one (1) sample per month for each treatment plant in the system that uses ozone.

b. A system shall take the sample monthly at the entrance to the distribution system while the ozonation system is operating under normal conditions.

2. Reduced monitoring.

a. A system required to analyze for bromate may reduce monitoring from monthly to once per quarter, if the system demonstrates that the average source water bromide concentration is less than 0.05 mg/L, based upon representative monthly bromide measurements for one (1) year.

b. The system may remain on reduced bromate monitoring until the running annual average source water bromide concentration, computed quarterly, is equal to or greater than 0.05 mg/L, based upon representative monthly measurements.

c. If the running annual average source water bromide concentration is greater than or equal to 0.05 mg/L, the system shall resume routine monitoring required by subparagraph 1 of this paragraph.

(3) Monitoring requirements for disinfectant residuals.

(a) Chlorine and chloramines.

1. Routine monitoring. A community or [~~and~~] nontransient noncommunity water system that uses chlorine or chloramines shall measure the residual disinfectant level in the distribution system at

the same time as total coliforms are sampled, as specified in 401 KAR 8 200.

2. Reduced monitoring. Monitoring shall not be reduced.

(b) Chlorine dioxide.

1. a. Routine monitoring. A community, nontransient noncommunity, or [~~and~~] nontransient noncommunity water system that uses chlorine dioxide for disinfection or oxidation shall take daily samples at the entrance to the distribution system.

b. For a daily sample that exceeds the MRDL, the system shall take samples in the distribution system the following day at the locations required by subparagraph 2 of this paragraph, in addition to the sample required at the entrance to the distribution system.

2. Additional monitoring.

a. Each day following a routine sample monitoring result that exceeds the MRDL, the system shall take three (3) chlorine dioxide distribution system samples.

b. If chlorine dioxide or chloramines shall be [are] used to maintain a disinfectant residual in the distribution system, or if chlorine is used to maintain a disinfectant residual in the distribution system and there are not [are] disinfection addition points after the entrance to the distribution system, i.e., [~~there is~~] no booster chlorination, the system shall take three (3) samples as close to the first customer as possible, at an interval of at least six (6) hours.

c. If chlorine is used to maintain a disinfectant residual in the distribution system and there are one (1) or more disinfection addition points after the entrance to the distribution system, i.e., [~~there is~~] booster chlorination, the system shall take one (1) sample at each of the following locations:

(i)[a-] As close to the first customer as possible;

(ii)[b-] In a location representative of average residence time; and

(iii)[c-] As close to the end of the distribution system as possible, reflecting maximum residence time in the distribution system.

3. Reduced monitoring. Chlorine dioxide monitoring shall not be reduced.

(4) Monitoring requirements for disinfection by-product precursors.

(a) Routine monitoring.

1. A system that uses as its source surface water or groundwater under the direct influence of surface water that uses conventional filtration treatment shall monitor each treatment plant for total organic carbons, or TOC, not [are] later than the point of combined filter effluent turbidity monitoring and representative of the treated water.

2. A system required to monitor under this paragraph shall also monitor for TOC in the source water before any treatment at the same time as monitoring for TOC in the treated water.

3. These samples of the source water and treated water shall be considered paired samples.

4. When the source water sample is taken, a system shall monitor for alkalinity in the source water before any treatment.

5. A system shall take one (1) paired sample and one (1) source water alkalinity sample per month per plant at a time representative of normal operating conditions and influent water quality.

(b) Reduced monitoring.

1. A system that uses as its source surface water or groundwater under the direct influence of surface water with an average treated water TOC of less than two and zero-tenths (2.0) mg/L for two (2) consecutive years, or less than one and zero-tenths (1.0) mg/L for one (1) year, may reduce monitoring for both TOC and alkalinity to one (1) paired sample and one (1) source water alkalinity sample per plant per quarter.

2. The system shall revert to routine monitoring in the month following the quarter if the annual average treated water TOC is greater than or equal to two and zero-tenths (2.0) mg/L.

(5) Bromide.

a. A system required to analyze for bromate may reduce bromate monitoring from monthly to once per quarter, if the system demonstrates that the average source water bromide concentration is less than 0.05 mg/L, based upon representative monthly measurements for one (1) year.

b. The system shall continue bromide monitoring to remain on reduced bromate monitoring.

(6) Monitoring plan.

(a) A system required to monitor under this administrative regulation shall develop and implement a monitoring plan.

(b) The system shall maintain the plan and make it available for inspection by the cabinet and the general public ~~not~~ [re] later than thirty (30) days following the applicable compliance dates in Section 2 of this administrative regulation.

(c) A system that uses as its source surface water or groundwater under the direct influence of surface water serving more than 3,300 people shall submit a copy of the monitoring plan to the cabinet ~~not~~ [re] later than the date of the first report required by Section 8 of this administrative regulation. ~~[The cabinet may also require another system to submit the plan.]~~

(d) After review, in accordance with conditions established in 40 C.F.R. 141.132(f), January 4, 2006, the cabinet may require changes specified in 40 C.F.R. 141.132(f), January 4, 2006, in a plan element.

(e) The monitoring plan shall include at least the following elements:

1. ~~[(a)]~~ Specific location and schedule for collecting samples for a parameter included in this administrative regulation;

2. ~~[(b)]~~ How the system will calculate compliance with MCLs, MRDLs, and treatment techniques; and

3. ~~[(c)]~~ If providing water to a consecutive system, the sampling plan for TTHMs and HAA5s shall reflect the entire distribution system.

Section 7. Compliance Requirements. (1) General requirements.

(a) 1. If compliance is based on a running annual average of monthly or quarterly samples or averages and the system fails to monitor for TTHM, HAA5, or bromate, this failure to monitor shall be ~~[treated as]~~ a monitoring violation for the entire period covered by the annual average.

2. If compliance is based on a running annual average of monthly or quarterly samples or averages and the system's failure to monitor makes it impossible to determine compliance with MRDLs for chlorine and chloramines, this failure to monitor shall be ~~[treated as]~~ a monitoring violation for the entire period covered by the annual average.

(b) A sample taken and analyzed under the provisions of this administrative regulation shall be included in determining compliance, even if the number of samples taken is greater than the minimum required.

(c) If during the first year of monitoring under Section 6 of this administrative regulation, an individual quarter's average causes or ~~shall~~ [will] cause the running annual average of that system to exceed the MCL, the system shall be out of compliance at the end of that quarter.

(2) Disinfection by-products.

(a) TTHMs and HAA5.

1. For a system that monitors quarterly, compliance with MCLs in Section 3 of this administrative regulation shall be based on a running annual arithmetic average, computed quarterly, of quarterly arithmetic averages of the samples collected by the system as prescribed by Section 6(2)(a) of this administrative regulation.

2. a. For a system monitoring less frequently than quarterly, a system shall demonstrate MCL compliance if the average of samples taken that year under the provisions of Section 6(2)(a) of this administrative regulation does not exceed the MCLs listed in Section 3 of this administrative regulation.

b. If the average of the samples exceeds the MCL, the system shall increase monitoring to once per quarter per treatment plant, and the system ~~shall not be~~ [is not] in violation of the MCL until it has completed one (1) year of quarterly monitoring, unless the result of fewer than four (4) quarters of monitoring will cause the running annual average to exceed the MCL, in which case the system ~~shall be~~ [is] in violation at the end of that quarter.

c. A system required to increase monitoring frequency to quarterly monitoring shall calculate compliance by including the sample that triggered the increased monitoring, plus the following three (3) quarters of monitoring.

3. If the running annual arithmetic average of quarterly averages covering a consecutive four (4) quarter period exceeds the

MCL, the system shall be in violation of the MCL and shall notify the public pursuant to 401 KAR 8:070, in addition to reporting to the cabinet pursuant to Section 8 of this administrative regulation.

4. If a public water system fails to complete four (4) consecutive quarters of monitoring, compliance with the MCL for the last four (4) quarter compliance period shall be based on an average of the available data.

(b) Bromate.

1. Compliance shall be based on a running annual arithmetic average, computed quarterly, of monthly samples, or for months in which the system takes more than one (1) sample, the average of the samples taken during the month, collected by the system as prescribed by Section 6(2)(c) of this administrative regulation.

2. If the average of samples covering a consecutive four (4) quarter period exceeds the MCL, the system shall be in violation of the MCL and shall notify the public pursuant to 401 KAR 8:070, in addition to reporting to the cabinet pursuant to Section 8 of this administrative regulation.

3. If a public water system fails to complete twelve (12) consecutive months' monitoring, compliance with the MCL for the last four (4) quarter compliance period shall be based on an average of the available data.

(c) Chlorite.

1. Compliance shall be based on an arithmetic average of each three (3) sample set taken in the distribution system as prescribed by Section 6(2)(b)1b and 2 of this administrative regulation.

2. If the arithmetic average of a three (3) sample set exceeds the MCL, the system shall be in violation of the MCL and shall notify the public pursuant to 401 KAR 8:070, in addition to reporting to the cabinet pursuant to Section 8 of this administrative regulation.

(3) Disinfectant residuals.

(a) Chlorine and chloramines.

1. a. Compliance shall be based on a running annual arithmetic average, computed quarterly, of monthly averages of all samples collected by the system under Section 6(3)(a) of this administrative regulation.

b. If the average covering a consecutive four (4) quarter period exceeds the MRDL, the system shall be in violation of the MRDL and shall notify the public pursuant to 401 KAR 8:070, in addition to reporting to the cabinet pursuant to Section 8 of this administrative regulation.

2. a. If a system switched between the use of chlorine and chloramines for residual disinfection during the year, compliance shall be determined by including all monitoring results of both chlorine and chloramines in calculating compliance.

b. A report submitted pursuant to Section 8 of this administrative regulation shall clearly indicate which residual disinfectant was analyzed for each sample.

(b) Chlorine dioxide.

1. Acute violations.

a. Compliance shall be based on consecutive daily samples collected by the system under Section 6(3)(b) of this administrative regulation.

b. If a daily sample taken at the entrance to the distribution system exceeds the MRDL, and on the following day one (1) or more of the three (3) samples taken in the distribution system exceeds the MRDL, the system shall be in violation of the MRDL.

c. The system shall take immediate corrective action to lower the level of chlorine dioxide below the MRDL and shall notify the public pursuant to the procedures for acute health risks in 401 KAR 8:070, Section 2 ~~[4(2)(d)]~~, in addition to reporting to the cabinet pursuant to Section 8 of this administrative regulation.

d. Failure to take samples in the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system shall also be ~~[considered]~~ an MRDL violation.

e. The system shall notify the public of the violations in accordance with the provisions for acute violations under 401 KAR 8:070, Section 2 ~~[4(2)(d)]~~, in addition to reporting to the cabinet pursuant to Section 8 of this administrative regulation.

2. Nonacute violations.

a. Compliance shall be based on consecutive daily samples collected by the system under Section 6(3)(b) of this administrative

regulation.

b. If two (2) consecutive daily samples taken at the entrance to the distribution system exceed the MRDL and all distribution system samples taken are below the MRDL, the system shall be in violation of the MRDL and the system shall take corrective action to lower the level of chlorine dioxide below the MRDL at the point of sampling and shall notify the public pursuant to the procedures for nonacute health risks in 401 KAR 8:070, Section 3 [6], in addition to reporting to the cabinet pursuant to Section 8 of this administrative regulation.

c. Failure to monitor at the entrance to the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system also shall be an MRDL violation, and the system shall notify the public of the violation in accordance with the provisions for nonacute violations in 401 KAR 8 070, Section 3 [6], in addition to reporting to the cabinet pursuant to Section 8 of this administrative regulation.

(4) Disinfection by-product precursors.

a. Compliance shall be determined as specified by Section 9(3) of this administrative regulation.

b. A system may begin monitoring to determine if Step 1 TOC removals ~~shall~~ [will] be able to be met twelve (12) months before the compliance date for the system. This monitoring ~~shall not be~~ [is not] required, and failure to monitor during this period shall not be a violation. [However,] A system that does not monitor during this period and then ~~determines~~ [determines] in the first twelve (12) months that ~~shall not be~~ [is not] able to meet the Step 1 requirements in Section 9(2)(b) of this administrative regulation and shall [therefore] apply for alternate minimum TOC removal or Step 2, requirements, shall not be eligible for retroactive approval of Step 2 requirements, as allowed pursuant to Section 9(2)(c) of this administrative regulation, and shall be in violation.

c. A system may apply for Step 2 requirements after the compliance date.

d. For a system required to meet Step 1 TOC removals, if the value calculated under Section 9(3)(a)4 of this administrative regulation is less than 1.00, the system shall be in violation of the treatment technique requirements and shall notify the public pursuant to 401 KAR 8.070, in addition to reporting to the cabinet pursuant to Section 8 of this administrative regulation.

Section 8. Reporting and Recordkeeping Requirements. This section prescribes the reporting and record keeping requirements.

(1)(a) A system required to sample quarterly or more frequently shall report to the cabinet within ten (10) days after the end of each quarter in which samples were collected, notwithstanding the provisions of 401 KAR 8 020.

(b) A system required to sample less frequently than quarterly shall report to the cabinet within ten (10) days after the end of each monitoring period in which samples were collected.

(2) Disinfection by-products.

(a) A system monitoring for TTHM and HAA5 under the requirements of Section 6(2) of this administrative regulation on a quarterly or more frequent basis shall report:

1. The number of samples taken during the last quarter;
2. The location, date, and result of each sample taken during the last quarter;
3. The arithmetic average of all samples taken in the last quarter;

4. The annual arithmetic average of the quarterly arithmetic average of this section for the last four (4) quarters; and

5. If the MCL was ~~violated~~ [exceeded] or not, based on Section 7(2)(a) of this administrative regulation.

(b) A system monitoring for TTHMs and HAA5 under the requirements of Section 6(2) of this administrative regulation less frequently than quarterly, but at least annually, shall report:

1. The number of samples taken during the last year;
2. The location, date, and result of each sample taken during the last quarter;
3. The arithmetic average of all samples taken over the last year; ~~and~~

4. If the MCL was ~~violated~~ [exceeded] or not, based on Section 7(2)(a) of this administrative regulation.

(c) A system monitoring for TTHMs and HAA5 under the re-

quirements of Section 6(2) of this administrative regulation less frequently than annually shall report:

1. The location, date, and result of the last sample taken; and
2. If the MCL was ~~violated~~ [exceeded] or not, based on Section 7(2)(a) of this administrative regulation.

(d) A system monitoring for chlorite under the requirements of Section 6(2) of this administrative regulation shall report:

1. The number of samples taken each month for the last three (3) months;
2. The location, date, and result of each sample taken during the last quarter;
3. For each month in the reporting period, the arithmetic average of all samples taken in the month; ~~and~~
4. If the MCL was ~~violated~~ [exceeded] or not, based on Section 7(2)(c) of this administrative regulation, in which month it was ~~violated~~ [exceeded], and how many times it was violated each month.

(e) A system monitoring for bromate under the requirements of Section 6(2) of this administrative regulation shall report:

1. The number of samples taken during the last quarter;
2. The location, date, and result of each sample taken during the last quarter;
3. The arithmetic average of the monthly arithmetic averages of all samples taken in the last year; and
4. If the MCL was exceeded or not, based on Section 7(2)(b) of this administrative regulation.

(3) Disinfectants.

(a) A system monitoring for chlorine or chloramines under the requirements of Section 6(3) of this administrative regulation shall report:

1. The number of samples taken during each month of the last quarter;
2. The monthly arithmetic average of all samples taken in each month for the last twelve (12) months;
3. The arithmetic average of all monthly averages for the last twelve (12) months; and
4. If the MRDL was exceeded or not, based on Section 7(3)(a) of this administrative regulation.

(b) A system monitoring for chlorine dioxide under the requirements of Section 6(3) of this administrative regulation shall report:

1. The dates, results, and locations of samples taken during the last quarter;
2. If the MRDL was exceeded or not, based on Section 7(3)(b) of this administrative regulation; and
3. If the MRDL was exceeded or not in any two (2) consecutive daily samples and if the resulting violation was acute or nonacute.

(4) Disinfection by-product precursors and enhanced coagulation or enhanced softening.

(a) A system monitoring monthly or quarterly for TOC under the requirements of Section 6(4) of this administrative regulation and that shall meet the enhanced coagulation or enhanced softening requirements in Section 9(2)(b) or (c) of this administrative regulation shall report:

1. The number of paired samples taken during the last quarter;
2. The location, date, and result of each paired sample and associated alkalinity taken during the last quarter;
3. For each month in the reporting period that paired samples were taken, the arithmetic average of the percent reduction of TOC for each paired sample and the required TOC percent removal,
4. Calculations for determining compliance with the TOC percent removal requirements, as provided in Section 9(3)(a) of this administrative regulation; and
5. If the system is in compliance with the enhanced coagulation or enhanced softening percent removal requirements in Section 9(2) of this administrative regulation for the last four (4) quarters.

(b) A system monitoring monthly or quarterly for TOC under the requirements of Section 6(4) of this administrative regulation and meeting one (1) or more of the alternative compliance criteria in Section 9(1)(b) or (c) of this administrative regulation shall report:

1. The alternative compliance criterion that the system is using;
2. The number of paired samples taken during the last quarter;
3. The location, date, and result of each paired sample and associated alkalinity taken during the last quarter;
4. The running annual arithmetic average based on monthly

averages, or quarterly samples, of source water TOC for a system meeting a criterion in Section 9(1)(b)1 or 3 of this administrative regulation or of treated water TOC for a system meeting the criterion in Section 9(1)(b)2 of this administrative regulation,

5. The running annual arithmetic average based on monthly average, or quarterly samples, of source water specific ultraviolet absorbance, or SUVA, for a system meeting the criterion in Section 9(1)(b)5 of this administrative regulation or of treated water SUVA for a system meeting the criterion in Section 9(1)(b)6 of this administrative regulation,

6. The running annual average of source water alkalinity for a system meeting the criterion in Section 9(1)(b)3 of this administrative regulation and of treated water alkalinity for a system meeting the criterion in Section 9(1)(c)1 of this administrative regulation;

7. The running annual average for both TTHM and HAA5 for a system meeting the criterion in Section 9(1)(b)3 or 4 of this administrative regulation;

8. The running annual average of the amount of magnesium hardness removal, as CaCO₃ in mg/L, for a system meeting the criterion in Section 9(1)(c)2 of this administrative regulation; and

9. If the system is in compliance or not with the particular alternative compliance criterion in Section 9(1)(b) or (c) of this administrative regulation.

Section 9. Treatment Technique for Control of Disinfection By-product Precursors. (1) Applicability.

(a) A system that uses as its source surface water or groundwater under the direct influence of surface water that uses conventional filtration treatment shall operate with enhanced coagulation or enhanced softening to achieve the TOC percent removal level specified in subsection (2) of this section unless the system meets at least one (1) of the alternative compliance criteria listed in paragraph (b) or (c) of this subsection.

(b) Alternative compliance criteria for enhanced coagulation and enhanced softening system. A system that uses as its source surface water or groundwater under the direct influence of surface water using conventional filtration treatment may use the alternative compliance criteria in subparagraphs 1 to 6 of this paragraph to comply with this section, instead of complying with subsection (2) of this section. A system shall still comply with the monitoring requirements in Section 6(4) of this administrative regulation.

1. The system's source water TOC level, measured according to 40 C.F.R. 141.131(d)(3), January 16, 2001, is less than two and zero-tenths (2.0) mg/L, calculated quarterly as a running annual average;

2. The system's treated water TOC level, measured according to 40 C.F.R. 141.131(d)(3), January 16, 2001, is less than two and zero-tenths (2.0) mg/L, calculated quarterly as a running annual average,

3.a. The system's source water TOC level, measured according to 40 C.F.R. 141.131(d)(3), January 16, 2001, is less than four and zero-tenths (4.0) mg/L, calculated quarterly as a running annual average;

b. The source water alkalinity, measured according to 40 C.F.R. 141.131(d)(1), January 16, 2001, shall be [is] greater than sixty (60) mg/L as CaCO₃, calculated quarterly as a running annual average; and [either]

c [(i)] The TTHM and HAA5 running annual averages shall not be [are not] greater than 0.040 mg/L and 0.030 mg/L, respectively; [or

(ii) ~~Before the effective date for compliance in Section 2 of this administrative regulation, the system has made a clear and irrevocable financial commitment not later than the effective date for compliance in Section 2 of this administrative regulation to the use of technologies that will limit the levels of TTHMs and HAA5 to no more than 0.040 mg/L and 0.030 mg/L, respectively. The system shall submit evidence of a clear and irrevocable financial commitment, in addition to a schedule containing milestones and periodic progress reports for installation and operation of appropriate technologies, to the cabinet for approval, not later than the effective date for compliance in Section 2 of this administrative regulation. These technologies shall be installed and operating not later than June 30, 2006. Failure to install and operate these technologies by the date in the approved schedule shall constitute a violation of this~~

administrative regulation;]

4. The TTHM and HAA5 running annual averages shall not be [are not] greater than 0.040 mg/L and 0.030 mg/L, respectively, and the system uses only chlorine for primary disinfection and maintenance of a residual in the distribution system;

5. The system's source water SUVA, before any treatment and measured monthly according to 40 C.F.R. 141.131(d)(4), January 16, 2001, shall be [is] less than or equal to two and zero-tenths (2.0) L/mg-m, calculated quarterly as a running annual average;

6. The system's finished water SUVA, measured monthly according to 40 C.F.R. 141.131(d)(4), January 16, 2001, shall be [is] less than or equal to two and zero-tenths (2.0) L/mg-m, calculated quarterly as a running annual average.

(c) Additional alternative compliance criteria for a softening system. A system practicing enhanced softening that is not able to achieve the TOC removals required by subsection (2)(b) of this section may use the alternative compliance criteria in subparagraphs 1 and 2 of this paragraph instead of complying with subsection (2) of this section. The system shall still comply with monitoring requirements in Section 6(4) of this administrative regulation.

1. Softening that results in lowering the treated water alkalinity to less than sixty (60) mg/L as CaCO₃, measured monthly according to 40 C.F.R. 141.131(d)(1), January 16, 2001, and calculated quarterly as a running annual average; and

2. Softening that results in removing at least ten (10) mg/L of magnesium hardness as CaCO₃, measured monthly and calculated quarterly as an annual running average.

(2) Enhanced coagulation and enhanced softening performance requirements.

(a) A system shall achieve the percent reduction of TOC specified in paragraph (b) of this subsection between the source water and the combined filter effluent, unless the cabinet approves a system's request for Step 2 requirements under paragraph (c) of this subsection.

(b)1. Required Step 1 TOC reductions, indicated in the following table, are based upon specified source water parameters measured in accordance with 40 C.F.R. 141.131(d), January 16, 2001.

2. A system practicing softening shall meet the Step 1 TOC reductions in the column of the table for source water alkalinity greater than 120 mg/L, for the specified source water TOC:

Step 1 Required Removal Percent of TOC by Enhanced Coagulation and Enhanced Softening for a System that Uses as its Source Surface Water or Groundwater Under the Direct Influence of Surface Water Using Conventional Treatment ^{1,2}			
Source water TOC, mg/L	Source water alkalinity, mg/L as CaCO ₃		
	0 - 60	61 - 120	> 120 ³
2.0 ≤ TOC ≤ 4.0	35.0 %	25.0 %	15.0 %
4.0 < TOC ≤ 8.0	45.0 %	35.0 %	25.0 %
TOC > 8.0	50.0 %	40.0 %	30.0 %

¹A system meeting a condition in subsection (1)(b) of this section need not operate with enhanced coagulation

²A softening system meeting an alternative compliance criterion in subsection (3) of this section need not operate with enhanced softening.

³A system practicing softening shall meet the TOC removal requirements in this column.

(c)1. A system that uses as its source surface water or groundwater under the direct influence of surface water and that uses conventional treatment that is not able to achieve the Step 1 TOC removals required by paragraph (b) of this subsection due to water quality parameters or operational constraints shall apply to the cabinet, within three (3) months of failure to achieve the TOC removals required by paragraph (b) of this subsection, for approval of Step 2 removal requirements submitted by the system.

2. The cabinet may determine pursuant to 40 C.F.R. 141.135(b)(3), January 4, 2006, that Step 2 requirements shall be retroactive for the purpose [if the cabinet approves the Step 2 requirements the cabinet may make these requirements retroactive for the purposes] of determining compliance.

3. Until the cabinet approves the Step 2 requirements, in accordance with the timeframe described in 40 C.F.R.

141.135(b)(3), January 4, 2006, the system shall meet the Step 1 TOC removals contained in paragraph (b) of this subsection.

(d) Step 2 requirements.

1. An application to the cabinet by an enhanced coagulation system for approval of Step 2 requirements under paragraph (c) of this subsection shall include, as a minimum, the results of bench- or pilot-scale testing conducted under subparagraph **2a [4-]** of this paragraph.

2. The submitted bench- or pilot-scale testing shall be used to determine the alternate enhanced coagulation level.

a.[1][4-] Alternate enhanced coagulation level shall be the coagulation at a coagulant dose and pH as determined by the method described in this subparagraph and **clauses b through e [subparagraphs 2 through 6]** of this **subparagraph so that [paragraph such than]** an incremental addition of ten (10) mg/L of alum, or equivalent amount of ferric salt, results in a TOC removal of less than or equal to three-tenths (0.3) mg/L.

(iii) The percent removal of TOC at this point of the "TOC removal versus coagulant dose" curve then shall be the minimum TOC removal required for the system.

(iii) Upon approval by the cabinet, **in accordance with approval criteria established in 40 C.F.R. 141.135(b)(4)(i), January 4, 2006**, this minimum requirement shall supersede the minimum TOC removal required by the table in paragraph (b) of this subsection.

(iv) This requirement shall be effective until the cabinet approves a new value based on the results of a new bench- and pilot-scale test.

(v) Failure to achieve the alternative minimum TOC removal levels set by the cabinet shall be a violation of this administrative regulation.

b.[2-] Bench- or pilot-scale testing of enhanced coagulation shall be conducted by using representative water samples and adding ten (10) mg/L increments of alum, or equivalent amounts of ferric salt, until the pH is reduced to a level less than or equal to the enhanced coagulation Step 2 target pH shown in the following table:

Enhanced Coagulation Step 2 Target pH	
Alkalinity, mg/L measured as CaCO ₃	Target pH
0 - 60	5.5
61 - 120	6.3
121 - 240	7.0
> 240	7.5

c.[3-] For waters with alkalinities of less than sixty (60) mg/L for which addition of small amounts of alum or equivalent addition of iron coagulant drives the pH below five and five-tenths (5.5) before significant TOC removal occurs, the system shall add necessary chemicals to maintain the pH between five and three-tenths (5.3) and five and seven-tenths (5.7) in samples until the TOC removal of three-tenths (0.3) mg/L per ten (10) mg/L alum added, or equivalent addition of iron coagulant, is reached.

d.[4-] The system may operate at a coagulant dose or pH necessary, consistent with other administrative regulations in 401 KAR 8.010 to 401 KAR 8.700, to achieve the minimum TOC percent removal approved under paragraph (c) of this subsection.

e.[5-] If the TOC removal is consistently less than three-tenths (0.3) mg/L of TOC per ten (10) mg/L of incremental alum dose, at all doses of alum, or equivalent addition of iron coagulant, the water is deemed to contain TOC not amenable to enhanced coagulation. The system may then apply to the cabinet for a waiver of enhanced coagulation requirements.

(3) Compliance calculations.

(a)1. A system that uses as its source surface water or groundwater under the direct influence of surface water other than that identified in subsection (1)(b) or (c) of this section, shall comply with requirements in subsection (2)(b) or (c) of this section.

2. A system shall calculate compliance quarterly, beginning after the system has collected twelve (12) months of data, by determining an annual average using the following method.

a.[4-] Determine actual monthly TOC percent removal, which shall be calculated as:

$$(1 - (\text{treated water TOC}/\text{source water TOC})) \times 100;$$

b.[2-] Determine the required monthly TOC percent removal

from either the table in subsection (2)(b) of this section or from subsection (2)(c) of this section;

c.[3-] Divide the value in subparagraph 1 of this paragraph by the value in subparagraph 2 of this paragraph;

d.[4-] Add together the results of subparagraph 3 of this paragraph for the past twelve (12) months and divide by twelve (12); and

e.[5-] If the value calculated in subparagraph 4 of this paragraph is less than 1.00, the system ~~shall not be [is not]~~ in compliance with the TOC percent removal requirements.

(b) A system may use the provisions in subparagraph 1 to 5 of this paragraph instead of the calculations in paragraph (a) **1a through e [through 5]** of this subsection to determine compliance with TOC percent removal requirements:

1. In a month that the system's treated or source water TOC levels, measured according to 40 C.F.R. 141.131(d)(3), **January 16, 2001**, is less than two and zero-tenths (2.0) mg/L, the system may assign a monthly value of one and zero-tenths (1.0), instead of the value calculated in paragraph (a) **1c[3]** of this subsection, when calculating compliance under the provisions of paragraph (a) of this subsection;

2. In a month that a system practicing softening removes at least ten (10) mg/L of magnesium hardness, as CaCO₃, the system may assign a monthly value of one and zero-tenths (1.0), instead of the value calculated in paragraph (a) **3** of this subsection, when calculating compliance under the provisions of paragraph (a) of this subsection;

3. In a month that the system's source water SUVA, before treatment and measured according to 40 C.F.R. 141.131(d)(4), **January 16, 2001**, is less than or equal to two and zero-tenths (2.0) L/mg-m, the system may assign a monthly value of one and zero-tenths (1.0) instead of the value calculated in paragraph (a) **1c[3]** of this subsection, when calculating compliance under the provisions of paragraph (a) of this subsection;

4. In a month that the system's finished water SUVA, measured according to 40 C.F.R. 141.131(d)(4), **January 16, 2001**, is less than or equal to two and zero-tenths (2.0) L/mg-m, the system may assign a monthly value of one and zero-tenths (1.0) instead of the value calculated in paragraph (a) **1c[3]** of this subsection when calculating compliance under the provisions of paragraph (a) of this subsection; and

5. In a month that the system enhanced softening lowers alkalinity below sixty (60) mg/L as CaCO₃, the system may assign a monthly value of one and zero-tenths (1.0) instead of the value calculated in paragraph (a) **1c[3]** of this subsection when calculating compliance under the provisions of paragraph (a) of this subsection.

(c) A system that uses as its source surface water or groundwater under the direct influence of surface water and that uses conventional treatment may also comply with the requirements of this section by meeting the criteria in subsection (1)(b) or (c) of this section.

(4) Treatment technique requirements for **disinfection by-products (DBP)** precursors. For a system that uses surface water or groundwater as its source and that uses conventional treatment, enhanced coagulation or enhanced softening shall be a treatment technique to control the level of disinfection by-product precursors in a drinking water treatment or drinking water distribution system.

~~[Section 10. Federal Regulation Adopted Without Change (1) 40 C.F.R. 141.131, July 2000.~~

~~(2) The subject matter of this administrative regulation relating to the analytical methods and other analytical requirements is governed by that federal regulation.]~~

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 8, 2006

FILED WITH LRC: November 14, 2006 at 4 p.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Water
 (As Amended at ARRS, May 8, 2007)

401 KAR 8:550. Radionuclides.

RELATES TO: KRS 224.10-100(30), 224.10-110 [Chapter 224], 40 C.F.R. 141.25, [40 C.F.R.] 141.26, 141.66

STATUTORY AUTHORITY: KRS 224.10-100, 224.10-110(2), 40 C.F.R. 141.25, 141.26 [Pub.L. 93-523, The Safe Drinking Water Act, as amended in 1986,] 42 U.S.C. Chapter 6A Subchapter XII [42 U.S.C. A 300f, 300g, 300j,]

NECESSITY, FUNCTION, AND CONFORMITY: KRS [Chapter] 224.10-110(2) authorizes the Environmental and Public Protection [directs the] Cabinet to enforce the statutes and administrative regulations promulgated [rules and regulations adopted] by the secretary for the regulation and control of the purification of water for public and semipublic use. [The Safe Drinking Water Act, as amended by the Safe Drinking Water Act Amendments of 1986, provides for primary enforcement responsibility by states that have adopted regulations "no less stringent than the national primary drinking water regulations", as well as meeting other criteria stipulated by the Act. The Commonwealth of Kentucky has accepted and is currently exercising such primary enforcement responsibility.] This administrative regulation establishes [sets forth] the requirements for sampling and testing procedures for radionuclides and establishes [sets] maximum contaminant levels for safe drinking water.

Section 1. Applicability. This administrative regulation shall apply to all community water systems.

(1) A community water system shall comply with the MCLs for combined radium-226 and radium-228, gross alpha particle activity, gross beta particle and photon radioactivity, and uranium [beginning the effective date of this administrative regulation].

(2) Compliance shall be determined in accordance with the requirements of Sections 3 and 4 of this administrative regulation.

(3) Compliance shall be determined in accordance with the reporting requirements of 401 KAR 8:070 and 8:075 [shall be effective on the effective date of this administrative regulation].

Section 2. MCL, Best Available Technology MCLG, and Small System Compliance Technology. (1) MCLs. The MCLs for radionuclides shall be: [All producers of water for community water systems shall sample for radionuclides. Community water systems that purchase all of their water from others are not required to sample for radionuclides. The cabinet may provide technical assistance in sampling and sample analysis for radionuclides.]

Section 2. Sampling Frequency. Sampling for radionuclides shall be on a schedule determined by the cabinet, but in no event shall it be less than once every four (4) years for community water systems. Public water systems shall submit to the cabinet data obtained by analyses performed on the samples within ten (10) days of the end of the compliance period for which the sample was taken.

Section 3. Sampling Locations. Samples shall be taken from a free-flowing tap within the distribution system of the supplier. When a community water system is supplied by two (2) or more sources having different concentrations of radioactivity, samples shall be taken at each source.

Section 4. Maximum Radionuclide Limits. Maximum contaminant levels for radionuclides shall be those levels specified in subsections (1) and (2) of this section.

(1) Radium-226, radium-228 and gross alpha particle. The maximum contaminant levels for radium-226, radium-228, and gross alpha particle radioactivity are as follows:]

(a) 1. The MCL for combined radium-226 and radium-228, shall be five (5) [-5] pCi/L.

2. The combined value shall be determined by the addition of

the results of the analysis for radium-226 and the analysis for radium-228;

(b) Gross alpha particle activity (including radium-226, but excluding radon and uranium) shall be fifteen (15) [-45] pCi/L.

(c) [(2) Beta particle and photon radioactivity from manmade radionuclides.] The average annual concentration of beta particle and photon radioactivity from manmade radionuclides in drinking water shall not produce an annual dose equivalent to the total body or any internal organ greater than four (4) millirem/year, or mrem/year. U.S. EPA considers fifty (50) pCi/L to be the level of concern for beta particles.

1. Except for the radionuclides listed in Table A [the chart below], the concentration of manmade radionuclides causing four (4) mrem/year total body or organ dose equivalents shall be calculated on the basis of a two (2)-liter-per-day drinking water intake, using the 168-hour data listed in "Maximum Permissible Body Burdens and Maximum Permissible Concentration [Concentrations] of Radionuclides in Air or Water for Occupational Exposure, U.S. Department of Commerce, National Bureau of Standards, Handbook 69, [June 5, 1960,] and Addendum 1, [August 1963]" [NBS Handbook 69, as amended in August, 1963, U. S. Department of Commerce].

2. a. If two (2) or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not exceed four (4) millirem/year.

b. The average annual concentrations of tritium and strontium-90 assumed to produce a total body or organ dose of four (4) mrem/year shall be [are as follows]:

Radionuclide	Critical Organ	Picocurie (pCi) per liter (pCi/L)
Tritium	Total body	20,000
Strontium-90	Bone marrow	8

and

(d) Uranium: thirty (30) micrograms per liter, or µg/L.

(2) Best available technology. The best available technology, or BAT, for achieving compliance with the MCLs in Section 2(1) of this administrative regulation shall be:

(a) Combined radium-226 and radium-228 by ion exchange, reverse osmosis, or lime softening;

(b) Uranium by ion exchange, reverse osmosis, lime softening, or coagulation/filtration;

(c) Gross alpha particle activity, excluding radon and uranium by reverse osmosis; and

(d) Beta particle and photon radioactivity by ion exchange, or reverse osmosis.

(3) MCLG shall be [is] zero for all combined radium-226 and radium-228, gross alpha particle activity, gross beta particle and photon radio activity, and uranium.

(4) Small system compliance technology.

(a) Table B shall be used for determining small system compliance technologies for radionuclides. Table B also provides the limitations of use for the given technology.

Unit Technology	Limitations (see footnotes)	Operator Skill level required	Raw Water Quality Range and Considerations
1. Ion exchange, IE	a	Intermediate	All groundwaters
2. Point of use, POU ² , IE	b	Basic	All groundwaters
3. Reverse osmosis, RO	c	Advanced	Surface waters usually require prefiltration.
4. POU ² RO	b	Basic	Surface waters usually require prefiltration.
5. Lime softening	d	Advanced	All waters
6. Green sand filtration	e	Basic	
7. Coprecipita-	f	Intermediate	Groundwaters

tion with barium sulfate		to Advanced	with suitable water quality
8. Electrodialysis/ electrodi-alysis reversal	--	Basic to In-termediate	All groundwaters
9. Preformed hydrous Man-ganese oxide filtration	g	Intermediate	All groundwaters
10. Activated alumina	a, h	Advanced	All groundwa-ters; competing anion concentra-tions may affect regeneration frequency.
11. Enhanced coagulation, filtration	i	Advanced	Can treat a wide range of water qualities

Footnotes

- ¹ See 40 C.F.R. 141.70, [(January 14, 2002)].
- ² POU, or point of use, technology: a treatment device installed at a single tap used for the purpose of reducing contaminants in drinking water at that one (1) tap. POU devices are typically installed at the kitchen tap.
- Limitations Footnotes: Technologies for radionuclides:**
 - a. The regeneration solution contains high concentrations of the contaminant ions. Disposal options shall be carefully considered.
 - b. If POU device is used for compliance, the water system shall provide a program for long-term operation, maintenance, and monitoring to ensure proper performance.
 - c. Reject water disposal options shall be carefully considered before choosing this technology. See other RO limitations described in the Federal Surface Water Treatment Rule, 40 C.F.R. 141.66(h), footnote c., December 7, 2000, [(December 31, 1990)].
 - d. The combination of variable source water quality and the complexity of the water chemistry involved may make this technology too complex for small surface water systems.
 - e. Removal efficiencies may vary depending on water quality.
 - f. This technology may be very limited in application to a small system. Since the process requires static mixing, detention basins, and filtration, it is most applicable to a system with sufficiently high sulfate levels that already have a suitable filtration treatment train in place.
 - g. This technology is most applicable to a small system that already has filtration in place.
 - h. Handling of chemical required during regeneration and pH adjustment may be too difficult for a small system without an adequately-trained operator.
 - i. Assumes modification to a coagulation or filtration process already in place.

(b) Compliance technologies by system size category for radionuclides

- 1. Table C shall be used for determining the compliance technology for the indicated contaminant for the given system size.
- 2. The numbers shall correspond to those technologies found listed in paragraph (a) of this subsection.

Contaminant	Compliance technologies for system size categories, population served		
	25 - 500	501 - 3,300	3,301 - 10,000
1. Combined radium-226 and radium-228	1, 2, 3, 4, 5, 6, 7, 8, 9	1, 2, 3, 4, 5, 6, 7, 8, 9	1, 2, 3, 4, 5, 6, 7, 8, 9
2. Gross alpha particle activity	3, 4	3, 4	3, 4
3. Beta particle activity and photon activity	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4
4. Uranium	1, 2, 4, 10, 11	1, 2, 3, 4, 5, 10, 11	1, 2, 3, 4, 5, 10, 11

Section 3. Detection Limits and Analytical Methods. (1) **Detection limit.** To monitor the radioactivity concentration in drinking water, the required sensitivity of the radioanalysis shall be determined by the detection limit. The detection limit shall be that concentration that is able to be counted with a precision of plus or minus 100 percent at the ninety-five (95) percent confidence level, or 1.96 standard deviations of the net counting rate of the sample.

(a) To determine compliance with the MCLs in Section 2(1)(a) and (c) of this administrative regulation, the detection limits shall not exceed the following concentrations:

- 1. Gross alpha particle activity: three (3) pCi/L;
- 2. Radium-226: one (1) pCi/L;
- 3. Radium-228: one (1) pCi/L; and
- 4. Uranium: one (1) µg/L.

(b) To determine compliance with the MCLs for manmade beta particle and photon emitters in Section 2(1)(b) of this administrative regulation, the detection limit shall not exceed the following concentrations:

- 1. Tritium: 1,000 pCi/L;
- 2. Strontium-89: ten (10) pCi/L;
- 3. Strontium-90: two (2) pCi/L;
- 4. Iodine-131: one (1) pCi/L;
- 5. Cesium-134: ten (10) pCi/L;
- 6. Gross beta: four (4) pCi/L; and
- 7. Other radionuclides: one-tenth (0.1) of the applicable limit.

(c) To determine compliance with the MCLs in Section 2 of this administrative regulation, the data shall be averaged, and the average shall be rounded to the same number of significant figures as the MCL for that contaminant.

(d) The cabinet may determine compliance or initiate enforcement action based upon analytical results or other information compiled by their sanctioned representatives and agencies, specified in 40 C.F.R. 141.25(e), August 25, 2004.

(2) **Analytical methods.** The analytical methods specified in 40 C.F.R. 141.25(a) and (b), July 1, 2005, shall be used to determine compliance with Section 2 of this administrative regulation.

Section 4. Monitoring Frequency and Compliance. (1) **Gross alpha particle activity, radium-226, radium-228, and uranium.**

(a) A community water system shall conduct initial monitoring to determine compliance with Section 2 of this administrative regulation by December 31, 2007. For the purposes of monitoring for these contaminants, the detection limits shall be as specified in Section 3 of this administrative regulation.

1. Existing system or source

a. An existing community water system that uses groundwater, surface water, or both; shall sample at every entry point to the distribution system that is representative of all sources being used under normal operating conditions, called the "sampling point".

b. The system shall take each sample at the same sampling point unless conditions make another sampling point more representative of each source, or the cabinet designates a distribution system location, in accordance with subparagraph 2 of this paragraph.

2. New system or source.

a. A new community water system or community water system that uses a new source of water shall begin to conduct initial monitoring for the new source within the first quarter after initiating use of the source.

b. A system shall conduct more frequent monitoring [if directed by the cabinet] based on possible contamination or if changes in the distribution system or treatment processes occur that may increase the concentration of radioactivity in finished water.

(b) **Initial monitoring.** A system shall conduct initial monitoring for gross alpha particle activity, radium-226, radium-228, and uranium as follows:

1. A system without acceptable historical data as specified in subparagraph 2 of this paragraph shall collect four (4) consecutive quarterly samples at each sampling point before December 31, 2007;

2. **Grandfathered data.** The cabinet shall review [may allow] historical monitoring data collected at a sampling point to satisfy the initial monitoring for that sampling point in accordance with 40

C.F.R. 141.26(a)(2)(ii), June 29, 2004, in the following situations:

a. A community water system that has only one (1) entry point to the distribution system may use the monitoring data from the last compliance monitoring period that began between June 2000 and December 8, 2003;

b. A community water system that has multiple entry points and that has applicable [appropriate] historical monitoring data for each entry point to the distribution system may use the monitoring data from the last compliance monitoring period that began between June 2000 and December 8, 2003; and

c. (i) A community water system with applicable [appropriate] historical data for a representative point in the distribution system may use the monitoring data from the last compliance monitoring period that began between June 2000 and December 8, 2003, if [the cabinet determines that] the historical data demonstrates pursuant to 40 C.F.R. 141.26(a)(2)(ii), June 29, 2004, [satisfactorily demonstrate] that each entry point to the distribution system is expected to be in compliance based upon the historical data and reasonable assumptions about the variability of contaminant levels between entry points.

(ii) The cabinet shall make a written finding indicating how the data conform to these requirements;

3. The cabinet may waive the final two (2) quarters of initial monitoring, pursuant to 40 C.F.R. 141.26(a)(2)(iii), June 29, 2004 if requested, for a sampling point if the results of the samples from the previous two (2) quarters are below the detection limit; and

4. If the average of the initial monitoring results for a sampling point is above the MCL, the system shall collect and analyze quarterly samples at that sampling point until the system has results from four (4) consecutive quarters that are at or below the MCL, unless the system enters into another schedule as a part of a formal agreed order with the cabinet

(c) Reduced monitoring. After the initial monitoring in paragraph (b) of this subsection has been completed or fulfilled, a water system may request the cabinet to reduce the frequency of monitoring from once every three (3) years to once every six (6) or nine (9) years, under the following conditions:

1. If the average of the initial monitoring results for each contaminant is below the detection limit provided in Section 3 of this administrative regulation, the system shall collect and analyze for that contaminant using at least one (1) sample at that sampling point every nine (9) years;

2 a. For gross alpha particle activity and uranium, if the average of the initial monitoring results for each contaminant is at or above the detection limit but at or below one-half (1/2) the MCL, the system shall collect and analyze for that contaminant using at least one (1) sample at that sampling point every six (6) years;

b. For combined radium-226 and radium-228, the analytical results shall be combined. If the average of the combined initial monitoring results for radium-226 and radium-228 is at or above the detection limit but at or below one-half (1/2) the MCL, the system shall collect and analyze for that contaminant using at least one (1) sample at that sampling point every six (6) years;

3 a. For gross alpha particle activity and uranium, if the average of the initial monitoring results for each contaminant is above one-half (1/2) the MCL but at or below the MCL, the system shall collect and analyze at least one (1) sample at that sampling point every three (3) years.

b. (i) For combined radium-226 and radium-228, the analytical results shall be combined.

(ii) If the average of the combined initial monitoring results for radium-226 and radium-228 is above one-half (1/2) the MCL but at or below the MCL, the system shall collect and analyze at least one (1) sample at that sampling point every three (3) years;

4. A system shall use the samples collected during the reduced monitoring period to determine the monitoring frequency for subsequent monitoring periods. For example, if a system's sampling point is on a nine (9) year monitoring period, and the sample result is above one-half (1/2) the MCL, then the next monitoring period for that sampling point shall be three (3) years; and

5. If a system has a monitoring result that exceeds the MCL while on reduced monitoring, the system shall collect and analyze quarterly samples at that sampling point until the system has results from four (4) consecutive quarters that are below the MCL,

unless the system enters into another schedule as part of a formal agreed order with the cabinet.

(d) Compositing.

1. To fulfill quarterly monitoring requirements for gross alpha particle activity, radium-226, radium-228, or uranium, a system may composite up to four (4) consecutive quarterly samples from a single entry point if analysis is done within a year of the first sample.

2. The cabinet shall treat analytical results from the composited samples as the average analytical result to determine compliance with the MCLs and the future monitoring frequency.

3. If the analytical result from the composited sample is greater than one-half (1/2) the MCL, the cabinet shall direct the system to take additional quarterly samples before sampling following the system-to-sample under a reduced monitoring schedule.

(e) 1. A gross alpha particle activity measurement may be substituted for the required radium-226 measurement if the measured gross alpha particle activity does not exceed five (5) pCi/L.

2. A gross alpha particle activity measurement may be substituted for the required uranium measurement if the measured gross alpha particle activity does not exceed fifteen (15) pCi/L.

3. The gross alpha measurement shall have a confidence interval of ninety-five (95) percent, or 1.65 standard deviations of the net counting rate of the sample, for radium-226 and uranium.

4. If a system uses a gross alpha particle activity measurement in place of a radium-226 or uranium measurement, the gross alpha particle activity analytical result shall be used to determine the future monitoring frequency for radium-226 and uranium.

5. If the gross alpha particle activity result is less than the detection limit, one-half (1/2) the detection limit shall be used to determine compliance and the future monitoring frequency.

(2) Beta particle and photon radioactivity. To determine compliance with the MCLs in Section 2 of this administrative regulation and 40 C.F.R. 141.66(d), July 1, 2005, for beta particle and photon radioactivity, a system shall monitor at the frequency described below:

(a) A community water system, surface or groundwater, designated by the cabinet as vulnerable shall sample for beta particle and photon radioactivity. The system shall collect quarterly samples for beta emitters and annual samples for tritium and strontium-90 at each entry point to the distribution system, called the sampling point, beginning within one (1) quarter after being notified by the cabinet. A system already designated by the cabinet shall continue to sample until the cabinet reviews and either reaffirms or removes the designation.

1.a. If the gross beta particle activity minus the naturally-occurring potassium-40 beta particle activity at a sampling point has a running annual average, computed quarterly, less than or equal to the screening level of fifty (50) pCi/L, the system may reduce the frequency of monitoring at that sampling point to once every three (3) years.

b. A system shall collect all samples required in paragraph (b)(1) of this section during the reduced monitoring period.

2 a. For a system in the vicinity of a nuclear facility, the system may use environmental surveillance data collected by the nuclear facility instead of monitoring at the system's entry point, if [the cabinet determines that] the data are applicable to the particular water system, pursuant to 40 C.F.R. 141.26(b)(1)(ii), June 29, 2004.

b. If there is a release from a nuclear facility, a system that is using surveillance data shall begin monitoring at the system's entry point in accordance with paragraph (b)(1) of this section;

(b) A community water system, either surface or groundwater, designated by the cabinet as using waters contaminated by effluents from a nuclear facility shall sample for beta particle and photon radioactivity. The system shall collect quarterly samples for beta emitters and iodine-131 and annual samples for tritium and strontium-90 at each entry point to the distribution system, called a sampling point, beginning within one (1) quarter after being notified by the cabinet. A system already designated by the cabinet as a system using waters contaminated by effluents from a nuclear facility shall continue to sample until the cabinet reviews and either reaffirms or removes the designation.

1. Quarterly monitoring for gross beta particle activity shall be

based on the analysis of monthly samples or the analysis of a composite of three (3) monthly samples.

2. For iodine-131, a composite of five (5) consecutive daily samples shall be analyzed once each quarter. More frequent monitoring shall be conducted if [when] iodine-131 is identified in the finished water [if iodine-131 is identified in the finished water more frequent monitoring shall be required].

3. Annual monitoring for strontium-90 and tritium shall be conducted by means of the analysis of a composite of four (4) consecutive quarterly samples or analysis of four (4) quarterly samples.

4.a. If the gross beta particle activity minus the naturally-occurring potassium-40 beta particle activity at a sampling point has a running annual average, computed quarterly, less than or equal to the screening level of fifteen (15) pCi/L, reduction in the frequency of monitoring at that sampling point shall be determined by the cabinet in accordance with 40 C.F.R. 141.26(b)(2)(iv), June 29, 2004.

b. [The cabinet may reduce the frequency of monitoring at that sampling point to every three (3) years.] The system shall collect the same type of samples required in this paragraph [paragraph (b)(2) of this section] during the reduced monitoring period.

5.a. For a system in the vicinity of a nuclear facility, the system may use environmental surveillance data collected by the nuclear facility instead of monitoring at the system's entry point, if the cabinet determines that the data are applicable to the particular water system in accordance with 40 C.F.R. 141.26(b)(2)(v), June 29, 2004.

b. If there is a release from the nuclear facility, a system that is using surveillance data shall begin monitoring at the system's entry points in accordance with this paragraph [paragraph (b)(2) of this section].

(c) A system designated by the cabinet to monitor for beta particle and photon radioactivity shall not apply to the cabinet for a waiver from the monitoring frequencies specified in paragraph (a) or (b) of this subsection [(b)(1) or (b)(2) of this section].

(d)1. A system may analyze for naturally-occurring potassium-40 beta particle activity from the same or equivalent sample used for the gross beta particle activity analysis.

2. A system may subtract the potassium-40 beta particle activity value from the total gross beta particle activity value to determine if the screening level is exceeded.

3. The potassium-40 beta particle activity shall be calculated by multiplying elemental potassium concentrations in mg/L by a factor of 0.82;

(e)1. If the gross beta particle activity minus the naturally-occurring potassium-40 beta particle activity exceeds the applicable [appropriate] screening level, an analysis of the sample shall be performed to identify the major radioactive constituents present in the sample.

2. The applicable [The appropriate] doses shall be calculated and summed to determine compliance with 40 C.F.R. 141.66(d)(1), July 1, 2005, using the formula in 40 C.F.R. 141.66(d)(2), July 1, 2005. Doses shall also be calculated and combined for measured levels of tritium and strontium to determine compliance; and

(f)1. A system shall monitor monthly at the sampling point that exceeds the MCL in 40 C.F.R. 141.66(d), July 1, 2005, beginning the month after the exceedance occurs.

2. A system shall continue monthly monitoring until the system has established, by a rolling average of three (3) monthly samples, that the MCL is being met.

3. A system that establishes that the MCL is being met shall return to quarterly monitoring until it meets the requirements set forth in paragraph (a)1 or (b)4 of this subsection [(b)(1)(i) or (b)(2)(iv) of this section].

(3) General monitoring and compliance requirements (a) The cabinet may require more frequent monitoring than specified in this section [paragraphs (a) and (b) of this section] or may require confirmation samples. The results of the initial and confirmation samples pursuant to 40 C.F.R. 141.26(c), June 29, 2004 shall be averaged in determining compliance.

(b) Each public water system shall monitor at the required frequency in accordance with this administrative regulation.

(c) Compliance. Compliance with this section shall be deter-

mined based on the analytical result obtained at each sampling point. If one (1) sampling point is in violation of a MCL, the system shall be in violation of the MCL.

1.a. For a system that monitors more than once per year, compliance with the MCL shall be determined by a running annual average at each sampling point.

b. If the average of any sampling point is greater than the MCL, then the system shall be out of compliance with the MCL.

2. For a system monitoring more than once per year, if any sample result will cause the running average to exceed the MCL at any sample point, the system shall be out of compliance with the MCL immediately.

3. A system shall include all samples taken and analyzed under the provisions of this section in determining compliance, even if that number is greater than the minimum required.

4. If a system does not collect all required samples when compliance is based on a running annual average of quarterly samples, compliance shall be based on the running average of the actual number of samples collected, not the required number of samples.

5.a. If a sample result is less than the detection limit, zero shall be used to calculate the annual average, unless a gross alpha particle activity is being used instead of radium-226 or uranium.

b. If the gross alpha particle activity result is less than the detection limit, one-half (1/2) the detection limit shall be used to calculate the annual average.

(d) The cabinet shall review results of obvious sampling errors or analytic errors in accordance with 40 C.F.R. 141.26(c)(4), June 29, 2004 [may delete results of apparent sampling or analytic errors].

(e) If a MCL for radioactivity set forth in Section 2 of this administrative regulation is exceeded, the operator of a community water system shall give notice to the cabinet pursuant to 401 KAR 8:020 and to the public as required by 8:070.

Section 5 Incorporation by Reference. (1) [The following document is incorporated by reference.] "Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure, U.S. Department of Commerce, National Bureau of Standards, Handbook 69, June 5, 1959, and Addendum 1, August 1963, is incorporated by reference".

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at Division of Water, Drinking Water Branch, 14 Reilly Road, Frankfort, Kentucky 40601, Monday through Friday, 8:00 a.m. to 4:30 p.m., or through www.water.ky.gov/dw.

[Section 5—Sampling and Measurement Technique.—Sampling and measurement shall be in accordance with the procedures set forth in Federal Register 28402 (July 9, 1976), Sections 141.25 and 141.26, which may be obtained through the cabinet.

Section 6—Radionuclides Limit Exceeded. If the average annual maximum contaminant level for radionuclides is exceeded, the supplier of a community water system shall give notice to the cabinet and notify the public pursuant to 401 KAR 8:070. Monitoring at quarterly intervals for gross alpha particle activity, radium 226, and radium 228, and at monthly intervals for manmade radioactivity, depending on which limit is exceeded, shall continue until the annual average concentration no longer exceeds the maximum contaminant level, or until a monitoring schedule, as a condition to a variance, exemption, or enforcement action, becomes effective.

Section 7. The following document is incorporated by reference and is available for viewing and copying between the hours of 8 a.m. and 4:30 p.m. at the Division of Water, 18 Reilly Road, Frankfort Office Park, Frankfort, Kentucky 40601:

"Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air or Water for Occupational Exposure" MBS Handbook 69, as amended in August 1963, U.S. Department of Commerce. This document may be obtained through the division.

Section 8. Severability. If any provision of this administrative

regulation is set aside by a court of competent jurisdiction, the remainder of this administrative regulation remains in effect.]

LLOYD R. CRESS, Deputy Secretary
 For TERESA J. HILL, Secretary
 APPROVED BY AGENCY: February 14, 2007
 FILED WITH LRC: February 15, 2007 at noon
 CONTACT PERSON Justin Dearing, Regulations Coordinator,
 Division of Water, Department for Environmental Protection, 14
 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-3410, fax
 (502) 564-0111.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 30:005. Definitions for [related to] 401 KAR Chapter 30.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.60, 224.99, 40 C.F.R. 260.10
 STATUTORY AUTHORITY: KRS 224.10-100, 40 C.F.R. 260.10

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100 and the waste management provisions of KRS Chapter 224 require the cabinet to promulgate [adept] administrative regulations for the management of solid, special, and hazardous wastes. [This chapter establishes the general administrative procedures that are applicable to 401 KAR Chapter 30.] This administrative regulation defines essential terms, acronyms, and abbreviations used in connection with 401 KAR Chapter 30 [this chapter]. Some federal terms have been modified to conform to Kentucky statutory mandates. Definitions contained in KRS Chapter 224 have been referenced to the appropriate statutory citation. Some terms do not have a federal counterpart and have been added to clarify requirements and provisions of KRS Chapter 224 and 401 KAR Chapter 30 [this chapter].

Section 1. Definitions. Except as provided in this section, the definitions established in 40 C.F.R. 260.10, effective September 9, 2005, shall apply. [The subject matter shall be governed by 40 C.F.R. 260.10, effective September 9, 2005. The following modifications, exceptions, and additions set forth in this section shall amend 40 C.F.R. 260.10.]

- (1) "100-year flood" means a flood that has a one (1) percent chance of being equaled or exceeded in any given year.
- (2) "Administrator", "agency", "assistant administrator", "regional administrator", "director", or "regional director" means cabinet as defined in KRS 224.01-010(9).
- (3) "Cabinet" is defined by KRS 224.01-010(9).
- (4) "Coal mining by-products" means any material that:
 - (a) Is not one (1) of the primary products of a particular coal mining operation;
 - (b) Is a secondary and incidental product of the particular operation;
 - (c) Would not be solely and separately mined by the particular operation;
 - (d) Does not include an intermediate mining product which results from one (1) of the steps in a mining process and is processed through the next step of the process within a short time; and
 - (e) May be stored separately in the hope that it can be profitably treated later, such as ore deposit that is too low in grade to be of economic value at the time of mining.
- (5) "Coal mining waste" means earth materials which:
 - (a) Are combustible, physically unstable, acid-forming or toxic-forming;
 - (b) Are generated during and incidental to the mining and extraction of coal and to the washing and crushing of coal;
 - (c) Does not include used oil, paints, or flammable liquids; and
 - (d) Shall include refuse, overburden, and coal mining by-

products.

(6) [~~"Coal mining waste" means earth materials which are combustible, physically unstable, or acid-forming or toxic-forming, that are generated during and incidental to the mining and extraction of coal and to the washing and crushing of coal. The term does not include used oil, paints, or flammable liquids. The term includes the following:~~

(a) ~~Refuse which is that waste material in the raw coal which it is the object of cleaning to remove;~~

(b) ~~Overburden which includes all of the earth and other geologic materials, excluding topsoil, which lie above a natural deposit of coal and also means such earth and other material after removal from their natural state in the process of mining; and~~

(c) ~~Coal mining by-products which include any material that is not one (1) of the primary products of a particular coal mining operation, is a secondary and incidental product of the particular operation and would not be solely and separately mined by the particular operation. The term does not include an intermediate mining product, which results from one (1) of the steps in a mining process and is processed through the next step of the process within a short time. An example of a coal mining by-product is that part of the ore deposit that is too low in grade to be of economic value at the time, but which is stored separately in the hope that it can be profitably treated later.~~

(6) "Contaminate" means the introduction of a substance that would cause:

(a) The concentration of that substance in the groundwater to exceed the maximum contaminant level specified in 401 KAR 30.031, 401 KAR 47:030, Sections 5 and 6, or 401 KAR 34:060, Section 5.

(b) An increase in the concentration of that substance in the groundwater where the existing concentration of that substance exceeds the maximum contaminant level specified in 401 KAR 30.031, 401 KAR 47:030, or 401 KAR 34:060, Section 5; or

(c) A significant increase above established background levels, for substances that do not have an established maximum contamination level.

(7) [(6)] "Contamination" means the degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.

(8) [(7)] "Destruction or adverse modification" means an alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.

(9) [(8)] "Disposal" is defined by KRS 224.01-010(10).

(10) [(9)] "Endangered or threatened species" means any species listed as endangered or threatened [such] pursuant to Section 4 of the Endangered Species Act, as amended, 16 U.S.C. 1533 [1533].

(11) [(10)] "Environmental Protection Agency" or "EPA" means the Kentucky Department for Environmental Protection except if [when] used in the phrases "EPA hazardous waste number", "EPA identification number", "EPA Region", "EPA Acknowledgment of Consent", "EPA Test Methods", or "EPA publications".

(12) [(11)] "Equivalent method" means any testing or analytical method authorized [approved by the secretary] under 401 KAR Chapter 31, or methods in 401 KAR Chapters 47 and 48 [approved by the secretary].

(13) [(12)] "Federal Register" means the Administrative Register of Kentucky as described in KRS 13A.050.

(14) [(13)] "Generator" is defined by KRS 224.01-010(13).

(15) [(14)] "Hazardous waste" is defined by KRS 224.01-010(31)(b).

(16) [(15)] "Karst terrain" means a type of topography where limestone, dolomite or gypsum is present and is characterized by naturally occurring closed topographic depressions or sinkholes, caves, disrupted surface drainage, and well developed underground solution channels formed by dissolution of these rocks by water moving underground.

(17) [(16)] "Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases, which will propagate a flame in air at twenty-five (25) degrees Celsius and atmospheric pressure.

(18) [(17)] "Manifest" is defined by KRS 224.01-010(37).

(19) "Overburden" means:

- (a) All of the earth and other geologic materials, excluding topsoil, which lie above a natural deposit of coal; and
- (b) The earth and other material after removal from their natural state in the process of mining.

(20) [(19)] "Permit" means the authorization or other control document that:

- (a) Is issued by the cabinet to implement the requirements of the waste management administrative regulations;
- (b) ~~The term permit~~ Includes permit-by-rule, registered permit-by-rule, research, development, and demonstration permit, and emergency permit;
- (c) ~~However, the term permit~~ Does not include draft permit or proposed permit.

(21) [(19)] "Person" is defined by KRS 224.01-010(17).

(22) [(20)] "Publicly owned treatment works" is defined by KRS 224.01-010(19).

(23) [(21)] "RCRA" means the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.).

(24) [(22)] "Recycling" is defined by KRS 224.01-010(22).

(25) "Refuse" means waste material in the raw coal which it is the object of cleaning to remove.

(26) [(23)] "Solid waste" is [means "waste" as] defined in KRS 224.01-010(31)(a).

(27) [(24)] "State" means the Commonwealth of Kentucky.

(28) [(25)] "Storage" is defined by KRS 224.01-010(28).

(29) [(26)] "Termination" is defined by KRS 224.01-010(26).

(30) [(27)] "Transfer facility" is defined by KRS 224.01-010(48).

(31) [(28)] "Transportation" is defined by KRS 224.01-010(29).

(32) [(29)] "Treatment" is defined by KRS 224.01-010(30).

(33) [(30)] "United States" means the Commonwealth of Kentucky.

(34) [(31)] "Used oil" is defined by KRS 224.50-545(2)(a).

(35) [(32)] "Washout" means the carrying away of waste by waters as a result of flooding.

(36) [(33)] "Waste" is defined by KRS 224.01-010(31).

(37) [(34)] "Water" or "Waters of the Commonwealth" is defined by KRS 224.01-010(33).

(38) [(35)] "Wetlands" means land that has a predominance of hydric soils and is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

Section 2. Substitution of Federal References (1) The following federal parts and subparts, which are cited by federal regulations referenced in 401 KAR Chapter 30, shall be substituted with the state administrative regulations listed below.

Federal Regulation	State Regulation
40 C.F.R. Part 260	401 KAR Chapter 30
40 C.F.R. 260 Subpart A	401 KAR 30.020
40 C.F.R. 260 Subpart B	401 KAR 30.005, 401 KAR 31.005, 401 KAR 32.005, 401 KAR 33.005, 401 KAR 34.005, 401 KAR 35.005, 401 KAR 36.005, 401 KAR 37.005, 401 KAR 38.005, 401 KAR 43.005, 401 KAR 44.005, and 401 KAR 30.020
40 C.F.R. 260 Subpart C	401 KAR 30.035
40 C.F.R. Part 261	401 KAR Chapter 31
40 C.F.R. 261 Subpart A	401 KAR 31.010
40 C.F.R. 261 Subpart B	401 KAR 31.020
40 C.F.R. 261 Subpart C	401 KAR 31.030
40 C.F.R. 261 Subpart D	401 KAR 31.040
40 C.F.R. Part 262	401 KAR Chapter 32

40 C.F.R. 262 Subpart A	401 KAR 32.010
40 C.F.R. 262 Subpart B	401 KAR 32.020
40 C.F.R. 262 Subpart C	401 KAR 32.030
40 C.F.R. 262 Subpart D	401 KAR 32.040
40 C.F.R. 262 Subpart E	401 KAR 32.050, Sections 1-9
40 C.F.R. 262 Subpart F	401 KAR 32.050, Section 10
40 C.F.R. 262 Subpart G	401 KAR 32.060
40 C.F.R. 262 Subpart H	401 KAR 32.065
40 C.F.R. Part 263	401 KAR Chapter 33
40 C.F.R. 263 Subpart A	401 KAR 33.010
40 C.F.R. 263 Subpart B	401 KAR 33.020
40 C.F.R. 263 Subpart C	401 KAR 33.030
40 C.F.R. Part 264	401 KAR Chapter 34
40 C.F.R. 264 Subpart A	401 KAR 34.010
40 C.F.R. 264 Subpart B	401 KAR 34.020
40 C.F.R. 264 Subpart C	401 KAR 34.030
40 C.F.R. 264 Subpart D	401 KAR 34.040
40 C.F.R. 264 Subpart E	401 KAR 34.050
40 C.F.R. 264 Subpart F	401 KAR 34.060
40 C.F.R. 264 Subpart G	401 KAR 34.070
40 C.F.R. 264 Subpart H	401 KAR 34.080, 401 KAR 34.090, 401 KAR 34.100, 401 KAR 34.110, 401 KAR 34.120, 401 KAR 34.130
40 C.F.R. 264 Subpart I	401 KAR 34.180
40 C.F.R. 264 Subpart J	401 KAR 34.190
40 C.F.R. 264 Subpart K	401 KAR 34.200
40 C.F.R. 264 Subpart L	401 KAR 34.210
40 C.F.R. 264 Subpart M	401 KAR 34.220
40 C.F.R. 264 Subpart N	401 KAR 34.230
40 C.F.R. 264 Subpart O	401 KAR 34.240
40 C.F.R. 264 Subpart S	401 KAR 34.287
40 C.F.R. 264 Subpart W	401 KAR 34.285
40 C.F.R. 264 Subpart X	401 KAR 34.250
40 C.F.R. 264 Subpart AA	401 KAR 34.275
40 C.F.R. 264 Subpart BB	401 KAR 34.280
40 C.F.R. 264 Subpart CC	401 KAR 34.281
40 C.F.R. 264 Subpart DD	401 KAR 34.245
40 C.F.R. 264 Subpart EE	401 KAR 34.370
40 C.F.R. Part 265	401 KAR Chapter 35
40 C.F.R. 265 Subpart A	401 KAR 35.010
40 C.F.R. 265 Subpart B	401 KAR 35.020
40 C.F.R. 265 Subpart C	401 KAR 35.030

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40 C.F.R. 265 Subpart D	401 KAR 35 040
40 C.F.R. 265 Subpart E	401 KAR 35:050
40 C.F.R. 265 Subpart F	401 KAR 35 060
40 C.F.R. 265 Subpart G	401 KAR 35 070
40 C.F.R. 265 Subpart H	401 KAR 35:080, 401 KAR 35:090, 401 KAR 35:100, 401 KAR 35:110, 401 KAR 35:120, 401 KAR 35:130
40 C.F.R. 265 Subpart I	401 KAR 35:180
40 C.F.R. 265 Subpart J	401 KAR 35 190
40 C.F.R. 265 Subpart K	401 KAR 35 200
40 C.F.R. 265 Subpart L	401 KAR 35 210
40 C.F.R. 265 Subpart M	401 KAR 35 220
40 C.F.R. 265 Subpart N	401 KAR 35 230
40 C.F.R. 265 Subpart O	401 KAR 35 240
40 C.F.R. 265 Subpart P	401 KAR 35 250
40 C.F.R. 265 Subpart Q	401 KAR 35 260
40 C.F.R. 265 Subpart R	401 KAR 35:270
40 C.F.R. 265 Subpart W	401 KAR 35 285
40 C.F.R. 265 Subpart AA	401 KAR 35 275
40 C.F.R. 265 Subpart BB	401 KAR 35 280
40 C.F.R. 265 Subpart CC	401 KAR 35 281
40 C.F.R. 265 Subpart DD	401 KAR 35 245
40 C.F.R. 265 Subpart EE	401 KAR 35 350
40 C.F.R. Part 266	401 KAR Chapter 36
40 C.F.R. 266 Subpart C	401 KAR 36:030
40 C.F.R. 266 Subpart F	401 KAR 36 060
40 C.F.R. 266 Subpart G	401 KAR 36 070
40 C.F.R. 266 Subpart H	401 KAR 36 020
40 C.F.R. 266 Subpart M	401 KAR 36 080
40 C.F.R. 266 Subpart N	401 KAR 36 090
40 C.F.R. Part 268	401 KAR Chapter 37
40 C.F.R. 268 Subpart A	401 KAR 37:010
40 C.F.R. 268 Subpart B	401 KAR 37:020
40 C.F.R. 268 Subpart C	401 KAR 37:030
40 C.F.R. 268 Subpart D	401 KAR 37:040
40 C.F.R. 268 Subpart E	401 KAR 37:050
40 C.F.R. Part 270	401 KAR Chapter 38
40 C.F.R. 270 Subpart A	401 KAR 38 010
40 C.F.R. 270 Subpart B	401 KAR 38 070, 401 KAR 38 080, 401 KAR 38 090, 401 KAR 38 150 through 401 KAR 38 310
40 C.F.R. 270 Subpart C	401 KAR 38 030

40 C.F.R. 270 Subpart D	401 KAR 38 040, Sections 1 through 4, 7
40 C.F.R. 270 Subpart E	401 KAR 38 040, Sections 5 and 6
40 C.F.R. 270 Subpart F	401 KAR 38 060
40 C.F.R. 270 Subpart G	401 KAR 38 020
40 C.F.R. 270 Subpart H	401 KAR 38 320
40 C.F.R. 270 Subpart I	401 KAR 38 330
[40 C.F.R. 270 Subpart J]	[401 KAR 38 340]
40 C.F.R. Part 124	401 KAR 38 050
40 C.F.R. Part 273	401 KAR Chapter 43
40 C.F.R. 273 Subpart A	401 KAR 43 010
40 C.F.R. 273 Subpart B	401 KAR 43 020
40 C.F.R. 273 Subpart C	401 KAR 43 030
40 C.F.R. 273 Subpart D	401 KAR 43 040
40 C.F.R. 273 Subpart E	401 KAR 43 050
40 C.F.R. 273 Subpart F	401 KAR 43:060 [43-070]
40 C.F.R. 273 Subpart G	401 KAR 43:070 [43-080]
40 C.F.R. Part 279	401 KAR Chapter 44
40 C.F.R. 279 Subpart A	401 KAR 44 005
40 C.F.R. 279 Subpart B	401 KAR 44 010
40 C.F.R. 279 Subpart C	401 KAR 44 020
40 C.F.R. 279 Subpart D	401 KAR 44 030
40 C.F.R. 279 Subpart E	401 KAR 44 040
40 C.F.R. 279 Subpart F	401 KAR 44 050
40 C.F.R. 279 Subpart G	401 KAR 44 060
40 C.F.R. 279 Subpart H	401 KAR 44 070
40 C.F.R. 279 Subpart I	401 KAR 44 080

(2) The requirements of the following federal regulations, which are referenced in 401 KAR Chapter 30, shall include the modifications, exceptions, and additions that are specific to the Commonwealth of Kentucky set forth in the following state administrative regulations referenced in the table below.

Federal Regulation	State Regulation
40 C.F.R. 260.10	401 KAR 30:005, 401 KAR 31:005, 401 KAR 32:005, 401 KAR 33 005, 401 KAR 34 005, 401 KAR 35 005, 401 KAR 36:005, 401 KAR 37 005, 401 KAR 38 005, 401 KAR 43:005, 401 KAR 44:005, and 401 KAR 30 020
40 C.F.R. 260.22	401 KAR 30:035, Section 3(2) and (3)
40 C.F.R. 264.1082	401 KAR 34:281, Section 2
40 C.F.R. 266 205	401 KAR 36:080, Section 6
40 C.F.R. 270 61	401 KAR 38 060, Section 2

(3) The following federal regulations, which are cited by the federal regulations referenced in this 401 KAR Chapter 30, shall be replaced with the state administrative regulations as identified in the table below.

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Federal Regulation	State Regulation
40 C.F.R. Part 60 Appendix A	401 KAR 59:020
[40 C.F.R. Part 124]	[401 KAR 38:050]
40 C.F.R. Part 257	401 KAR Chapter 47
40 C.F.R. Part 258	401 KAR Chapter 48
40 C.F.R. 260.41	401 KAR 30:035, Section 10
40 C.F.R. 264.140	401 KAR 34:080, Section 2
40 C.F.R. 264.141	401 KAR 34:080, Section 1 [3]
40 C.F.R. 264.142	401 KAR 34:090, Section 1
40 C.F.R. 264.143	401 KAR 34:090, Sections 2 through 12
40 C.F.R. 264.144	401 KAR 34:100, Section 1
40 C.F.R. 264.145	401 KAR 34:100, Sections 2 through 12
40 C.F.R. 264.146	401 KAR 34:110
40 C.F.R. 264.147	401 KAR 34:120
40 C.F.R. 264.148	401 KAR 34:130
40 C.F.R. 265.140	401 KAR 35:080, Section 2
40 C.F.R. 265.141	401 KAR 35:080, Section 1
40 C.F.R. 265.142	401 KAR 35:090, Section 1
40 C.F.R. 265.143	401 KAR 35:090, Sections 2 through 11
40 C.F.R. 265.144	401 KAR 35:100, Section 1
40 C.F.R. 265.145	401 KAR 35:100, Sections 2 through 11
40 C.F.R. 265.146	401 KAR 35:110
40 C.F.R. 265.147	401 KAR 35:120
40 C.F.R. 265.148	401 KAR 35:130
40 C.F.R. 266 Appendix I Table I-D	401 KAR 36:025, Section 1(2)(a)
40 C.F.R. 266 Appendix I Table I-E	401 KAR 36:025, Section 1(2)(b)
40 C.F.R. 270.51	401 KAR 38:040, Section 6
40 C.F.R. Part 280	401 KAR Chapter 42

[Unless otherwise specifically defined in KRS Chapter 224 or otherwise specifically indicated by context, terms in 401 KAR Chapter 30 shall have the meanings given in this section.

(1) "100-year flood" means a flood that has a one (1) percent chance of being equalled or exceeded in any given year.

(2) "Application" means the form approved by the cabinet for applying for a permit, including any additions, revisions or modifications and any narrative and drawings required by 401 KAR Chapters 30 to 48. The term includes: Part A of the application (Part A); Part B of the application (Part B); notice of intent, administrative application; special waste application; or technical application.

(3) "Cabinet" shall have the meaning specified in KRS 224.01-010.

(4) "Coal mining waste" means earth materials which are combustible, physically unstable, or acid-forming or toxic-forming, that are generated during and incidental to the mining and extraction of coal and to the washing and crushing of coal. The term does not include used oil, paints or flammable liquids. The term includes the following:

(a) Refuse which is that waste material in the raw coal which it is the object of cleaning to remove;

(b) Overburden which includes all of the earth and other geo-

logic materials, excluding topsoil, which lie above a natural deposit of coal and also means such earth and other material after removal from their natural state in the process of mining; and

(c) Coal mining by-products which include any material that is not one (1) of the primary products of a particular coal mining operation, is a secondary and incidental product of the particular operation and would not be solely and separately mined by the particular operation. The term does not include an intermediate mining product which results from one (1) of the steps in a mining process and is processed through the next step of the process within a short time. An example of a coal mining by-product is that part of the ore deposit that is too low in grade to be of economic value at the time, but which is stored separately in the hope that it can be profitably treated later.

(5) "Contaminate" means introduce a substance that would cause:

(a) The concentration of that substance in the groundwater to exceed the maximum contaminant level specified in 401 KAR 30:031, Sections 5 and 6 of 401 KAR 47:030, or Section 8 of 401 KAR 34:060;

(b) An increase in the concentration of that substance in the groundwater where the existing concentration of that substance exceeds the maximum contaminant level specified in 401 KAR 30:031, 401 KAR 47:030, or Section 8 of 401 KAR 34:060; or

(c) A significant increase above established background levels, for substances that do not have an established maximum contamination level.

(6) "Contamination" means the degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.

(7) "Destruction or adverse modification" means an alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.

(8) "Disposal" shall have the meaning specified in KRS 224.01-010.

(9) "Endangered or threatened species" means any species listed as such pursuant to Section 4 of the Endangered Species Act, as amended, 16 U.S.C. 1536.

(10) "Federal agency" means any department, agency, or other instrumentality of the federal government, any independent agency or establishment of the federal government including any government corporation, and the United States Government Printing Office.

(11) "Food chain crops" means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

(12) "Groundwater" means the subsurface water occurring in the zone of saturation beneath the water table, and perched water zones below the B soil horizon, including water circulating through fractures, bedding planes, and solution conduits.

(13) "Hazardous waste" shall have the meaning specified in KRS 224.01-010.

(14) "Hydric soils" means soils that, in their undrained condition, are saturated, flooded, or ponded long enough during a growing season to develop an anaerobic condition that supports the growth and regeneration of hydrophytic vegetation.

(15) "Hydrophytic vegetation" means a plant growing either in water, or in a substrate that is at least periodically deficient of oxygen during a growing season as a result of excessive water content.

(16) "Karst terrain" means a type of topography where limestone, dolomite or gypsum is present and is characterized by naturally occurring closed topographic depressions or sinkholes, caves, disrupted surface drainage, and well developed underground solution channels formed by dissolution of these rocks by water moving underground.

(17) "Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at twenty-five (25) degrees Celsius and atmospheric pressure.

(18) "Open burning" means the combustion of any material or solid waste without:

(a) Control of combustion air to maintain adequate temperature

for efficient combustion;

(b) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(c) Control of emission of the gaseous combustion products.

(19) "Operator" means any person responsible for overall operation of an on-site or off-site waste facility, including any private contractor conducting operational activities at a federal facility.

(20) "Owner" means any person who owns an on-site or off-site waste facility, or any part of a facility.

(21) "Permit" means the authorization or other control document issued by the cabinet to implement the requirements of the waste management administrative regulations. The term permit includes permit by rule, registered permit by rule, research, development, and demonstration permit, and emergency permit. However, the term permit does not include draft permit or proposed permit.

(22) "Person" shall have the meaning specified in KRS 224.01-010.

(23) "Point source" means any discernible, confined, and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

(24) "Recycling" shall have the meaning specified in KRS 224.01-010.

(25) "Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant or any other waste having similar characteristics and effects.

(26) "Solid waste" shall have the same meaning as KRS 224.01-010.

(27) "State" means any of the fifty (50) states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Northern Mariana Islands or Guam but does not include any foreign country.

(28) "Storage" shall have the meaning specified in KRS 224.01-010.

(29) "Termination" shall have the meaning specified in KRS 224.01-010.

(30) "Transportation" shall have the meaning specified in KRS 224.01-010.

(31) "Washout" means the carrying away of waste by waters as a result of flooding.

(32) "Waste" shall have the meaning specified in KRS 224.01-010.

(33) "Water" or "waters of the Commonwealth" shall have the meaning specified in KRS 224.01-010.

(34) "Well" means any shaft or pit dug or bored into the earth, generally of cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

(35) "Wetlands" means land that has a predominance of hydric soils and is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

Section 2 Acronyms and Abbreviations. Unless otherwise specifically indicated by context, acronyms and abbreviations used in 401 KAR Chapter 30 shall have the meaning as identified in Table 1 of this administrative regulation.

C.F.R.	Code of Federal Regulations
KAR	Kentucky Administrative Regulation
KRS	Kentucky Revised Statute
PCB	Polychlorinated biphenyl
UICP	Underground Injection Control Program
U.S.C.	United States Code
U.S. EPA	United States Environmental Protection

Agency

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: January 3, 2007 at 2 p.m.
 CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 30:020. General provisions.

RELATES TO: KRS Subchapters 224.10, 224.43, 224.99, 40 C.F.R. 260 Subpart A

STATUTORY AUTHORITY: KRS 224.10-100[40 C.F.R. 260 Subpart A]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100 and the waste management provisions of KRS Chapter 224 require the Environmental and Public Protection Cabinet to promulgate administrative [adept rules and] regulations for the generation, treatment, storage, recycling and disposal of hazardous wastes and the disposal of solid wastes. [This chapter establishes the general administrative procedures which are applicable to 401 KAR Chapters 31 through 49.] This administrative regulation establishes [sets forth] general provisions which apply to the waste management administrative regulations with regard to applicability, scope, exceptions, variances, general prohibitions, compatibility, conflicting provisions, severability, availability and confidentiality of information.

Section 1. Applicability. The waste management administrative regulations established in 401 KAR Chapters 31 to 49 shall apply to the disposal of solid waste and the management of all liquid, semisolid, solid, or gaseous waste defined or identified as hazardous in KRS Chapter 224 or the appropriate administrative regulations [(401 KAR 30-010, 401 KAR Chapter 31)] by all persons and state and federal agencies who engage in the generation, treatment, storage, or disposal of [such] wastes, including hazardous substances spilled into the environment, that meet [thereby meeting] the criteria of hazardous waste.

[(1) The waste management regulations apply to all waste disposal sites or facilities with the following exceptions:

(a) Domestic sewage and any mixture of domestic sewage and other wastes that pass through a sewer system to a publicly owned treatment works for treatment. (Note: these exemptions do not apply to sludges generated by the treatment of domestic sewage.)

(b) Industrial wastewater discharges that are point source discharges subject to regulation under Section 402 of the Clean Water Act, as amended through November 1988. (Note: these exemptions do not apply to sludges generated by the treatment of industrial wastewater.)

(c) Solid or dissolved materials in irrigation return flows.

(d) Source special nuclear or by-product material as defined by the Atomic Energy Act, as amended through September 1988.

(e) Materials subjected to in situ mining techniques which are not removed from the ground as part of the extraction process.

(2) Any waste that is not excepted by subsection (1) of this section and that is identified or listed under 401 KAR Chapter 31 is subject to the waste management regulations pertaining to hazardous waste.

(3) Any waste which is not excepted by subsection (1) of this section or granted a variance under the conditions of 401 KAR 30.080, or Sections 8 and 9 of 401 KAR 31-010, and which is not subject to subsection (2) of this administrative regulation is subject to the waste management regulations pertaining to solid waste except for:

(a) Agricultural wastes including manures and crop residues, returned to the soil as fertilizers or soil conditioners.

(b) Overburden resulting from mining operations intended for

return to the mine site and coal mining wastes, refuse, overburden and coal mining by-products.

(c) ~~The location and operation of septic tanks. These administrative regulations do, however, apply to the disposal of septic tank pumpings.~~

(d) ~~Disposal of waste by underground well injection subject to the Underground Injection Control Program (UICP) under the Safe Drinking Water Act, as amended through October 1988.]~~

Section 2. Variance [A variance.] Except as provided in 401 KAR Chapter 38, a variance shall be [is] a written waiver from any provision of the waste management administrative regulations, upon the finding by the cabinet that the absence of the provision [~~such provision(s)~~] shall provide adequate protection to health and the environment in a manner consistent with the purpose of the waste management administrative regulations and KRS Chapter 224. [~~Variations may be granted for recycling operations in accordance with the standards contained in 401 KAR 30:080.~~]

(1) The cabinet may grant a variance or permit modification from the requirements of the waste management administrative regulations if a waste permit requirement, or the process and equipment used, is determined by the cabinet to be either:

(a) Insignificant as a potential hazard to public health or the environment because of its small quantity; low concentration; physical, biological, or chemical characteristics; or method of operation used; or

(b) Handled, processed, or disposed of pursuant to administrative regulations of another governmental agency, if the administrative [~~providing the~~] regulations of other agencies meet the requirements of the waste management administrative regulations, including federal exemption rule-making actions pertaining to hazardous waste management.

(2) A request for variance from a requirement of the waste management administrative regulations shall be submitted in a report [~~as presented by the cabinet~~] in sufficient detail to satisfy a request from the cabinet to provide [~~describe clearly~~] the analyses, procedures, controls, and other pertinent data necessary to support the request for variance. The granting of [~~such~~] a request by the cabinet shall be in writing and shall specify appropriate conditions such as duration, limitations, and review procedures to provide adequate protection to health and the environment.

(3) The cabinet shall not grant any request for a variance which:

(a) Would make the hazardous waste program less stringent than the federal hazardous waste management program; [~~or~~]

(b) Would be in conflict with Kentucky Revised Statutes; [~~or~~]

(c) Would be in conflict with a regulatory provision stating that no variance shall be granted; [~~or~~]

(d) Would vary the requirements of 401 KAR 47.030; or

(e) Would vary the financial responsibility requirements in a manner conflicting with 401 KAR 34.080, Section 1, or 401 KAR 35.080, Section 1.

Section 3. Compatibility with the Federal Acts. The administrative regulations promulgated pursuant to the waste management provisions of KRS Chapter 224 shall [~~are intended to~~] be compatible with federal regulations adopted pursuant to Pub.L. 94-580, the "Resource Conservation and Recovery Act of 1976," as amended through September 1996. [~~November 1988.~~]

Section 4. Conflicting Provisions. The provisions of the waste management administrative regulations shall [~~are to~~] be construed as being compatible with and complementary to each other. If an administrative regulation is [~~in the event that any of these administrative regulations are~~] found to be contradictory, the more stringent provisions shall apply.

Section 5. Severability. If a [~~in the event that any~~] provision of KRS Chapter 224 or any administrative regulation promulgated pursuant thereto is found to be invalid, the remaining waste management administrative regulations in 401 KAR Chapters 30 through 49 shall not be affected or diminished thereby.

Section 6. Use of Number and Gender. In accordance with 40 C.F.R. 260.3, as used in 401 KAR Chapters 30 through 49:

(1) Words in masculine gender shall also include the feminine and neuter genders; [~~and~~]

(2) Words in the singular include the plural; and

(3) Words in the plural shall include the singular.

Section 7. Applicability of Administrative Regulations. (1) At the time of permit issuance, the applicable administrative regulations shall be those waste management administrative regulations which are in effect upon the date of permit issuance except as provided in 401 KAR 47:080, Section 6(3).

(2) Unless otherwise provided in 401 KAR 47:080, Section 6(3), for permit modifications, revocation and reissuance, or termination, the applicable administrative regulations shall be those regulatory provisions which are in effect upon the date that the cabinet makes a final determination (i.e., approval of a permit modification) upon the permit action and are applicable to those specific permit conditions being modified or revoked and reissued. The procedures which shall be used for permit modifications, revocation and reissuance, or termination shall be those regulatory procedures which are in effect upon the date of the cabinet's final determination.

Section 8. Availability of Information; Confidentiality of Information. (1) Any information provided to the cabinet under 401 KAR Chapters 30 through 49 shall be made available to the public to the extent and in the manner authorized by the Kentucky Open Records Act, KRS 61.870 to 61.884, 224.10-212, and 400 KAR 1:060 [~~Freedom of Information Act (1966), as amended through November 1974, 5 U.S.C. section 552, KRS 224.10-100 and 224.10-212 and Chapter 61 and 400 KAR 1.060 as applicable.~~]

(2) Any person who submits information to the cabinet in accordance with 401 KAR Chapters 30 through 49 and 400 KAR 1:060 may assert a claim of business confidentiality or trade secret covering part or all of that information by following the procedures established [~~set forth~~] in 400 KAR 1:060. Information covered by [~~such~~] a claim shall be disclosed by the cabinet only to the extent, and by means of the procedures, established [~~set forth~~] in 400 KAR 1:060 and KRS Chapter 61 except that information required by [~~Section 4(4) of~~] 401 KAR 32.050, Section 3, which is submitted in notification of intent to export a hazardous waste shall be provided to the U.S. Department of State and the appropriate authorities in a receiving country regardless of any claims of confidentiality. If a claim does not accompany [~~However, if no such claim accompanies~~] the information when it is received by the cabinet, it may be made available to the public without further notice to the person submitting it.

Section 9. Compliance Deadlines. After promulgation of administrative regulations under 401 KAR Chapter 31 identifying by its characteristics or listing any substance as hazardous waste subject to the hazardous waste management administrative regulations, any person generating or transporting a [~~such~~] substance or owning or operating a facility for treatment, storage, disposal or recycling of such substance shall register with the cabinet. The [~~Such~~] registration shall be filed within ninety (90) days after promulgation or revision of the administrative regulations unless another notification date is specified.

Section 10 Referenced Documents. (1) The subject matter shall be governed by 40 C.F.R. 260.11, effective July 1, 2005.

(2) The documents incorporated by reference in 40 C.F.R. 260.11 (July 2005) and referenced in subsection (1) of this section shall be [~~are~~] applicable to 401 KAR Chapters 31 through 49.

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: January 3, 2007 at 2 p.m.

CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 30:035. Rulemaking petitions.

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.50, 224.99, 40 C.F.R. 260 Subpart C
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-510(3); 40 C.F.R. 260 Subpart C]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100 and the waste management provisions of KRS Chapter 224 require the Environmental and Public Protection Cabinet to promulgate regulations for the generation, treatment, storage, recycling and disposal of hazardous wastes and the disposal of solid wastes. This administrative regulation establishes [implements the provisions of KRS 224.46-510(3) by establishing] the procedures to add a testing or analytical method to 401 KAR Chapters 31, 34, or 35 or to exclude a waste at a particular site or facility from 401 KAR 31:010, Section 3, or the lists of hazardous wastes in 401 KAR 31:040. This administrative regulation is equivalent to federal regulations [standards established in 40 C.F.R. Part 260.20 (July 2005) through 260.23 (July 2005) and 40 C.F.R. 260.30 (July 2005) through 260.33 (July 2006)], except for the requirement to submit a fee to delist a hazardous waste. This administrative regulation differs from the equivalent federal counterpart by requiring a fee as required in KRS 224.46-014.

Section 1. General. The subject matter shall be governed by 40 C.F.R. 260.20, effective July 1, 2005.

Section 2. Petitions for Equivalent Testing or Analytical Methods. The subject matter shall be governed by 40 C.F.R. 260.21, effective July 1, 2005.

Section 3. Petitions to Amend 401 KAR Chapter 31 to Exclude a Waste Produced at a Particular Facility. (1) Except as provided in subsections (2) or (3) of this section the subject matter shall be governed by 40 C.F.R. 260.22, effective July 1, 2005 [with the exceptions, modifications, and additions set forth in this section].

(2) A check made payable to the Kentucky State Treasurer[,] in the amount required by KRS 224.46-014[,] shall be submitted to the cabinet with the submission of a completed petition for each hazardous waste that is petitioned for delisting.

(3) Upon approval by the cabinet of a petition to exclude waste from a particular facility, the excluded waste shall thereby be subject to the disposal requirements of 401 KAR Chapter 47 and the conditions as specified in the approved exclusion.

Section 4. Petitions to Amend 401 KAR Chapter 43 to Include Additional Hazardous Wastes. The subject matter shall be governed by 40 C.F.R. 260 23, effective July 1, 2005.

Section 5. Variances from Classification as a Solid Waste. The subject matter shall be governed by 40 C.F.R. 260.30, effective July 1, 2005.

Section 6. Standards and Criteria for Variances from a Classification as a Solid Waste. The subject matter shall be governed by 40 C.F.R. 260 31, effective July 1, 2005.

Section 7. Variance to be Classified as a Boiler. The subject matter shall be governed by 40 C.F.R. 260.32, effective July 1, 2005.

Section 8. Procedures for Variances from Classification as a Solid Waste or to be Classified as a Boiler. The subject matter shall be governed by 40 C.F.R. 260.33, effective July 1, 2005.

Section 9. Additional Regulation of Certain Hazardous waste Recycling Activities on a Case-by-Case Basis. The subject matter shall be governed by 40 C.F.R. 260.40, effective July 1, 2005.

Section 10. Procedures for Case-by-case Administrative Regulation of Hazardous Waste Recycling Activities. The cabinet shall use the following procedures if [when] determining whether to regulate hazardous waste recycling activities described in 401 KAR 31:010, Section 6, rather than under the provisions of 401 KAR 36.060 (precious metals being reclaimed).

(1)(a) If a generator is accumulating the waste, the cabinet shall issue a notice setting forth the factual basis for the decision and stating that the person shall comply with the applicable requirements of 401 KAR 32:010, 32:030, 32:040, and 32 050.

(b) The notice shall become final [within] thirty (30) days after issuance of the notice, unless the person served requests a public hearing to challenge the decision.

(c) Upon receiving [such] a request to challenge the decision, the cabinet shall hold a public hearing. The cabinet shall provide notice of the hearing to the public and allow public participation at the hearing.

(d) The cabinet shall issue a determination after the hearing stating whether or not compliance with 401 KAR Chapter 32 is required. The order shall become effective thirty (30) days after service of the determination, unless the cabinet specifies a later date.

(2)(a) If the person is accumulating the recyclable material at a storage facility, the notice shall state that the person shall obtain a permit in accordance with all applicable provisions of 401 KAR Chapter 38.

(b) The owner or operator of the facility shall apply for a permit within no more than six (6) months of notice.

(c) If the owner or operator of the facility wishes to challenge the cabinet's decision, he may do so in his permit application, in a public hearing held on the draft permit, or in comments filed on the draft permit or on the notice of intent to deny the permit.

(d) The fact sheet accompanying the permit shall specify the reasons for the cabinet's determination.

(e) The question of whether the cabinet's decision was proper shall remain open for consideration during the public comment period established in discussed under 401 KAR 38:050, Section 8, and in any subsequent hearing.

Section 11. Waste Decision Tree. 40 C.F.R. Part 260 Appendix I shall [is a decision tree to] help persons determine with which of the administrative regulations, if any, they shall [should] comply. Persons who need help making this determination shall [should] refer to this appendix.

401 KAR 30:035 approved for filing.

TERESA J HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: January 3, 2007 2 p.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 30:040. Transfer of regulatory responsibility.

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43
 STATUTORY AUTHORITY: KRS 224.10-100(24)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224 10-100 and the waste management provisions of KRS Chapter 224 require the Environmental and Public Protection Cabinet to promulgate administrative [adopt rules and] regulations for the management of solid and hazardous wastes. [This chapter establishes the general administrative procedures which are applicable to 401 KAR Chapters 31 through 49.] This administrative regulation transfers regulatory responsibility for coal mining solid waste to the Department for Natural Resources, Division of Mine Reclamation and Enforcement, [Surface Mining Reclamation and Enforce-

ment.]

Section 1. Regulatory Authority. Mining waste shall be a special waste pursuant to KRS 224.50-760(1)(a). ~~[As provided in KRS 224.50-760(1)(e).] Coal mining wastes as defined in 401 KAR 30.005 shall [are to] be regulated under KRS Chapter 350. [Coal mining] [solid] [waste as defined in] [Section 1(4) of] [401-KAR 30.005 are regulated under KRS Chapter 224, as provided by KRS 224.40-100.]~~

Section 2. Transfer of Responsibility. ~~The [cabinet is transferring the] regulatory responsibility for coal mining [solid] waste disposal, which is subject to waste management administrative regulations, shall be with [to] the Department for Natural Resources, Division of Mine Reclamation and Enforcement [Surface Mining Reclamation and Enforcement] at sites regulated under KRS Chapter 350. Coal mining [solid] waste may be disposed of in the areas regulated under KRS Chapter 350 and shall be [is] exempt from the permit requirements in 401 KAR 47:100 [401-KAR-47.029] if [provided that]:~~

(1) ~~[No] Hazardous waste is not placed, stored, treated, disposed or otherwise managed under the provisions of this section; and~~

(2) The general requirements of KRS Chapter 224 are maintained.

Section 3. Variance and Termination. (1) This transfer of regulatory responsibility shall include ~~[includes] the regulatory authority in 401 KAR 47:120, Section 1(8) [401-KAR-47.040, Section-1], to request information from the applicant, and the regulatory authority to grant a variance pursuant to 401 KAR 30.020, Section 2. This transfer of regulatory responsibility may be terminated by the cabinet at an individual mining site if [when] any of the provisions of Section 2 of this administrative regulation are violated, and the Department for Environmental Protection shall [will] reassume full regulatory responsibility for the individual site at [that] [such] time.~~

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: January 3, 2007 at 2 p.m.

CONTACT PERSON: R. Bruce Scott, P.E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 31:005. Definitions ~~for [related to] 401 KAR Chapter 31.~~

RELATES TO: KRS Subchapters 224.01, 224.10, 224.46, 40 C.F.R. 260.10, 261.1[-401-KAR-Chapter-31]

STATUTORY AUTHORITY: KRS 224.10-100, 40 C.F.R. 260.10

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(30) authorizes the Environmental and Public Protection Cabinet to promulgate administrative regulations. ~~[This chapter implements provisions of KRS 224.46-510 and establishes the general provisions applicable to generators of hazardous waste.] This administrative regulation defines essential terms that are used in 401 KAR Chapter 31 [this chapter]. [The majority of terms defined in this administrative regulation are equivalent to federal terms contained in 40 C.F.R. Parts 260 through 299.] Some federal terms have been modified [clarified to eliminate federal ambiguities and] to conform to Kentucky statutory mandates. Definitions contained in KRS Chapter 224 have been referenced to the appropriate statutory citation. Some terms do not have a federal counterpart and [-These terms] have been added to clarify requirements and provisions of KRS Chapter 224 and 401 KAR Chapter 31 ~~[this chapter].~~~~

Section 1 Definitions. Except as provided in this section, the definitions established in 40 C.F.R. 260.10, effective September 9, 2005, shall apply. ~~[The subject matter shall be governed by 40 C.F.R. 260.10, effective September 9, 2005. The following modifications, exceptions, and additions set forth in this section shall amend 40 C.F.R. 260.10.]~~

(1) "Administrator", "agency", "assistant administrator", "regional administrator", "director", or "regional director" means cabinet as defined in KRS 224.01-010(9).

(2) "Cabinet" is defined by KRS 224.01-010(9).

(3) "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.

(4) "Contaminate" means introduce a substance that would cause:

(a) The concentration of that substance in the groundwater to exceed the maximum contaminant level specified in 401 KAR 30:031; 401 KAR 47:030, Sections 5 and 6; or 401 KAR 34:060, Section 8;

(b) An increase in the concentration of that substance in the groundwater where the existing concentration of that substance exceeds the maximum contaminant level specified in 401 KAR 30:031; 401 KAR 47:030; or 401 KAR 34.060, Section 8; or

(c) A significant increase above established ~~[establishehd]~~ background levels, for substances that do not have an established maximum contamination level.

(5) "Disposal" is defined by KRS 224.01-010(10).

(6) "Environmental Protection Agency" or "EPA" means the Kentucky Department for Environmental Protection except ~~if when] used in the phrases "EPA hazardous waste number", "EPA identification number", "EPA Region", "EPA Acknowledgment of Consent," "EPA Test Methods", or "EPA publications".~~

(7) "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 401 KAR 34:275.

(8) "Federal Register" means the "Administrative Register of Kentucky" as described in KRS 13A.050.

(9) "Full regulation" means those administrative regulations applicable to generators of greater than 1,000 kg of nonacutely hazardous waste in a calendar month under 401 KAR Chapters 32 to 39 and the notification and permitting requirements of KRS 224.01-400, 224.40-310, 224.46-510 to 224.46-580, and 224.50-130.

(10) "Generator" is defined by KRS 224.01-010(13).

(11) "Hazardous constituent" is defined by KRS 224.01-010(42).

(12) "Hazardous waste" is defined by KRS 224.01-010(31)(b).

(13) "Leachate" means any liquid, including any suspended components in the liquid, that has percolated through or drained from waste.

(14) "Manifest" is defined by KRS 224.01-010(37).

(15) "PCB" means polychlorinated biphenyls.

(16) "Person" is defined by KRS 224.01-010(17).

~~[(16) "PCB" means polychlorinated biphenyls.]~~

(17) "Publicly-owned treatment works" is defined by ~~if shall have the meaning specified in] KRS 224.01-010(19).~~

(18) "Secretary" ~~[shall] is defined by KRS 224.01-010(24).~~

(19) "Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant or any other waste having similar characteristics and effects.

(20) "Solid waste" ~~is means "waste" as] defined in KRS 224.01-010(31)(a).~~

(21) "Special waste" is defined by KRS 224.50-760(1)(a).

(22) "Spill" means any accidental spilling, leaking, pumping, pouring, emitting, or dumping of hazardous wastes or materials which, ~~if when] spilled, become hazardous wastes into or on any land or water.~~

~~[(22) "Special waste" is defined by KRS 224.50-760(1)(a).]~~

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(23) "Start-up" means the setting in operation of a hazardous waste management unit or control device for any purpose.

(24) "Storage" is defined by KRS 224.01-010(28)[224-01-10(28)].

(25) "Transfer facility" is defined by KRS 224.01-010(48)[224-01-10(48)].

(26) "Transportation" is defined by KRS 224.01-010(29)[224-01-10(29)].

(27) "Treatment" is defined by KRS[KRIS] 224.01-010(30).

(28) "United States" means the Commonwealth of Kentucky.

(29) "Used oil" is defined by KRS[KRIS] 224.50-545(2)(a).

(30) "Wastewaters" means 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 (TOSS), with the following exceptions:

(a) F001, F002, F003, F004, and 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, and F005 solvent constituents listed in of 401 KAR[KARA] 37.040, Section 2(1), in Table Treatment Standards for Hazardous Waste:

(b) K011, K013, and K014 wastewaters contain less than five (5) percent by weight TOC and less than one (1) percent by weight TOSS, as generated; and

(c) K103 and K104 wastewaters contain less than four (4) percent by weight TOC and less than one (1) percent by weight TSS.

(31) "Water" is defined by KRS 224.01-010(33)[KRIS 224-01-10(33)].

Section 2. Substitution of Federal References. (1) The following federal parts and subparts, which are cited by federal regulations referenced in 401 KAR Chapter 31[the chapter], shall be substituted with the state administrative regulations listed below.

Federal Regulation	State Regulation
40 C F R Part 260	401 KAR Chapter 30
40 C F R 260 Subpart A	401 KAR 30.020
40 C.F.R. 260 Subpart B	401 KAR 30.005, 401 KAR 31.005, 401 KAR 32.005, 401 KAR 33.005, 401 KAR 34.005, 401 KAR 35.005, 401 KAR 36.005, 401 KAR 37.005, 401 KAR 38.005, 401 KAR 43.005, 401 KAR 44.005, and 401 KAR 30.020
40 C F R 260 Subpart C	401 KAR 30.035
40 C.F.R. Part 261	401 KAR Chapter 31
40 C F R 261 Subpart A	401 KAR 31.010
40 C F R 261 Subpart B	401 KAR 31.020
40 C F R 261 Subpart C	401 KAR 31.030
40 C F R 261 Subpart D	401 KAR 31.040
40 C F R Part 262	401 KAR Chapter 32
40 C F R 262 Subpart A	401 KAR 32.010
40 C.F.R. 262 Subpart B	401 KAR 32.020
40 C F R 262 Subpart C	401 KAR 32.030
40 C F R 262 Subpart D	401 KAR 32.040
40 C F R 262 Subpart E	401 KAR 32.050, Sections 1-9
40 C F R 262 Subpart F	401 KAR 32.050, Section 10
40 C F R 262 Subpart G	401 KAR 32.060
40 C F R 262 Subpart H	401 KAR 32.065
40 C F R Part 263	401 KAR Chapter 33
40 C F R 263 Subpart A	401 KAR 33.010
40 C F R 263 Subpart B	401 KAR 33.020
40 C F R 263 Subpart C	401 KAR 33.030
40 C F R Part 264	401 KAR Chapter 34
40 C F R 264 Subpart A	401 KAR 34.010
40 C F R 264 Subpart B	401 KAR 34.020
40 C.F.R. 264 Subpart C	401 KAR 34.030
40 C F R. 264 Subpart D	401 KAR 34.040
40 C F R 264 Subpart E	401 KAR 34.050
40 C F R 264 Subpart F	401 KAR 34.060
40 C.F.R. 264 Subpart G	401 KAR 34.070
40 C F R 264 Subpart H	401 KAR 34.080, 401 KAR

	34:090, 401 KAR 34:100, 401 KAR 34:110, 401 KAR 34:120, 401 KAR 34:130
40 C F R 264 Subpart I	401 KAR 34:180
40 C F R 264 Subpart J	401 KAR 34:190
40 C F R 264 Subpart K	401 KAR 34:200
40 C F R 264 Subpart L	401 KAR 34:210
40 C F R 264 Subpart M	401 KAR 34:220
40 C F R 264 Subpart N	401 KAR 34:230
40 C F R 264 Subpart O	401 KAR 34:240
40 C F R 264 Subpart S	401 KAR 34:287
40 C F R 264 Subpart W	401 KAR 34:285
40 C F R 264 Subpart X	401 KAR 34:250
40 C F R 264 Subpart AA	401 KAR 34:275
40 C F R 264 Subpart BB	401 KAR 34:280
40 C F R 264 Subpart CC	401 KAR 34:281
40 C.F.R. 264 Subpart DD	401 KAR 34:245
40 C.F.R. 264 Subpart EE	401 KAR 34:370
40 C F R. Part 265	401 KAR Chapter 35
40 C F R 265 Subpart A	401 KAR 35.010
40 C F R 265 Subpart B	401 KAR 35.020
40 C F R 265 Subpart C	401 KAR 35.030
40 C F R 265 Subpart D	401 KAR 35.040
40 C F.R. 265 Subpart E	401 KAR 35.050
40 C F R 265 Subpart F	401 KAR 35.060
40 C F R 265 Subpart G	401 KAR 35.070
40 C.F.R. 265 Subpart H	401 KAR 35.080, 401 KAR 35.090, 401 KAR 35.100, 401 KAR 35.110, 401 KAR 35.120, 401 KAR 35.130
40 C F R 265 Subpart I	401 KAR 35:180
40 C F R 265 Subpart J	401 KAR 35:190
40 C F R 265 Subpart K	401 KAR 35:200
40 C F R 265 Subpart L	401 KAR 35:210
40 C F R 265 Subpart M	401 KAR 35:220
40 C F R 265 Subpart N	401 KAR 35:230
40 C F R 265 Subpart O	401 KAR 35:240
40 C F R 265 Subpart P	401 KAR 35:250
40 C F.R. 265 Subpart Q	401 KAR 35:260
40 C.F.R. 265 Subpart R	401 KAR 35:270
40 C F R 265 Subpart W	401 KAR 35:285
40 C F R. 265 Subpart AA	401 KAR 35:275
40 C.F.R. 265 Subpart BB	401 KAR 35:280
40 C F R 265 Subpart CC	401 KAR 35:281
40 C F R 265 Subpart DD	401 KAR 35:245
40 C F R 265 Subpart EE	401 KAR 35:350
40 C F R Part 266	401 KAR Chapter 36
40 C F R 266 Subpart C	401 KAR 36:030
40 C F R 266 Subpart F	401 KAR 36:060
40 C.F.R. 266 Subpart G	401 KAR 36:070
40 C F R 266 Subpart H	401 KAR 36:020
40 C F R 266 Subpart M	401 KAR 36:080
40 C F R 266 Subpart N	401 KAR 36:090
40 C F R Part 268	401 KAR Chapter 37
40 C.F.R. 268 Subpart A	401 KAR 37:010
40 C.F.R. 268 Subpart B	401 KAR 37:020
40 C F R 268 Subpart C	401 KAR 37:030
40 C.F.R. 268 Subpart D	401 KAR 37:040
40 C F R 268 Subpart E	401 KAR 37:050
40 C F R Part 270	401 KAR Chapter 38
40 C F R 270 Subpart A	401 KAR 38:010
40 C F R 270 Subpart B	401 KAR 38:070, 401 KAR 38.080, 401 KAR 38:090, 401 KAR 38:150 through 401 KAR 38:310
40 C F R 270 Subpart C	401 KAR 38.030
40 C.F.R. 270 Subpart D	401 KAR 38:040, Sections 1 through 4, 7
40 C.F.R. 270 Subpart E	401 KAR 38.040, Sections 5 and 6

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40 C.F.R. 270 Subpart F	401 KAR 38-060
40 C.F.R. 270 Subpart G	401 KAR 38-020
40 C.F.R. 270 Subpart H	401 KAR 38-320
40 C.F.R. 270 Subpart I	401 KAR 38-330
[40 C.F.R. 270 Subpart J	401 KAR 38-340]
40 C.F.R. Part 124	401 KAR 38-050
40 C.F.R. Part 273	401 KAR Chapter 43
40 C.F.R. 273 Subpart A	401 KAR 43-010
40 C.F.R. 273 Subpart B	401 KAR 43-020
40 C.F.R. 273 Subpart C	401 KAR 43-030
40 C.F.R. 273 Subpart D	401 KAR 43-040
40 C.F.R. 273 Subpart E	401 KAR 43-050
40 C.F.R. 273 Subpart F	401 KAR 43:060[43-070]
40 C.F.R. 273 Subpart G	401 KAR 43:070[43-080]
40 C.F.R. Part 279	401 KAR Chapter 44
40 C.F.R. 279 Subpart A	401 KAR 44-005
40 C.F.R. 279 Subpart B	401 KAR 44-010
40 C.F.R. 279 Subpart C	401 KAR 44-020
40 C.F.R. 279 Subpart D	401 KAR 44-030
40 C.F.R. 279 Subpart E	401 KAR 44-040
40 C.F.R. 279 Subpart F	401 KAR 44-050
40 C.F.R. 279 Subpart G	401 KAR 44-060
40 C.F.R. 279 Subpart H	401 KAR 44-070
40 C.F.R. 279 Subpart I	401 KAR 44-080

(2) The requirements of the following federal regulations, which are referenced in 401 KAR Chapter 31[~~this chapter~~], shall include the modifications, exceptions, and additions that are specific to the Commonwealth of Kentucky set forth in the following state administrative regulations referenced in the table below.

Federal Regulation	State Regulation
40 C.F.R. 260.10	401 KAR 30-005, 401 KAR 31-005, 401 KAR 32-005, 401 KAR 33-005, 401 KAR 34-005, 401 KAR 35-005, 401 KAR 36-005, 401 KAR 37-005, 401 KAR 38-005, 401 KAR 43-005, 401 KAR 44-005, and 401 KAR 30-020
40 C.F.R. 260.22	401 KAR 30-035, Section 3(2) and (3)
40 C.F.R. 261.4	401 KAR 31-010, Section 4
40 C.F.R. 264.301	401 KAR 34-230, Section 2
40 C.F.R. 264.1082	401 KAR 34-281, Section 2
40 C.F.R. 266.202	401 KAR 36-080, Section 3
40 C.F.R. 266.205	401 KAR 36-080, Section 6
40 C.F.R. 270.61	401 KAR 38-060, Section 2

(3) The following federal regulations, which are cited by the federal regulations referenced in 401 KAR Chapter 31[~~this chapter~~], shall be replaced with the state administrative regulations as identified in the table below.

Federal Regulation	State Regulation
40 C.F.R. Part 60 Appendix A	401 KAR 59-020
[40 C.F.R. Part 124	401 KAR 38-060]
40 C.F.R. Part 257	401 KAR Chapter 47
40 C.F.R. Part 258	401 KAR Chapter 48
40 C.F.R. 264.140	401 KAR 34-080, Section 2
40 C.F.R. 264.141	401 KAR 34-080, Section 1[3]
40 C.F.R. 264.142	401 KAR 34-090, Section 1
40 C.F.R. 264.143	401 KAR 34-090, Sections 2 through 12
40 C.F.R. 264.144	401 KAR 34-100, Section 1
40 C.F.R. 264.145	401 KAR 34-100, Sections 2 through 12
40 C.F.R. 264.146	401 KAR 34-110
40 C.F.R. 264.147	401 KAR 34-120
40 C.F.R. 264.148	401 KAR 34-130
40 C.F.R. 265.140	401 KAR 35-080, Section 2

40 C.F.R. 265.141	401 KAR 35-080, Section 1
40 C.F.R. 265.142	401 KAR 35-090, Section 1
40 C.F.R. 265.143	401 KAR 35-090, Sections 2 through 11
40 C.F.R. 265.144	401 KAR 35-100, Section 1
40 C.F.R. 265.145	401 KAR 35-100, Sections 2 through 11
40 C.F.R. 265.146	401 KAR 35-110
40 C.F.R. 265.147	401 KAR 35-120
40 C.F.R. 265.148	401 KAR 35-130
40 C.F.R. 266 Appendix I, Table I-D	401 KAR 36-025, Section 1(2)(a)
40 C.F.R. 266 Appendix I, Table I-E	401 KAR 36-025, Section 1(2)(b)
40 C.F.R. 270.51	401 KAR 38-040, Section 6
40 C.F.R. Part 280	401 KAR Chapter 42

[Section 1. Definitions—Unless otherwise specifically defined in KRS Chapter 224 or otherwise specifically indicated by context, terms in 401 KAR Chapter 31 shall have the meanings given in this Section.

(1) "100-year floodplain" means any land area which is subject to a one (1) percent or greater chance of flooding in any given year from any source.

(2) "100-year flood" means a flood that has a one (1) percent chance of being equaled or exceeded in any given year.

(3) "Aboveground tank" means a device meeting the definition of "tank" and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

(4) "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.

(5) "Accumulated speculatively" means that a material is accumulated before being recycled.

(a) A material is not accumulated speculatively, if the person accumulating it can show:

1. That the material is potentially recyclable and has a feasible means of being recycled, and

2. That during the calendar year (commencing on January 1) the amount of material that is recycled, or transferred to a different site for recycling, equals at least seventy-five (75) percent by weight or volume of the amount of that material accumulated at the beginning of the calendar year (including any material accumulated from previous years).

(b) In calculating the percentage of turnover, the seventy-five (75) percent requirement is to be applied to each material of the same type that is recycled in the same way. Materials accumulating in units that would be exempt from administrative regulation under Section 4(3) of 401 KAR 31-010 are not to be included in making the calculation. (Materials that are already defined as wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling.

(6) "Active fault" means a land area which, according to the weight of geological evidence, has a reasonable probability of being affected by movement along a fault to the extent that a waste site or facility would be damaged and thereby pose a threat to human health and the environment.

(7) "Active life" of a facility means the period from the initial receipt of waste at a waste site or facility until the cabinet receives certification of final closure.

(8) "Active portion" means any area of a facility where treatment, storage, or disposal operations are being or have been conducted and which have not been closed. It includes the treated area of a landfill and the active face of a landfill. Covered, closed, or inactive portions of landfills, building roofs, and roads are excluded unless designated as "active portions" by the cabinet.

(9) "Admixed liner" means a liner made from a mixture of any of a multitude of materials, often asphalt or cement, with widely varying physical and chemical properties. Admixed liners shall be demonstrated to be structurally sound and chemically resistant to the waste placed in it so as to be capable of supporting the waste without crack-

ing or disintegrating or allowing waste or leachate to escape.

(10) "Agricultural waste" means any nonhazardous waste resulting from the production and processing of on-the-farm agricultural products, including manures, prunings and crop residues.

(11) "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.

(12) "Ampule" means a small sealed glass container for one (1) dose of sterile medicine.

(13) "Ancillary 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 from its point of generation to hazardous waste management units including tanks between hazardous waste storage and treatment tanks to a point of disposal on site, or to a point of shipment for disposal off site.

(14) "Application" means the form approved by the cabinet for applying for a permit, including any additions, revisions or modifications and any narrative and drawings required by 401 KAR Chapters 30 to 48. The term includes: Part A of the application (Part A), Part B of the application (Part B); notice of intent; administration application, special waste application, or technical application.

(15) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs.

(16) "As received waste" refers to the waste as received in the shipment from the generator or sample collector.

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

(18) "Attenuation" means any decrease in the maximum concentration or total quantity of an applied chemical or biological constituent in a fixed time or distance traveled resulting from a physical, chemical, or biological reaction or transformation occurring in the zone of aeration or zone of saturation.

(19) "Authorized representative" means the person responsible for the overall operation of a facility or an operational unit or part of a facility, such as the plant manager, superintendent, or person of equivalent responsibility.

(20) "Average volatile organic concentration" or "average VO concentration" means the mass weighted average volatile organic concentration of a hazardous waste as determined in accordance with the requirements of Section 4 of 401 KAR 35.281.

(21) "Base flood" means a flood that has a one (1) percent or greater chance of recurring in any year, or a flood of a magnitude equalled or exceeded once in 100 years on the average over a significantly long period.

(22) "Battery" means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

(23) "Board" shall have the meaning specified in KRS 224.46-810.

(24) "Bodily injury" shall have the meaning given by applicable Kentucky statutes. Bodily injury does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for bodily injury.

(25) "Boiler" means an enclosed device using control flame combustion and having the following characteristics:

(a)1. The unit shall have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

2. The unit's combustion chamber and primary energy recovery section(s) shall be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section (such as water walls and superheaters) shall be physically formed into one (1) manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section are joined only by

ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters (units that transfer energy directly to a process stream) and fluidized bed combustion units; and

3. While in operation, the unit shall maintain a thermal energy recovery efficiency of at least sixty (60) percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

4. The unit shall export and utilize at least seventy-five (75) percent of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps); or

(b) The unit is one (1) which the cabinet has determined, on a case-by-case basis, to be a boiler, after considering the standards in 401 KAR 30.080.

(26) "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.

(27) "Bum" means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient.

(28) "By-product" is a material that is not one (1) of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a coproduct that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

(29) "Cabinet" shall have the meaning specified in KRS 224.01-010.

(30) "Carbon regeneration unit" means any enclosed thermal treatment device used to regenerate spent activated carbon.

(31) "Cation exchange capacity" means the sum of exchangeable cations a soil can absorb expressed in milliequivalents per 100 grams of soil as determined by sampling the soil to the depth of cultivation or solid waste placement, whichever is greater, and analyzing by the summation method for distinctly acid soils or the sodium acetate method for neutral, calcareous, or saline soils.

(32) "Certificate" shall have the meaning specified in KRS 224.46-810.

(33) "Certification" means a statement of professional opinion based upon knowledge and belief.

(34) "Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements.

(35) "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.

(36) "Closure plan" means the plan for closure prepared in accordance with the requirements of Section 3 of 401 KAR 34.070 or Section 3 of 401 KAR 35.070.

(37) "Closure" shall have the meaning specified in KRS 224.01-010.

(38) "Component" means either the tank or ancillary equipment of a tank system.

(39) "Condenser" means a heat transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

(40) "Conditionally exempt small quantity generator" means:

(a) A generator who generates no more than 100 kilograms of hazardous waste in a calendar month; or

(b) A generator who generates acutely hazardous waste listed in Sections 2, 3, and 4(5) of 401 KAR 31.040 in a calendar month in quantities no greater than one (1) kilogram. All quantities of that acutely hazardous waste are subject to administrative regulation under 401 KAR Chapters 32 through 39, and the notification and permitting requirements of KRS 224.01-400, 224.40-310, 224.46-510, 224.46-580, and 224.50-130 to 224.50-413.

(41) "Confined aquifer" means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined ground-

water.

(42) "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.

(43) "Consignee" means the ultimate treatment, storage or disposal facility in a receiving country to which the hazardous waste is sent.

(44) "Constituent" shall have the same meaning as "hazardous waste constituent."

(45) "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.

(46) "Containment building" means a hazardous waste management unit that is used to store or treat hazardous waste under the provisions of 401 KAR 34:245 or 35:245.

(47) "Contaminate" means introduce a substance that would cause:

(a) The concentration of that substance in the groundwater to exceed the maximum contaminant level specified in 401 KAR 30:031, Sections 5 and 6 of 401 KAR 47:030, or Section 8 of 401 KAR 34:060;

(b) An increase in the concentration of that substance in the groundwater where the existing concentration of that substance exceeds the maximum contaminant level specified in 401 KAR 30:031, 401 KAR 47:030, or Section 8 of 401 KAR 34:060; or

(c) A significant increase above established background levels, for substances that do not have an established maximum contamination level.

(48) "Contamination" means the degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.

(49) "Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in the event of a fire, explosion, or release of waste or waste constituents into the environment which has the potential for endangering human health and the environment. Financial planning to identify resources for initiation of such action is a part of contingency plan development.

(50) "Continuous recorder" means a data recording device recording an instantaneous data value at least once every 15 minutes.

(51) "Control device shutdown" means the cessation of operation of a control device for any purpose.

(52) "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.

(53) "Corrective action management unit" or "CAMU" means an area within a facility that is designated by the cabinet under 401 KAR 34:287, for the purpose of implementing corrective action requirements under Section 12 of 401 KAR 34:060 and KRS 224.46-520. A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility.

(54) "Cover" means a device or system which is placed on or over a hazardous waste such that the entire hazardous waste surface area is enclosed and sealed to reduce air emissions to the atmosphere. A cover may have openings such as access hatches, sampling ports, and gauge wells that are necessary for operation, inspection, maintenance, or repair of the unit on which the cover is installed provided that each opening is closed and sealed when not in use. Examples of covers include a fixed roof installed on a tank, a floating membrane cover installed on a surface impoundment, a lid installed on a drum, and an enclosure in which an open container is placed during waste treatment.

(55) "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.

(56) "Current closure cost estimates" means the most recent of the estimates prepared in accordance with Section 1(1), (2) and (3) of

401 KAR 34:000 or Section 1(1), (2) and (3) of 401 KAR 35:000.

(57) "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.

(58) "Current plugging and abandonment cost estimates" means the most recent of the estimates prepared in accordance with 40 C.F.R. 144.62(a), (b), and (c).

(59) "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 or Section 1(1), (2) and (3) of 401 KAR 35:100.

(60) "Debris" means solid material exceeding a 60mm particle size that is intended for disposal and that is: a manufactured object, plant or animal matter, or natural geologic material. However, the following materials are not debris: Any material for which a specific treatment standard is provided in 401 KAR 37:040, namely lead acid batteries, cadmium batteries, and radioactive lead solids; Process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by Section 6 of 401 KAR 37:040 and other material is subject to regulation as debris if the mixture is composed primarily of debris, by volume, based on visual inspection.

(61) "Designated facility" means a hazardous waste treatment, storage, or disposal facility which:

(a) Has received a hazardous waste site or facility permit (or a facility with interim status) in accordance with the requirements of 401 KAR Chapter 38;

(b) Has received a permit from a state authorized in accordance with 40 C.F.R. Part 271, and EPA permit (or a facility with interim status) in accordance with 40 C.F.R. Parts 270 and 124; or

(c) Is regulated under Section 6(3)(b) of 401 KAR 31:010 or 401 KAR Chapter 36, 40 C.F.R. 261.6(e)(2) or 40 C.F.R. Part 266; and

(d) That has been designated on the manifest by the generator pursuant to Section 1 of 401 KAR 32:020 if a waste is destined to a hazardous waste site or facility in an authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, then the designated facility shall be a facility allowed by the receiving state to accept that waste.

(62) "Destination facility" means a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in Section 4(1) and (3) of 401 KAR 43:020 and Section 4(1) and (3) of 401 KAR 43:030. A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

(63) "Destruction or adverse modification" means an alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.

(64) "Dike" means an embankment or ridge of either natural or manmade materials used to prevent the movement of liquids, sludges, solids, or other materials.

(65) "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.

(66) "Disposal" shall have the meaning specified in KRS 224.01-010.

(67) "Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed.

(68) "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.

(69) "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.

(70) "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(71) "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.

(72) "Draft permit" shall have the same meaning as "proposed permit".

(73) "Dnp pad" means an engineered structure consisting of a curbed, free draining base, constructed of nonearthen materials and designed to convey preservative kick-back or dripage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants.

(74) "Effluent Limitations" shall have the same meaning as KRS 224.01-010.

(75) "Elementary neutralization unit" means a device which:

(a) Is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in Section 3 of 401 KAR 31-030, or they are listed in 401 KAR 31-040 only for this reason; and

(b) Meets the definition of tank, tank system, container, transport vehicle, or vessel in this section.

(76) "Emergency permit" means a permit issued by the cabinet to temporarily store, treat or dispose of hazardous waste in accordance with the provisions of Section 2 of 401 KAR 38-060, to temporarily manage, process, or dispose of a solid waste in accordance with the provisions of Section 2 of 401 KAR 47-150 or to temporarily store, treat, or dispose of special waste in accordance with the provisions of Section 1 of 401 KAR 45-135.

(77) "Endangered or threatened species" means any species listed as such pursuant to Section 4 of the Endangered Species Act, as amended, 16 U.S.C. 1536.

(78) "Engineer" shall have the meaning specified in KRS 322.010. An independent, professional engineer shall be registered in Kentucky pursuant to KRS 322.040 and shall be qualified to engage in waste management engineering practices.

(79) "EPA acknowledgment of consent" means the cable sent to EPA from the U.S. Embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment.

(80) "EPA hazardous waste number" means the number assigned by EPA and the cabinet to each hazardous waste listed in 401 KAR 31-040, and to each characteristic identified in 401 KAR 31-030.

(81) "EPA identification number" means the number assigned by EPA or the cabinet to each generator, transporter, or treatment, storage, or disposal facility.

(82) "Ephemeral stream" means a stream which flows only in direct response to precipitation in the immediate watershed or in response to the melting of a cover of snow and ice and which has a channel bottom that is always above the local water table.

(83) "Equipment" means each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange, and any control device or systems required by 401 KAR 34-275.

(84) "Equivalent method" means any testing or analytical method, approved jointly by the administrator and the secretary under 401 KAR Chapter 31, or methods in 401 KAR Chapters 47 and 48, approved by the secretary of the cabinet.

(85) "Existing" 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.

(86) "Existing component" shall have the same meaning as "existing tank system".

(87) "Existing facility" shall have the same meaning as "existing hazardous waste site or facility".

(88) "Existing hazardous waste site or facility" means a hazardous waste facility which was in operation, or for which continuous construction had commenced, on or before November 19, 1980. A facility has commenced construction if:

(a) The owner or operator had obtained the federal, state and

local approvals or permits necessary to begin physical construction; and

(b) Either:

1. A continuous on-site, physical construction program has begun; or

2. 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.

(89) "Existing portion" means that land surface area of an existing hazardous waste management unit, included in the original Part A permit application, on which wastes have been placed prior to the issuance of a permit.

(90) "Existing tank system" means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation commenced on or prior to July 14, 1986. Installation will be considered to have commenced if the owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either:

(a) A continuous on-site physical construction or installation 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 site or installation of the tank system to be completed within a reasonable time.

(91) "External floating roof" means a pontoon or double-deck type floating roof that rests on the surface of a hazardous waste being managed in a tank that has no fixed roof.

(92) "Face amount" means the total amount the insurer is obligated to pay under the policy.

(93) "Facility" means:

(a) All contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one (1) or more landfills, surface impoundments, or combinations of them);

(b) For the purpose of implementing corrective action under Section 12 of 401 KAR 34-060, all contiguous property under the control of the owner or operator seeking a hazardous waste permit. This definition also applies to facilities implementing corrective action under KRS 224.46-520.

(94) "Facility mailing list" means the mailing list for a facility maintained in accordance with Section 7(3)(a)4c of 401 KAR 38-050.

(95) "Federal agency" means any department, agency, or other instrumentality of the federal government, any independent agency or establishment of the federal government including any government corporation, and the United States Government Printing Office.

(96) "Federal, state, and local approvals or permits necessary to begin physical construction" means permits and approvals required under federal, state, or local hazardous waste control statutes, administrative regulations, or ordinances.

(97) "Final closure" of a hazardous waste site or facility means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under 401 KAR Chapters 34 and 35 are no longer conducted at the facility unless subject to the provisions in Section 5 of 401 KAR 32-030.

(98) "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.

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

(100) "Fixed roof" means a rigid cover that is installed in a stationary position so that it does not move with fluctuations in the level of the hazardous waste placed in a tank.

(101) "Flame zone" means the portion of the combustion chamber in a boiler occupied by the flame envelope.

(102) "Floating membrane cover" means a cover consisting of a synthetic flexible membrane material that rests upon and is supported by the hazardous waste being managed in a surface impoundment.

(103) "Floating roof" means a pontoon-type or double-deck type cover that rests upon and is supported by the hazardous waste being managed in a tank, and is equipped with a closure seal or seals to

close the space between the cover edge and the tank wall.

(104) "Flood plain" means areas adjoining inland waters which are inundated by the base flood, unless otherwise specified in 401 KAR 30.031 or 401 KAR 47.030, and includes 100-year floodplain and floodway.

(105) "Floodway" means the channel of the waterway, stream or river and that portion of the adjoining floodplain which provides for passage of the 100-year flood flow without increasing the floodwater depth across the 100-year floodplain by more than one (1) foot.

(106) "Flow indicator" means a device that indicates whether gas flow is present in a vent stream.

(107) "Food chain crops" means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

(108) "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.

(109) "Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

(110) "Freeboard" means the vertical distance between the top of a tank or surface impoundment dike and the surface of the waste contained therein.

(111) "Generator" shall have the meaning specified in KRS 224.01-010.

(112) "Governing body" shall have the same meaning as KRS 224.01-010.

(113) "Groundwater" means the subsurface water occurring in the zone of saturation beneath the water table, and perched water zones below the B soil horizon, including water circulating through fractures, bedding planes, and solution conduits.

(114) "Groundwater table" means the upper boundary of the saturated zone in which the hydrostatic pressure of the groundwater is equal to the atmospheric pressure.

(115) "Halogenated organic compounds" or "HOCs" means those compounds having a carbon-halogen bond that are listed under 401 KAR 37.110.

(116) "Hazardous constituent" shall have the meaning specified in KRS 224.01-010.

(117) "Hazardous debris" means debris that contains a hazardous waste listed in 401 KAR 31.040 or that exhibits a characteristic of hazardous waste identified in 401 KAR 31.030.

(118) "Hazardous waste" shall have the meaning specified in KRS 224.01-010.

(119) "Hazardous waste constituent" means a constituent which caused the cabinet to list the hazardous waste in 401 KAR 31.040, or a constituent listed in Section 5(3) of 401 KAR 31.030.

(120) "Hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

(121) "Hazardous waste management unit" is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed. Hazardous waste management units include: aboveground tank; component; existing tank system or existing component; in-ground tank; new tank system or new tank component; on-ground tank, tank system; under-ground tank; or unfit-for-use tank system.

(122) "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.

(123) "Hazardous waste site or facility" means any place at which

hazardous waste is treated, stored, or disposed of by landfilling, incineration, or any other method. Hazardous waste site or facility includes: boiler; disposal facility; elementary neutralization unit; incinerator; industrial furnace; hazardous waste transfer facility; injection well; landfill; land treatment facility; miscellaneous unit; pile or waste pile; replacement unit; storage facility; sludge dryer; surface impoundment; tank; thermal treatment facility; totally enclosed treatment facility; treatment facility; or wastewater treatment unit.

(124) "Hazardous waste transfer facility" means any transportation related facility including loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

(125) "Holocene" means the most recent epoch of the quaternary period, extending from the end of the pleistocene to the present.

(126) "Hot well" means a container for collecting condensate as in a steam condenser serving a vacuum jet or steam jet ejector.

(127) "Household waste" means any waste material (including garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

(128) "In existence" shall have the same meaning as "existing."

(129) "In gas service" means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

(130) "In heavy liquid service" means that the piece of equipment is not in gas service or in vapor service or in light liquid service.

(131) "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.

(132) "In operation" refers to a facility which is treating, storing, or disposing of hazardous waste.

(133) "In situ sampling systems" means nonextractive samplers or in-line samplers.

(134) "In vacuum service" means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

(135) "In vapor service" shall have the same meaning as "in gas service".

(136) "In-ground tank" means a device meeting the definition of "tank" in this section whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

(137) "Inactive portion" means that portion of a hazardous waste site or facility which was not operated after November 10, 1980.

(138) "Incinerator" means any enclosed device that:

(a) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or

(b) Meets the definition of infrared incinerator or plasma arc incinerator.

(139) "Incompatible waste" means a hazardous waste which is unsuitable for placement in a particular device or facility because it may cause corrosion or decay of containment materials, or unsuitable for commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

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

(141) "Individual generation site" means the contiguous site at or on which one (1) or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one (1) or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

(142) "Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use thermal treatment to accomplish recovery of materials or energy:

- (a) Cement kilns;
- (b) Lime kilns;
- (c) Aggregate kilns;
- (d) Phosphate kilns;
- (e) Coke ovens;
- (f) Blast furnaces;
- (g) Smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, roasters, and foundry furnaces);
- (h) Titanium dioxide chloride process oxidation reactors;
- (i) Methane reforming furnaces;
- (j) Pulping liquor recovery furnaces;
- (k) Combustion devices used in the recovery of sulfur values from spent sulfuric acid;

(l) Halogen acid furnaces (HAFs) for the production of acid from halogenated hazardous waste generated by chemical production facilities where the furnace is located on the site of a chemical production facility, the acid product has a halogen acid content of at least three (3) percent, the acid product is used in a manufacturing process, and, except for hazardous waste burned as fuel, hazardous waste fed to the furnace has a minimum halogen content of twenty (20) percent as generated; or

(m) Other devices as the cabinet may, after notice and comment, add to this list on the basis of criteria and Section 5 of 401-KAR 30.080.

(143) "Infrared incinerator" means any enclosed device that uses electric-powered resistance heaters as a source of radiant heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

(144) "Injection well" means a well into which fluids are injected to achieve subsurface emplacement.

(145) "Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained hazardous waste or reagents used to treat the hazardous waste.

(146) "Installation inspector" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of a hazardous waste management unit including tank systems.

(147) "Interim status" means the designation of a hazardous waste site or facility which was in existence on November 10, 1980, and has submitted a Part A application under 401-KAR Chapter 38 or under 40 C.F.R. Part 270 and is treated as having a permit until final administrative disposition of the application is made.

(148) "Intermittent stream" means a stream or reach of stream that drains a watershed of one (1) square mile or more but does not flow continuously during the calendar year.

(149) "International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

(150) "Internal floating roof" means a floating roof that rests or floats on the surface (but not necessarily in complete contact with it) of a hazardous waste being managed in a tank that has a fixed roof.

(151) "Karst terrain" means a type of topography where limestone, dolomite or gypsum is present and is characterized by naturally occurring closed topographic depressions or sinkholes, caves, disrupted surface drainage, and well-developed underground solution channels formed by dissolution of these rocks by water moving underground.

(152) "Key personnel" shall have the meaning specified in KRS 224.01-010.

(153) "Lab pack" means any large container equal to or smaller than fifty-five (55) gallons that holds many smaller containers of various content tightly secured with packing material.

(154) "Lamp" means the bulb or tube portion of a lighting device specifically designed to produce radiant energy, most often in the ultraviolet (UV), visible, and infrared (IR) regions of the electromagnetic spectrum. Examples of common lamps include, but is not limited to, incandescent, fluorescent, high pressure sodium, mercury vapor, metal halide, high intensity discharge, and neon lamps.

(155) "Land disposal" shall have the meaning specified in KRS 224.01-010.

(156) "Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil

surface. These facilities are disposal facilities if the waste will remain after closure.

(157) "Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, or an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit.

(158) "Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

(159) "Large quantity handler of universal waste" means a universal waste handler who accumulates 5,000 kilograms or more total universal waste (batteries, lamps, pesticides, or thermostats, calculated collectively) at any time. This designation as a large quantity handler of universal waste is retained through the end of the calendar year in which 5,000 kilograms or more total of universal waste is accumulated.

(160) "Leachate" means any liquid including any suspended components in the liquid, that has percolated through or drained from waste.

(161) "Leak detection system" means a system capable of detecting the failure of either the primary or secondary containment system or the presence of a release of hazardous waste, hazardous waste constituents or accumulated liquid in the secondary containment system. Such a system shall employ operational controls (daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment system or the presence of a release of hazardous waste constituents or accumulated liquids into the secondary containment system.

(162) "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.

(163) "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.

(164) "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.

(165) "Liquid mounted seal" means a foam or liquid-filled primary seal mounted in contact with the hazardous waste between the tank wall and the floating roof continuously around the circumference of the tank.

(166) "Local government" means the fiscal court of the county, urban county government, or governing body of an incorporated municipality wherein a hazardous waste landfill or other site or facility for the land disposal of hazardous waste is proposed.

(167) "Major modification" means for hazardous waste sites or facilities, a change in ownership where the cabinet determines that other changes in the permit are necessary as a result of the change in ownership or operational control, area occupied, disposal method, or other significant change in the operation of a waste site or facility (Note: Minor modifications are described in Section 3 of 401-KAR 30.040).

(168) "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.

(169) "Manifest" shall have the meaning specified in KRS 224.01-010.

(170) "Manifest document number" means the EPA twelve (12) digit identification number assigned to the generator plus a unique, serially-increasing, five (5) digit document number assigned to the manifest by the generator for recordkeeping and reporting purposes.

(171) "Maximum organic vapor pressure" means the equilibrium partial pressure exerted by the hazardous waste contained in a tank determined at the temperature equal to either

(a) The local maximum monthly average temperature as reported

by the National Weather Service when the hazardous waste is stored or treated at ambient temperature; or

(b) The highest calendar month average temperature of the hazardous waste when the hazardous waste is stored at temperatures above the ambient temperature or when the hazardous waste is stored or treated at temperatures below the ambient temperature.

(172) "Mining overburden returned to the mine site" means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

(173) "Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of, and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 C.F.R. Part 146, containment building, corrective action management unit, or unit eligible for a research, development, and demonstration permit under Section 6 of 401 KAR 38.060.

(174) "Monitoring" means the act of systematically inspecting and collecting data on operational parameters or on the quality of the air, soil, groundwater, or surface water.

(175) "Monitoring well" means a well used to obtain water samples for water quality and quantity analysis and groundwater levels.

(176) "Movement" means that hazardous waste transported to a facility in an individual vehicle.

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

(178) "Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

(179) "New facility" means any hazardous waste site or facility that commenced construction after November 19, 1980.

(180) "New tank component" shall have the same meaning as "new tank system."

(181) "New tank system" means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation commenced after July 14, 1986; however, for purposes of Section 4(7)(b) of 401 KAR 34:190 and Section 4(7)(b) of 401 KAR 35:190, a new tank system is one for which construction commenced after July 14, 1986.

(182) "No detectable organic emissions" means no escape of organics from a device or system to the atmosphere as determined by an instrument reading less than 500 parts per million by volume (ppmv) above the background level at each joint, fitting, and seal when measured in accordance with the requirements of Method 21 in 40 C.F.R. Part 60, Appendix A, and by no visible openings or defects in the device or system such as rips, tears, or gaps.

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

(184) "Nonwastewaters" means wastes that do not meet the criteria for wastewaters found in the definition for wastewaters.

(185) "Not detected" means at or below the lower method calibration limit (MCL) in SW-846, Method 8290, Table 1.

(186) "Off-site" means properties noncontiguous to the site.

(187) "On-site" means on the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing, as opposed to going along the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access is also considered on-site property.

(188) "Onground tank" means a device meeting the definition of tank that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

(189) "Open burning" means the combustion of any material or solid waste without:

(a) Control of combustion air to maintain adequate temperature for efficient combustion;

(b) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; and

(c) Control of emission of the gaseous combustion products.

(190) "Open ended valve or line" means any valve, except pres-

sure 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.

(191) "Operational plan" means the approved plan of operations filed with the cabinet which describes the method of operation that the permittee will use in the treatment, storage, or disposal of wastes.

(192) "Operator" means any person responsible for overall operation of an on-site or off-site waste facility, including any private contractor conducting operational activities at a federal facility.

(193) "Other site or facility for the land disposal of hazardous waste" means a disposal facility but shall not include a storage facility or a treatment facility.

(194) "Owner" means any person who owns an on-site or off-site waste facility, or any part of a facility.

(195) "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.

(196) "Part A of the application" or "Part A" means the standard forms or format for applying for a hazardous waste site or facility permit as required in 401 KAR 38.090.

(197) "Part B of the application" or "Part B" means the standard format for applying for a hazardous waste site or facility permit as required in 401 KAR 38.090 to 401 KAR 38.210.

(198) "Partial closure" means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of 401 KAR Chapters 34 and 35 at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

(199) "Perennial stream" means a stream or that part of a stream that flows continuously during all of the calendar year as a result of groundwater discharge or surface run-off. The term does not include "intermittent stream" or "ephemeral stream".

(200) "Permit" means the authorization or other control document issued by the cabinet to implement the requirements of the waste management administrative regulations. The term permit includes permit-by-rule, registered permit-by-rule, research, development, and demonstration permit, and emergency permit. However, the term permit does not include draft permit or proposed permit.

(201) "Permit by rule" means authorization allowing certain classes of sites or facilities to manage waste consistent with 401 KAR Chapters 30 to 49, without submission of a registration or permit application to the cabinet. Examples of hazardous waste sites or facilities which are permitted by rule include facilities operating under an interim status permit and facilities identified in Section 1 of 401 KAR 38.060.

(202) "Permittee" means any person holding a valid permit issued by the cabinet to manage, treat, store, or dispose of waste.

(203) "Person" shall have the meaning specified in KRS 224.01-010.

(204) "Personnel" or "facility personnel" means all persons who work at or oversee the operations of a waste facility, and whose actions or failure to act may result in noncompliance with the requirements of the waste management administrative regulations.

(205) "Pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest; or intended for use as a plant regulator, defoliant, or desiccant, other than any article that:

(a) is a new animal drug under FFDC section 201(w), or

(b) is an animal drug that has been determined by regulation of the Secretary of Health and Human Services not to be a new animal drug, or

(c) is an animal feed under FFDC section 201(x) that bears or contains any substances described by paragraph (a) or (b) of this subsection.

(206) "Pile" or "waste pile" means any noncontainment accumulation of solid, nonflowing hazardous waste that is used for treatment or storage and that is not a containment building.

(207) "Plasma arc incinerator" means any enclosed device using a high intensity electrical discharge or arc as a source of heat followed by an afterburner using controlled flame combustion and which is not

listed as an industrial furnace.

(208) "Point of compliance" means for hazardous waste site and facilities, groundwater monitoring wells located within 250 feet of the waste boundary as approved by the cabinet.

(209) "Point of waste origination" means as follows:

(a) When the facility owner or operator is the generator of the hazardous waste, the point of waste origination means the point where a solid waste produced by a system, process, or waste management unit is determined to be a hazardous waste as identified in 401 KAR Chapter 31.

(b) When the facility owner and operator are not the generator of the hazardous waste, point of waste origination means the point where the owner or operator accepts delivery or takes possession of the hazardous waste.

(210) "Point of waste treatment" means the point where a hazardous waste exits a waste management unit used to destroy, degrade, or remove organics in the hazardous waste.

(211) "Point source" means any discernible, confined, and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

(212) "Pollutant" shall have the same meaning as KRS 224.01-010.

(213) "Polychlorinated biphenyl" or "PCB" means halogenated organic compounds defined in accordance with 40 C.F.R. 761.2 as of July 1989.

(214) "Postclosure care" means the manner in which a facility shall be maintained when it no longer accepts waste for disposal.

(215) "Postclosure monitoring and maintenance" shall have the meaning specified in KRS 224.01-010.

(216) "Postclosure plan" means the plan for postclosure care prepared in accordance with the requirements of Sections 8 to 11 of 401 KAR 34.070 or Sections 8 to 11 of 401 KAR 35.070.

(217) "Pressure release" means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

(218) "Primary exporter" means any person who is required to originate the manifest for a shipment of hazardous waste in accordance with Section 1 of 401 KAR 32.020 which specifies a treatment, storage, or disposal facility in a receiving country as the facility to which the hazardous waste will be sent and any intermediary arranging for the export.

(219) "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.

(220) "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.

(221) "Property damage" shall have the meaning given by applicable Kentucky statutes. Property damage does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for property damage.

(222) "Proposed permit" means a document prepared by the cabinet indicating the cabinet's tentative decision to issue or deny, modify, revoke or terminate a permit.

(223) "Publicly owned treatment works" or "POTW" shall have the meaning specified in KRS 224.01-010.

(224) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

(225) "Qualified groundwater scientist" means a geologist registered in Kentucky who has received a baccalaureate or postgraduate degree in the natural sciences or engineering, and has sufficient training and experience in groundwater hydrology and related fields to enable that individual to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport.

(226) "Receiving country" means a foreign country to which a hazardous waste is sent for the purpose of treatment, storage or dis-

posal (except short-term storage incidental to transportation).

(227) "Recharge zone" means an area supplying the water which enters an underground drinking water source.

(228) "Reclaimed" means a material that is processed to recover a usable product, or that is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(229) "Recovered material" shall have the meaning specified in KRS 224.01-010.

(230) "Recyclable materials" means hazardous wastes that are recycled.

(231) "Recycled" means a material that is used, reused, or reclaimed.

(232) "Recycling" shall have the meaning specified in KRS 224.01-010.

(233) "Regional integrated waste treatment and disposal demonstration facility" shall have the meaning specified in KRS 224.01-010.

(234) "Regulated unit" means hazardous waste land disposal sites or facilities, or portions of existing hazardous waste land disposal sites or facilities that continued to receive waste after January 26, 1983.

(235) "Remediation waste" means all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements under Section 12 of 401 KAR 34.060 and KRS 224.46-520. For a given facility, remediation wastes may originate only from within the facility boundary, but may include waste managed in implementing KRS 224.46-520 for releases beyond the facility boundary.

(236) "Repaired" means that equipment is adjusted, or otherwise altered, to eliminate a leak.

(237) "Replacement unit" means a landfill, surface impoundment, or waste pile unit from which all or substantially all of the waste is removed, and that is subsequently reused to treat, store, or dispose of hazardous waste. "Replacement unit" does not apply to a unit from which waste is removed during closure, if the subsequent reuse solely involves the disposal of waste from that unit and other closing units or corrective action areas at the facility, in accordance with an approved closure plan or approved corrective action.

(238) "Representative sample" means a sample of a universe or whole (for example, waste pile, lagoon, or groundwater) which can be expected to exhibit the average properties of the universe or whole.

(239) "Research, development, and demonstration permit" means a permit issued by the cabinet for a hazardous waste treatment facility that utilizes 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 through 36.

(240) "Resource recovery" means the recovery of material or energy from waste.

(241) "Run-off" means any rainwater, leachate, or other liquid that drains overland from any part of a facility.

(242) "Run-on" means any rainwater, leachate, or other liquid that drains overland onto any part of a facility.

(243) "Saturated zone" shall have the same meaning as "zone of saturation".

(244) "Schedule of compliance" means a schedule of remedial measures included in a permit or cabinet order, including an enforceable sequence of interim requirements (for example, actions, operations, or milestones events) leading to compliance with KRS Chapter 224 and 401 KAR Chapters 30 to 40.

(245) "Scrap metal" is bits and pieces of metal parts (for example, bars, turnings, rods, sheets, or wire) or metal pieces that may be combined together with bolts or soldering (for example, radiators, scrap automobiles, or railroad boxcars), which when worn or superfluous can be recycled.

(246) "Secretary" shall have the meaning specified in KRS 224.01-010.

(247) "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.

(248) "Separator tank" means a device used for separation of two immiscible liquids.

(249) "Sewage system" shall have the meaning specified in KRS

224.01-010-

(250) "Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the waste facility or activity.

(251) "Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant or any other waste having similar characteristics and effects.

(252) "Sludge dryer" means any enclosed thermal treatment device that is used to dehydrate sludge and that has a maximum total thermal input, excluding the heating value of the sludge itself, of 2,500 BTU per pound of sludge treated on a wet weight basis.

(253) "Small quantity generator" means a generator who generates more than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month.

(254) "Small quantity handler of universal waste" means a universal waste handler who does not accumulate more than 5,000 kilograms of universal waste (batteries, lamps, pesticides, or thermostats, calculated collectively) at any time.

(255) "Solid waste management unit" shall mean any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

(256) "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.

(257) "Sorb" means to either adsorb, absorb, or both.

(258) "Sorbent" means a material that is used to soak up free liquids by either adsorption or absorption, or both.

(259) "Spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

(260) "Spill" means any accidental spilling, leaking, pumping, pouring, emitting, or dumping of hazardous wastes or materials which, when spilled, become hazardous wastes into or on any land or water.

(261) "Start-up" means the setting in operation of a hazardous waste management unit or control device for any purpose.

(262) "State" means any of the fifty (50) states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Northern Mariana Islands or Guam but does not include any foreign country.

(263) "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.

(264) "Storage" shall have the meaning specified in KRS 224.01-010.

(265) "Storage facility" means a facility or part of a facility at which hazardous waste is held for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere. A generator who accumulates his own hazardous wastes in an approved manner for less than ninety (90) days for subsequent transport on-site or off-site is not operating or maintaining a storage facility.

(266) "Storage of hazardous waste" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed, or stored elsewhere.

(267) "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.

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

(269) "Sump" means any pit or reservoir that meets the definition of tank, and those troughs and trenches connected to it, that serves to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities; except that as used in the landfill, surface impoundment, and waste pile administrative regulations, "sump" means any lined pit or reservoir that serves to collect liquids drained from a leachate collection and removal system or leak detec-

tion system for subsequent removal from the system.

(270) "Surface impoundment" means a facility or part of a facility which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

(271) "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.

(272) "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.

(273) "Tank" means a stationary device designed to contain an accumulation of hazardous waste that is constructed primarily of nonearthen materials (for example, wood, concrete, steel, or plastic) which provide structural support and which does not meet the definition of any other unit.

(274) "Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

(275) "Termination" shall have the meaning specified in KRS 224.01-010.

(276) "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, 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.

(277) "Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge (see also "incinerator" and "open burning").

(278) "Thermal treatment facility" means a facility or part of a facility which uses elevated temperatures as the primary means to change the chemical, physical or biological character or composition of hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge.

(279) "Thermostat" means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of Section 4(3)(b) of 401 KAR 43.020 or Section 4(3)(b) of 401 KAR 43.030.

(280) "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.

(281) "Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which acid is neutralized.

(282) "Transit country" means any foreign country, other than a receiving country, through which a hazardous waste is transported.

(283) "Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body is a separate transport vehicle.

(284) "Transportation" shall have the meaning specified in KRS 224.01-010.

(285) "Transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, highway or water.

(286) "Treatability study" means:

(a) A study in which a hazardous waste is subjected to a treatment process to determine

1. Whether the waste is amenable to the treatment process;

- 2. What pretreatment, if any, is required;
- 3. The optimal process conditions needed to achieve the desired treatment;
- 4. The efficiency of a treatment process for a specific waste or wastes; or
- 5. The characteristics and volumes of residuals from a particular treatment process.

(b) For the purpose of 401 KAR 31:010, Section 4(5) and (6), exemptions are liner compatibility, corrosion, and other material compatibility studies and toxicological and health effects studies.

(c) A "treatability study" is not a means to commercially treat or dispose of hazardous waste.

(287) "Treatment" shall have the meaning specified in KRS 224.01-010.

(288) "Treatment facility" means a facility or part of a facility using any method, technique or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous or less hazardous, safer to transport, store, or dispose of, or amenable for recovery, amenable for storage, or reduced in volume.

(289) "Treatment zone" means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

(290) "Underground drinking water source" means:

- (a) An aquifer supplying drinking water for human consumption; or
- (b) An aquifer in which the groundwater contains less than 10,000 mg/l total dissolved solids.

(291) "UIC well" means an underground injection control well as provided in 40 C.F.R. Part 144.

(292) "Underground injection" means the subsurface emplacement of fluids through a bored, drilled, or driven well; or through a dug well, where the depth of the dug well is greater than the largest surface dimension. (See also "injection well".)

(293) "Underground tank" means a device meeting the definition of "tank" in this section whose entire surface area is totally below the surface of and covered by the ground.

(294) "Underlying hazardous constituent" means any constituent listed in Section 1 of 401 KAR 37:040, Table - Treatment Standards for Hazardous Wastes, except vanadium and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent specific treatment standards.

(295) "Unfit for use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

(296) "Universal waste" means any of the following hazardous wastes that are subject to the universal waste requirements of 401 KAR Chapter 43.

- (a) Batteries as described in Section 2 of 401 KAR 43:010;
- (b) Pesticides as described in Section 3 of 401 KAR 43:010;
- (c) Thermostats as described in Section 4 of 401 KAR 43:010;

- and
- (d) Spent lamps as described in Section 5 of 401 KAR 43:010.

(297) "Universal waste handler":

(a) Means-

- 1. A generator of universal waste; or
- 2. The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination.

(b) Does not mean:

- 1. A person who treats (except under the provisions of Sections 4(1) or (3) of 401 KAR 43:020 or Sections 4(1) or (3) of 401 KAR 43:030), disposes of, or recycles universal waste; or
- 2. A person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

(298) "Universal waste transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas

and other similar areas where shipments of universal waste are held during the normal course of transportation for ten days or less.

(299) "Universal waste transporter" means a person engaged in the off-site transportation of universal waste by air, rail, highway, or water.

(300) "Unsaturated zone" shall have the same meaning as "Zone of aeration".

(301) "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

(302) "Used oil" shall have the same meaning as KRS 224.50-545.

(303) "Used or reused" means a material that is either-

- (a) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one (1) process used as feedstock in another process). However, a material shall not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or
- (b) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

(304) "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.

(305) "Vapor recovery system" means that equipment, device, or apparatus capable of collecting vapors and gases discharged from a storage tank, and a vapor processing system capable of affecting such vapors and gases so as to prevent their emission into the atmosphere.

(306) "Vapor-mounted seal" means a foam filled primary seal mounted continuously around the circumference of the tank so that there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the hazardous waste surface, and the floating roof.

(307) "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-leased) or by natural means such as diurnal temperature changes.

(308) "Vessel" means any watercraft used or capable of being used as a means of transportation on the water.

(309) "Volatile organic concentration" or "VO concentration" means the fraction by weight of organic compounds in a hazardous waste expressed in terms of parts per million (ppmw) as determined by direct measurement using Method 25D or by knowledge of the waste in accordance with the requirements of Section 4 of 401 KAR 35:281.

(310) "Washout" means the carrying away of waste by waters as a result of flooding.

(311) "Waste" shall have the meaning specified in KRS 224.01-010.

(312) "Waste boundary" means the outermost perimeter of the waste (projected in the horizontal plane) as it would exist at completion of the disposal activity.

(313) "Waste determination" means performing all applicable procedures in accordance with the requirements of Section 4 of 401 KAR 35:281 to determine whether a hazardous waste meets standards specified in 401 KAR Chapter 35. Examples of a waste determination include performing the procedures in accordance with the requirements of Section 4 of 401 KAR 35:281 to determine the average VO concentration of a hazardous waste at the point of waste origination; the average VO concentration of a hazardous waste at the point of waste treatment and comparing the results to the exit concentration limit specified for the process used to treat the hazardous waste; determining the organic reduction efficiency and the organic biodegradation efficiency for a biological process used to treat a hazardous waste and comparing the results to the applicable standards;

or the maximum volatile organic vapor pressure for a hazardous waste in a tank and comparing the results to the applicable standards.

(314) "Waste pile" shall have the same meaning as "pile".

(315) "Waste stabilization process" means any physical or chemical process used to either reduce the mobility of hazardous constituents in a hazardous waste or eliminate free liquids as determined by Test Method 9005 (Paint Filter Liquids Test) in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, (incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30.010). A waste stabilization process includes mixing the hazardous waste with binders or other materials, and curing the resulting hazardous waste and binder mixture. Other synonymous terms used to refer to this process are "waste fixation" or "waste solidification."

(316) "Wastewaters" means 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:

(a) 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 1 of 401 KAR 37:040 in Table Treatment Standards for Hazardous Waste;

(b) K011, K013, K014 wastewaters contain less than five (5) percent by weight TOC and less than one (1) percent by weight TSS, as generated, and

(c) K103 and K104 wastewaters contain less than four (4) percent by weight TOC and less than one (1) percent by weight TSS.

(317) "Wastewater treatment unit" means a device that:

(a) is part of a wastewater treatment facility that is subject to administrative regulation under either section 402 or 307(b) of the CWA;

(b) receives and treats or stores an influent wastewater which is a hazardous waste as defined in 401 KAR 31.010, Section 3; or generates and accumulates a wastewater treatment sludge that is a hazardous waste as defined in 401 KAR 31.010, Section 3; or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in Section 3 of 401 KAR 31.010; and

(c) Meets the definition of tank or tank system in this administrative regulation.

(318) "Water" or "waters of the Commonwealth" shall have the meaning specified in KRS 224.01-010.

(319) "Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

(320) "Well" means any shaft or pit dug or bored into the earth, generally of cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

(321) "Wetlands" means land that has a predominance of hydric soils and is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

(322) "Zone of aeration" means that region of the soil or rock between the land surface and the nearest saturated zone in which the interstices are occupied partially by air.

(323) "Zone of engineering control" means an area under the control of the owner or operator that upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to waters of the Commonwealth.

(324) "Zone of saturation" means that part of the earth's crust containing groundwater in which all voids, large and small, are filled with liquid.

Section 2. Acronyms and Abbreviations. Unless otherwise specifically indicated by context, acronyms and abbreviations used in 401 KAR Chapter 31 shall have the meaning as identified in Table 1 of this administrative regulation.

Am	Amended
C	Corrosive waste
CAA	Clean Air Act, as amended
C.F.R.	Code of Federal Regulations

cm	Centimeter
cm ²	Centimeter squared
CO	Carbon monoxide
CO ₂	Carbon dioxide
CWA	Clean Water Act, as amended
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
DOT	United States Department of Transportation
DRE	Destruction and removal efficiency
E	Explosive waste
eff.	Effective
EPA	United States Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIA	Federal Insurance Administration
FR	Federal Register
H	Acutely hazardous waste
ha	Hectare
HTMR	High temperature metals recovery
HSWA	Hazardous and Solid Waste Amendments of 1994
I	Ignitable waste
KAR	Kentucky Administrative Regulation
kg	Kilogram
KPDES	Kentucky Pollution Discharge Elimination System
KRS	Kentucky Revised Statute
Ky R.	Administrative Register of Kentucky
l	Liter
LC	Lethal concentration
LD	Lethal dose
ml	Milliliter
mm	Millimeter
N	Normal
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NPDES	National Pollutant and Discharge Elimination System
PCB	Polychlorinated biphenyl
pCi/l	Picocuries per liter
PHC	Principal hazardous constituent
Permit POHC	Permitted principal organic hazardous constituent
PM	Particulate matter
POHC	Principal organic hazardous constituent
ppm	parts per million
Trial POHC	Trial burn principal organic hazardous constituent
POTW	Publicly owned treatment works
PSD	Prevention of significant deterioration
psi	Pounds per square inch
psig	Pounds per square inch gauge
R	Reactive waste
RCRA	Resource Conservation and Recovery Act, as amended
SDWA	Safe Drinking Water Act, as amended
SEC	Securities and Exchange Commission
SIG	Standard Industrial Classification Code
SPCC	Spill Prevention, Control, and Countermeasures Plan
T	Toxic waste
UIC	Underground Injection Control
UICP	Underground Injection Control Program
U.S.C.	United States Code
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
USPS	United States Postal Service

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 31:010. General provisions for hazardous wastes.

RELATES TO: KRS ~~Subchapters~~[~~Chapters~~] 224.01, 224 40, 224.43, 224.46, 224 99, 40 C.F.R. 260.40, 260.41, 261 Subpart A

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-510(3), ~~40 C.F.R. 260.40, 260.41, 261 Subpart A]~~

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(3) requires the cabinet to identify the characteristics of and to list hazardous wastes. ~~[This chapter identifies and lists hazardous waste.]~~ This administrative regulation establishes the general provisions necessary for identification and listing of a hazardous waste. ~~This administrative regulation is equivalent to corresponding federal regulations except for Section 4 which does not include information not delegable to the Commonwealth of Kentucky.~~

Section 1. Purpose and Scope. (1) The subject matter shall be governed by 40 C.F.R. 261.1, effective July 1, 2005.

(2) The citations to Sections 3007 and 3013 of RCRA in the federal regulation referenced in subsection (1) of this section shall be replaced with KRS 224.10-100(10).

(3) The citations to 1004(27) and 1004(5) of RCRA in the federal regulation referenced in subsection (1) of this section shall be replaced with KRS 224.10-010.

(4) The citation to Section 7003 of RCRA in the federal regulation referenced in subsection (1) of this section shall be replaced with KRS 224.10-410.

Section 2. Definition of a Solid Waste. (1) The subject matter shall be governed by 40 C.F.R. 261.2, effective July 1, 2005.

(2) The citations to subtitle C of RCRA in the federal regulation referenced in subsection (1) of this section shall be replaced with 401 KAR Chapter 40.

Section 3. Definition of a Hazardous Waste. The subject matter shall be governed by 40 C.F.R. 261.3, effective July 1, 2005.

Section 4. Exclusions. (1) Except as provided in subsections (2) to (6) of this section, the subject matter shall be governed by 40 C.F.R. 261.4, effective July 1, 2005, except 40 C.F.R. 261.4(b)(16) and 261.4(b)(18), with the following modifications, exceptions, and additions as set forth in this section.

(2) The reference in 40 C.F.R. 261.4(a)(17)(vi) to 40 C.F.R. 261.4(a)(7) is incorrect. The reference shall[should] be to 40 C.F.R. 261.4(b)(7).

(3) The agreement referenced in 40 C.F.R. 261.4(b)(11)(ii) shall be sent to the Characteristics Section (OS-333), U.S. EPA, 401 Main Street SW, Washington, DC 20460.

(4) The citations to 3010 of RCRA in 40 C.F.R. 261.4(c) shall be replaced with 401 KAR 32:010, 401 KAR 34:020, and 401 KAR 35 020.

(5) The citations to 3010 of RCRA in 40 C.F.R. 261.4(d)(1) shall be replaced with 401 KAR Chapters 32 and 38.

(6) The citations to 3010 of RCRA in 40 C.F.R. 261.4(e) shall be replaced with KRS 224.46-510(3), 401 KAR Chapters 32 and 38.

Section 5. Special Requirements for Hazardous Waste Generated by Conditionally Exempt Small Quantity Generators. (1)

The subject matter shall be governed by 40 C.F.R. 261.5, effective July 1, 2005.

(2) The citations to 3010 of RCRA in 40 C.F.R. 261.5(b) shall be replaced with KRS 224.46-510(3).

(3) The citations to 3010 of RCRA in 40 C.F.R. 261.5(e) shall be replaced with KRS 224.01-400, 224.40-310, 224.46-510 through 224.46-580 and 224.50-130.

(4) The citations to 3010 of RCRA in 40 C.F.R. 261.5(f)(2) and 261.5(g)(2) shall be replaced with KRS 224.01-400.

Section 6. Requirements for recyclable materials (1) The subject matter shall be governed by 40 C.F.R. 261.6 except 261.6(a)(2)(v), effective July 1, 2005.

(2) The citations to 3010 of RCRA in 40 C.F.R. 261.6(a)(3) shall be replaced with KRS 224.46-510(3).

(3) The citations to 3010 of RCRA in 40 C.F.R. 261.6(b) shall be replaced with KRS 224.46-510(3) and 224.46-560.

(4) The citations to 3010 of RCRA in 40 C.F.R. 261.6(c)(1) shall be replaced with KRS 224.46-510(3) and 224.46-520.

(5) The citations to 3010 of RCRA in 40 C.F.R. 261.6(c)(2)(i)[261.6(e)(2)(a)] shall be replaced with 401 KAR 32:010, Section 3.

Section 7. Residues of Hazardous Waste in Empty Containers. The subject matter shall be governed by 40 C.F.R. 261.7, effective September 9, 2005.

Section 8. PCB Waste Regulated Under the Toxic Substance Control Act (15 U.S.C. 2601 et. seq.) The subject matter shall be governed by 40 C.F.R. 261.8, effective July 1, 2005.

Section 9. Requirements for Universal Waste. The subject matter shall be governed by 40 C.F.R. 261.9, effective July 1, 2005.

Section 10. [Administrative Regulation of] Mixed Radioactive Hazardous Wastes. Wastes shall be considered radioactive mixed wastes if the wastes[are wastes that] contain both hazardous wastes subject to KRS Chapter 224 and radioactive wastes subject to the Atomic Energy Act (42 U.S.C. 2011 et. seq.) Unless [~~Radioactive mixed wastes, unless they have been] specifically exempted by 401 KAR 36:090, radioactive mixed wastes shall be[are]~~ subject to all the requirements of 401 KAR Chapters 30 to 40.

[Section 1. Purpose and Scope. (1) This chapter identifies those wastes which are subject to administrative regulation as hazardous wastes under 401 KAR Chapters 32 to 40 and which are subject to the notification and permitting requirements of KRS 224.01, 224.40, 224.43, and 224.46. In this chapter:

(a) This administrative regulation identifies those materials that are a "waste" and "hazardous waste," and identifies those wastes which are excluded from administrative regulation under 401 KAR Chapters 32 to 40 and establishes special management requirements for hazardous waste produced by conditionally exempt small quantity generators and hazardous waste which is recycled.

(b) 401 KAR 31:020 sets forth the criteria used by the cabinet to identify characteristics of hazardous waste and to list particular hazardous wastes.

(c) 401 KAR 31:030 identifies characteristics of hazardous waste.

(d) 401 KAR 31:040 lists particular hazardous wastes.

(2)(a) The definition of waste contained in this chapter applies only to wastes that are also hazardous for purposes of the administrative regulations implementing these provisions of KRS Chapter 224 relating to hazardous waste management. This chapter identifies only some of the materials which are hazardous wastes under KRS 224.01-400, 224.10-100(10), and 224.10-410. For example, it does not apply to materials (such as non-hazardous scrap, paper, textiles, or rubber) that are not otherwise hazardous wastes and that are recycled.

(b) This chapter identifies only some of the materials which are wastes and hazardous wastes for purposes of KRS 224.01-

400, 224.10-100(10), and 224.10-410. A material which is not identified as a waste in this chapter, or is not a hazardous waste identified or listed in this chapter is still a waste and a hazardous waste for purposes of this administrative regulation if:

1. In the case of KRS 224.10-100(10), the cabinet has reason to believe that the material may be a waste within the meaning of KRS 224.10-010 and a hazardous waste within the meaning of KRS 224.10-010, or

2. In the case of KRS 224.10-410, the statutory elements are established.

(3) Terms previously defined in this subsection may be found in 401 KAR 31:005.

Section 2. Definition of a Waste (1)(a) A waste includes any discarded material that is not excluded by Section 4(1) of this administrative regulation or that is not excluded by a variance granted under Section 1 or 2 of 401 KAR 30.090, or Section 8 or 9 of this administrative regulation.

(b) A discarded material includes any material which is:

1. Abandoned, as explained in subsection (2) of this section;

or

2. Recycled, as explained in subsection (3) of this section; or

3. Listed in subsection (4) of this section.

(2) Materials are waste if they are abandoned by being:

(a) Disposed of, or

(b) Burned or incinerated; or

(c) Accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated.

(3) The following materials are wastes if they are recycled or accumulated, stored, or treated before recycling as specified in paragraphs (a) to (d) of this subsection.

(a) Used in a manner constituting disposal.

1. Materials noted with a "(waste)" in column (1) of Table 1 in

paragraph (e) of this subsection are wastes when they are:

a. Applied to or placed on the land in a manner that constitutes disposal; or

b. Used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to or placed on the land (in which case the product itself remains a waste).

2. However, commercial chemical products listed in Section 4 of 401 KAR 31.040 are not wastes if they are applied to the land and that is their ordinary manner of use.

(b) The following materials are burned for energy recovery:

1. Materials noted with a "(waste)" in column (2) of Table 1 in paragraph (e) of this subsection are wastes when they are:

a. Burned to recover energy;

b. Used to produce a fuel or are otherwise contained in fuels (in which cases the fuel itself remains a solid waste);

2. However, commercial chemical products listed in Section 4 of 401 KAR 31:040 are not wastes if they are themselves fuels.

(c) The following materials are reclaimed. Materials noted with a "(waste)" in column (3) of Table 1 in paragraph (e) of this subsection are wastes when reclaimed.

(d) The following materials are accumulated speculatively. Materials noted with a "(waste)" in column (4) of Table 1 in paragraph (e) of this subsection are wastes when accumulated speculatively.

(e) The following Table 1 identifies materials which are wastes when used in a manner constituting disposal, burned for energy recovery, reclaimed, or accumulated speculatively. Materials noted with the word "(waste)" in Table 1 are considered to be wastes for the purposes of 401 KAR Chapters 32 to 40 and KRS Chapter 224. Materials noted with a dash "-" in Table 1 are not considered to be a waste for the purposes of 401 KAR Chapters 32 to 40 and KRS Chapter 224.]

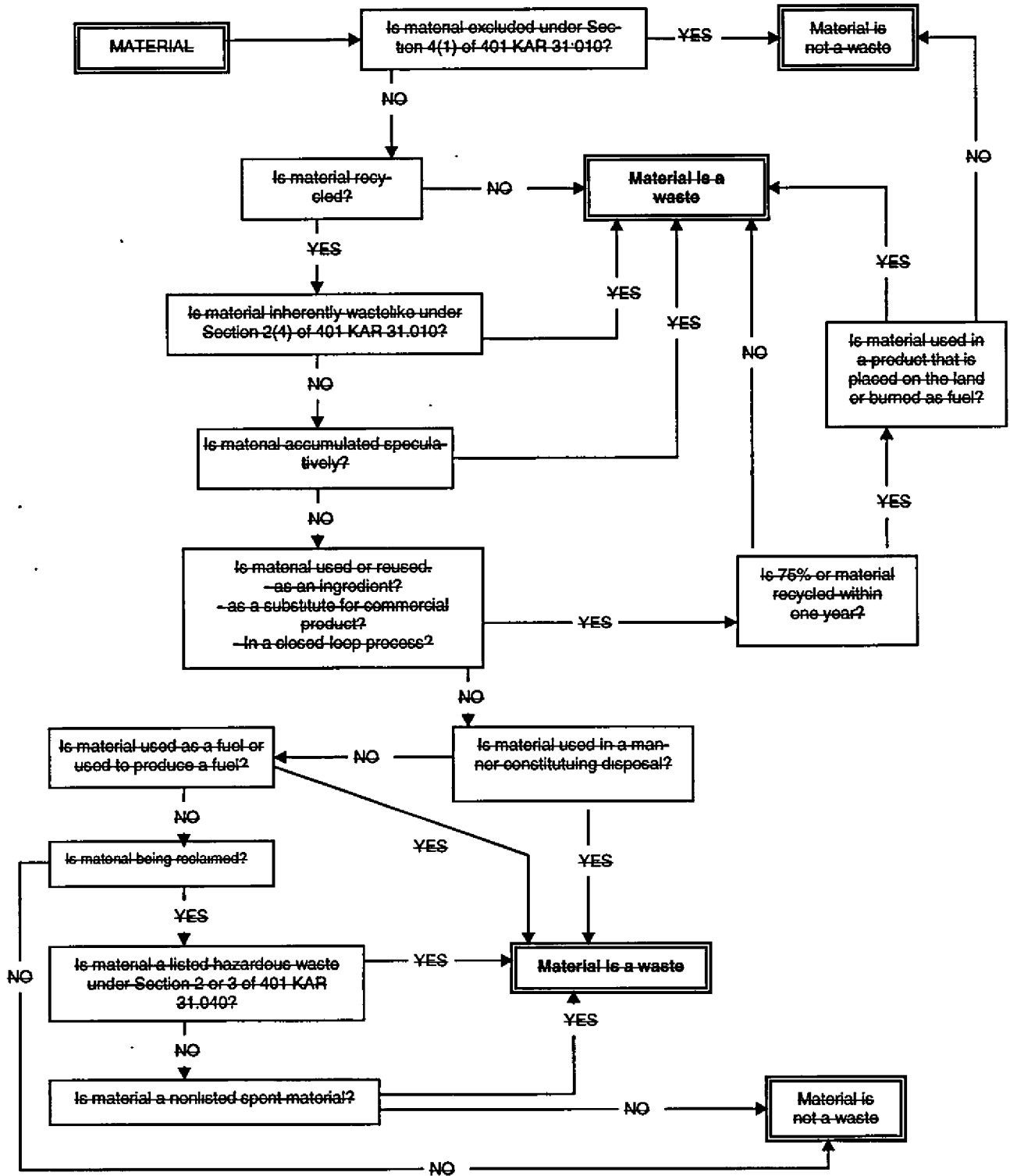
TABLE 1

	Use constituting disposal 401 KAR 31:010 Section 2(3)(a) (1)	Energy recovery/fuel 401 KAR 31:010 Section 2(3)(b) (2)	Reclamation 401 KAR 31.010 Section 2(3)(c) (3)	Speculative accumulation 401 KAR 31:010 Section 2(3)(d) (4)
Spent materials	(waste)	(waste)	(waste)	(waste)
Sludges (listed in Sections 2 or 3 of 401 KAR 31:040)	(waste)	(waste)	(waste)	(waste)
Sludges exhibiting a characteristic of hazardous waste	(waste)	(waste)	-	(waste)
By-products (listed in Sections 2 or 3 of 401 KAR 31:040)	(waste)	(waste)	(waste)	(waste)
By-products exhibiting a characteristic of hazardous waste	(waste)	(waste)	-	(waste)
Commercial chemical products listed in Section 4 of 401 KAR 31:040	(waste)	(waste)	-	-
Scrap metal	(waste)	(waste)	(waste)	(waste)

NOTE - The terms "spent materials," "sludges," "by-products," and "scrap metal" are defined in Section 1 of 401 KAR 31.005.

(f) The following Table 2 is a decision tree for deciding which secondary materials are wastes when recycled.

TABLE 2. Decision Tree for Deciding Which Materials Are Wastes When Recycled



[(4) The following materials are wastes when they are recycled in any manner:

(a) Hazardous Waste Numbers F020, F021 (unless used as an ingredient to make a product at the site of generation), F022, F023, F026, and F028 (chlorinated dioxins, chlorinated dibenzofurans and chlorinated phenols).

(b) Secondary materials fed to a halogen acid furnace that exhibit a characteristic of a hazardous waste or are listed as a hazardous waste as identified in 401 KAR 31:030 and 31:040, except for brominated material that meets the following criteria:

1. The material shall contain a bromine concentration of at least forty-five (45) percent; and
2. The material shall contain less than a total of one (1) percent of toxic organic compounds listed in 401 KAR 31:120; and
3. The material is processed continually on site via direct conveyance (hard piping).

(c) The cabinet shall use the following criteria to add wastes to that list:

1.a. The materials are ordinarily disposed of, burned, or incinerated; or

b. The materials contain toxic constituents listed in Section 1 of 401 KAR 31:170 and those constituents are not ordinarily found in raw materials or products for which the material substitute (or are found in raw materials or products in smaller concentrations) and are not used or reused during the recycling process; and

2. The material may pose a substantial hazard to human health and the environment when recycled.

(5) Materials that are not wastes when recycled.

(a) Materials are not wastes when they can be shown to be recycled by being:

1. Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed; or

2. Used or reused as effective substitutes for commercial products; or

3. Returned to the original process from which they are generated, without first being reclaimed or land disposed. The material shall be returned as a substitute for feedstock materials. In cases where the original process to which the material is returned is a secondary process, the materials must be managed such that there is no placement on the land.

(b) The following materials are wastes, even if the recycling involves use, reuse, or return to the original process (described in paragraph (a) 1 to 3 of this subsection):

1. Materials used in a manner constituting disposal, or used to produce products that are applied to the land; or

2. Materials burned for energy recovery, used to produce a fuel, or contained in fuels; or

3. Materials accumulated speculatively; or

4. Materials listed in subsection (4)(a) and (b) of this section.

(6) Documentation of claims that materials are not wastes or are conditionally exempt from administrative regulation. Respondents in enforcement actions pursuant to 401 KAR Chapter 40, who raise a claim that a certain material is not waste, or is conditionally exempt from administrative regulation, shall demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they shall provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from administrative regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials shall show that they have the necessary equipment to do so.

Section 3. Definition of a Hazardous Waste. (1) A waste, as identified in Section 2 of this administrative regulation is a hazardous waste if:

(a) It is not excluded from administrative regulation as a hazardous waste under Section 4(2) of this administrative regulation; and

(b) It meets any of the following criteria:

1. It exhibits any of the characteristics of hazardous waste identified in 401 KAR 31:030 except that any mixture of a waste

from the extraction, beneficiation, and processing of ores and minerals, excluded under Section 4 of this administrative regulation and any other waste exhibiting a characteristic of hazardous waste under 401 KAR Chapter 31 only if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if such mixture had not occurred or if it continues to exhibit any of the characteristics exhibited by the nonexcluded wastes prior to mixture. Further, for the purposes of applying the toxicity characteristic leaching procedure to such mixture, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in Table 1 to Section 5 of 401 KAR 31:030 that would not have been exceeded by the excluded waste alone if the mixture had not occurred or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture.

2. It is listed in 401 KAR 31:040 and has not been excluded from the lists under 401 KAR 31:060 and 401 KAR 31:070.

3. It is a mixture of a solid waste and a hazardous waste that is listed in 401 KAR 31:040 solely because it exhibits one (1) or more of the characteristics of hazardous waste identified in 401 KAR 31:030, unless the resultant mixture no longer exhibits any characteristic of hazardous waste identified in 401 KAR 31:030 or unless the solid waste is excluded from regulation under Section 4(2)(g) of this administrative regulation and the resultant mixture no longer exhibits any characteristic of hazardous waste identified in 401 KAR 31:030 for which the hazardous waste listed in 401 KAR 31:040 was listed (However, nonwastewater mixtures are still subject to the requirements of 401 KAR Chapter 37 even if they no longer exhibit a characteristic at the point of land disposal.)

4. It is a mixture of any waste and one (1) or more hazardous wastes listed in 401 KAR 31:040 and has not been excluded from this paragraph under Sections 1 and 2 of 401 KAR 31:060; however, the following mixtures of wastes and hazardous wastes listed in 401 KAR 31:040 are not hazardous wastes (except by application of subparagraph 1 or 2 of this paragraph) if the generator can demonstrate that the mixture consists of waste water the discharge of which is subject to administrative regulation under either Section 402 or Section 307(b) of the CWA (including wastewater at facilities which have eliminated the discharge of wastewater) and:

a. One (1) or more of the following spent solvents listed in Section 2 of 401 KAR 31:040: carbon tetrachloride, tetrachloroethylene, or trichloroethylene provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed one (1) part per million; or

b. One (1) or more of the following spent solvents listed in Section 2 of 401 KAR 31:040, methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, or spent chlorofluorocarbon solvents provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed twenty-five (25) parts per million; or

c. One (1) of the following wastes listed in Section 3 of 401 KAR 31:040, heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K060); or

d. A discarded commercial chemical product, or chemical intermediate listed in Section 4 of 401 KAR 31:040, arising from minimal losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this paragraph, minimal losses include those 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 purging, relief device discharges; discharges from safety showers and rinsing and cleaning of per-

sonal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing; or

o. Wastewater resulting from laboratory operations containing toxic (T) wastes listed in 401 KAR 31.040, provided that the annualized average flow of laboratory wastewater does not exceed one (1) percent of total wastewater flow into the headworks of the facility's wastewater treatment or pretreatment system, or provided the wastes' combined annualized average concentration does not exceed one (1) part per million in the headworks of the facility's wastewater treatment or pretreatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation;

f. One (1) or more of the following wastes listed in 401 KAR 31.040, wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157), provided that the maximum weekly usage of formaldehyde, methyl chloride, methylene chloride, and triethylamine (including all amounts that can not be demonstrated to be reacted in the process, destroyed through treatment, or is recovered, that is, what is discharged or volatilized) divided by the average weekly flow of process wastewater prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of five (5) parts per million by weight; or

g. Wastewaters derived from the treatment of one or more of the following wastes listed in 401 KAR 31.040: organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156), provided that the maximum concentration of formaldehyde, methyl chloride, methylene chloride, and triethylamine prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of five (5) milligrams per liter.

5. Rebuttable presumption for used oil. Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in 401 KAR 31.040. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW-846, Third Edition, incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30.010, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in 401 KAR 31.170).

a. The rebuttable presumption does not apply to metalworking oils or fluids containing chlorinated paraffins, if they are processed, through a tolling agreement, to claim metalworking oils or fluids. The presumption does apply to metal working oil or fluids if such oils/fluids are recycled in any other manner, or disposed.

b. The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units.

(2) A waste which is not excluded from administrative regulation under subsection (1)(a) of this section becomes a hazardous waste when any one (1) of the following events occur:

(a) In the case of a waste listed in 401 KAR 31.040 of this administrative regulation when the waste first meets the listing description set forth in 401 KAR 31.040;

(b) In the case of a mixture of waste (including wastes subject to the Atomic Energy Act) and one (1) or more hazardous wastes when a hazardous waste listed in 401 KAR 31.040 is first added to the waste; or

(c) In the case of any other waste (including a waste mixture or wastes subject to the Atomic Energy Act) when the waste exhibits any of the characteristics identified in 401 KAR 31.030.

(3) Unless and until it meets the criteria of subsection (4) of this section:

(a) A hazardous waste shall remain a hazardous waste.

(b) 1. Except as otherwise provided in subparagraph 2 of this paragraph, any waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are

reclaimed from wastes and that are used beneficially are not wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)

2. The following wastes are not hazardous even though they are generated from the treatment, storage, or disposal of hazardous waste, unless they exhibit one (1) or more of the characteristics of hazardous waste:

a. Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC Codes 331 and 332);

b. Waste from burning any of the materials exempted from administrative regulation by Section 6(1)(c)4-5 of this administrative regulation;

c. (i) Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of K061, K062, or F006 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth and electric furnace combinations or industrial furnaces that are disposed in solid waste sites or facilities, provided that these residues meet the generic exclusion levels identified below for all constituents, and exhibit no characteristics of hazardous waste. Testing requirements shall be incorporated in a site or facility's waste analysis plan or a generator's self-implementing waste analysis plan; at a minimum, composite samples of residues shall be collected and analyzed quarterly and when the process or operation generating the waste changes. Persons claiming the exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements. The generic exclusion levels are:

Constituent	Maximum for any single composite sample TCLP (mg/l)
Generic exclusion levels for K061 and K062 nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70
Generic exclusion levels for F006 nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Cyanide (total) (mg/kg)	1.8
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70

(ii) A one (1) time notification and certification shall be placed in the facility's files and sent to the cabinet for K061, K062 or F006 HTMR residues that meet the generic exclusion levels for all constituents and do not exhibit any characteristics that are sent to solid waste sites or facilities. The notification and certification that is placed in the generators or treaters files must 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 treator need only notify the cabinet on an annual basis if such changes occur. Such notification and certification should be sent to the cabinet by the end of the calendar year, in the calendar year in which the change occurs. The notification must include the following information:

The name and address of the solid waste site or facility receiving the waste shipment;

The EPA hazardous waste number and treatability group at the initial point of generation, and

Treatment standards applicable to the waste at the initial point of generation. The certification shall be signed by an authorized representative and shall state as follows:

I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characteristic of hazardous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

d. Biological treatment sludge from the treatment of one (1) of the following wastes listed in 401 KAR 31:040: organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156), and wastewater from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157).

(4) Any waste described in subsection (3) of this section is not a hazardous waste if it meets the following criteria:

(a) In the case of any waste, it does not exhibit any of the characteristics of hazardous waste identified in 401 KAR 31:030. (However, wastes that exhibit a characteristic at the point of generation may still be subject to the requirements of 401 KAR Chapter 37, even if they no longer exhibit a characteristic at the point of land disposal.)

(b) In the case of a waste which is a listed waste under 401 KAR 31:040, contains a waste listed under 401 KAR 31:040 or is derived from a waste listed in 401 KAR 31:040, it also has been excluded from Section 1(3) of 401 KAR 31:060 and 401 KAR 31:070.

(5) Notwithstanding subsections (1) through (4) of this section and provided the debris does not exhibit a characteristic identified 401 KAR 31:030, the following materials are not subject to regulation under 401 KAR Chapters 30 through 39:

(a) Hazardous debris that has been treated using one (1) of the required extraction or destruction technologies specified in Table 1 of Section 6 of 401 KAR 37:040; persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements; or

(b) Debris that the cabinet, considering the extent of contamination, has determined is no longer contaminated with hazardous waste.

Section 4. Exclusions—(1) The following materials are not wastes for the purpose of this chapter:

(a) Domestic sewage and any mixture of domestic sewage and other wastes that pass through a sewer system to a publicly-owned treatment works for treatment;

(b) Industrial wastewater discharges that are point source discharges subject to administrative regulation under Section 402 of the CWA, as amended; however, this exclusion applies only to the actual point source discharge. It does not exclude industrial wastewater while they are being collected, stored, or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment;

(c) Irrigation return flows;

(d) Source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq., except as provided in Section 3 of this administrative regulation;

(e) Materials subjected to in situ mining techniques which are not removed from the ground as part of the extraction process;

(f) Pulping liquors (that is, black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless they are accumulated speculatively as defined in

401 KAR 31:005.

(g) Sulfuric acid used to produce virgin sulfonic acid, unless it is accumulated speculatively as defined in 401 KAR 31:005.

(h) Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process, provided:

1. Only tank storage is involved, and the entire process through completion of reclamation, is closed by being entirely connected with pipes or other comparable enclosed means of conveyance;

2. Reclamation does not involve controlled flame combustion (such as occurs in boilers, industrial furnaces, or incinerators);

3. The secondary materials are never accumulated in such tanks for over twelve (12) months without being reclaimed; and

4. The reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal, as provided in 401 KAR Chapter 36.

(i) 1. Spent wood preserving solutions that have been reclaimed and are reused for their original intended purpose; and

2. Wastewaters from the wood preserving process that have been reclaimed and are reused to treat wood.

(j) EPA Hazardous Waste Nos. K060, K087, K141, K142, K143, K144, K145, K147, and K148 and any wastes from the coke byproducts processes that are hazardous only because they exhibit the toxicity characteristic specified in Section 5 of 401 KAR 31:030, when, subsequent to generation, these materials are recycled to coke ovens, to the tar recovery process as a feed stock to produce coal tar or are mixed with coal tar prior to the tar's sale or refining. This exclusion is conditioned on there being no land disposal of the wastes from the point they are generated to the point they are recycled to coke ovens or tar recovery or refining processes, or mixed with coal tar.

(k) Nonwastewater splash condenser dress residue from the treatment of K061 in high temperature metals recovery units, provided it is shipped in drums (if shipped) and not land disposed before recovery.

(l) Recovered oil from petroleum refining, exploration and production, and from transportation incident thereto, which is to be inserted into the petroleum refining process (SIC Code 2911) along with normal process streams prior to crude distillation or catalytic cracking. This exclusion applies to recovered oil stored or transported prior to incertion, except that the oil must not be stored in a manner involving placement on the land, and must not be accumulated speculatively, before being re-recycled. Recovered oil is oil that has been reclaimed from secondary materials (such as wastewater) generated from normal petroleum refining, exploration and production, and transportation practices. Recovered oil includes oil that is recovered from refinery wastewater collection and treatment systems, oil recovered from oil and gas drilling operations, and oil recovered from wastes removed from crude oil storage tanks. Recovered oil does not include (among other things) oil-bearing hazardous wastes listed in 401 KAR 31:040 (for example, K048 K062, F037, F038). However, oil recovered from such wastes may be considered recovered oil. Recovered oil does not include used oil as specified in 401 KAR Chapter 44.

(2) Any waste which meets the requirements of this subsection is not a hazardous waste.

(a) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (for example, refuse derived fuel), or reused. A resource recovery facility managing municipal solid waste shall not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purposes of administrative regulation under the waste management administrative regulations, if the facility:

1. Recycles and burns only:

a. Household waste (from single and multiple dwellings, hotels, motels, and other residential sources); and

b. Waste from commercial or industrial sources that does not contain hazardous waste; and

2. The facility does not accept hazardous wastes and the owner or operator of the facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or

burned in the facility.

(b) Agricultural wastes generated by any of the following and which are returned to the soils as fertilizers:

1. The growing and harvesting of agricultural crops
2. The raising of animals, including animal manures

(c) Mining overburden returned to the mine site.

(d) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels, except as provided by Section 13 of 401 KAR 36.020 for facilities that burn or process hazardous waste.

(e) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy.

(f) 1. Wastes which fail the test for the toxicity characteristic because chromium is present or are listed in 401 KAR 31.040 due to the presence of chromium, which do not fail the test for the toxicity characteristic for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that:

- a. The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and
- b. The waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium; and
- c. The waste is typically and frequently managed in nonoxidizing environments.

2. Specific wastes which meet the standard in subparagraph 1a, b and c of this paragraph (so long as they do not fail the test for the toxicity characteristic for any other constituent, and do not exhibit any other characteristic) are:

a. Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beam house; through the blue; and shearing.

b. Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beam house; through the blue; and shearing.

c. Buffing dust generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beam house; through the blue.

d. Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beam house; through the blue; and shearing.

e. Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beam house; through the blue, and shearing.

f. Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through the blue.

g. Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.

h. Wastewater treatment sludges from the production of TiO₂ pigment using chromium-bearing ores by the chloride process.

(g) Waste from the extraction, beneficiation, and processing of ores and minerals (including coal, phosphate rock and overburden from the mining of uranium ore), except as provided by Section 13 of 401 KAR 36.020 for facilities that burn or process hazardous waste. For the purpose of this paragraph, beneficiation of ores and minerals is restricted to the following activities: crushing, grinding; washing, dissolution, crystallization, filtration; sorting; sizing, drying, cinnoning; pelletizing, briquetting; calcining to remove water or carbon dioxide, roasting, autoclaving, or chlorination in preparation for leaching (except where the roasting (or autoclaving, or chlorination)/leaching sequence produces a final or intermediate product

that does not undergo further beneficiation or processing); gravity concentration, magnetic separation, electrostatic separation; flotation, ion exchange; solvent extraction, electrowinning, precipitation; amalgamation, and heap, dump, vat, tank and in situ leaching. For the purpose of this paragraph, waste from the processing of ores and minerals includes only the following wastes:

1. Slag from primary copper processing;
2. Slag from primary lead processing;
3. Red and brown muds from bauxite refining;
4. Phosphogypsum from phosphoric acid production;
5. Slag from elemental phosphorus production;
6. Gasifier ash from coal gasification;
7. Process wastewater from coal gasification;
8. Calcium sulfide wastewater treatment plant sludge from primary copper processing;
9. Slag tailings from primary copper processing;
10. Fluorogypsum from hydrofluoric acid production;
11. Process wastewater from hydrofluoric acid production;
12. Air pollution control dust or sludge from iron blast furnaces;
13. Iron blast furnace slag;
14. Treated residue from roasting or leaching of chrome ore;
15. Process wastewater from primary magnesium processing by the anhydrous process;
16. Process wastewater from phosphoric acid production;
17. Basic oxygen furnace and open hearth furnace air pollution control dust/sludge from carbon steel production;
18. Basic oxygen furnace and open hearth furnace slag from carbon steel production;
19. Chloride process waste solids from titanium tetrachloride production; and
20. Slag from primary zinc processing.

(h) Cement kiln dust waste except as provided by Section 13 of 401 KAR 36.020 for facilities that burn or process hazardous waste.

(i) Waste which consists of discarded arsenical-treated wood or wood products which fails the test for the toxicity characteristic for Hazardous Waste Codes D004 through D017 and which is not a hazardous waste for any other reason, if the waste is generated by persons who utilize the arsenical-treated wood and wood products for these materials' intended end use.

(j) Petroleum-contaminated media and debris that fail the test for the toxicity characteristic of 401 KAR 31.030 (hazardous waste codes D018 to D043 only) and are subject to the corrective action administrative regulations under 401 KAR Chapter 42.

(k) Injected groundwater that is hazardous only because it exhibits the toxicity characteristic (Hazardous Waste Codes D018 to D043 only) in Section 5 of 401 KAR 31.030 that is reinjected through an underground injection well pursuant to free phase hydrocarbon recovery operations undertaken at petroleum refineries, petroleum marketing terminals, petroleum bulk plants, petroleum pipelines and petroleum transportation spill sites until January 25, 1993. This extension applies to recovery operations in existence, or for which contracts have been issued, on or before March 25, 1991. For groundwater returned through infiltration galleries from such operations at petroleum refineries, marketing terminals, and bulk plants, until October 2, 1991. New operations involving injection wells (beginning after March 25, 1991) will qualify for this compliance date extension (until January 25, 1993) only if:

1. Operations are performed pursuant to a written state agreement that includes a provision to access the groundwater and the need for further remediation once the free phase recovery is completed; and

2. A copy of the written agreement has been submitted to: Characteristics Section (OS-333), U.S. EPA, 401 M Street SW, Washington, DC 20460.

(l) Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment, including mobile air conditioning systems, mobile refrigeration, and commercial and industrial air conditioning and refrigeration systems that use chlorofluorocarbons as the heat transfer fluid in a refrigeration cycle, provided the refrigerant is reclaimed for further use.

(m) Nonferrous plated used oil filters that are not mixed with wastes listed in 401 KAR 31.040 if these oil filters have been gravity hot drained using one (1) of the following methods:

1. Puncturing the filter antidrain back valve or the filter dome end and hot draining;

2. Hot draining and crushing;

3. Dismantling and hot draining; or

4. Any other equivalent hot draining method that will remove used oil.

(n) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products.

(3) Hazardous wastes which are exempted from certain administrative regulations. A hazardous waste which is generated, in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated nonwaste-treatment manufacturing unit, is not subject to administrative regulation under 401 KAR Chapters 32 to 39 or to the notification requirements of 401 KAR 32.010, 401 KAR 34.020, and 401 KAR 35.020 until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than ninety (90) days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials.

(4) Samples.

(a) Except as provided in paragraph (b) of this subsection, a sample of waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of this chapter, 401 KAR Chapter 32 to 35, and 37 to 39, or to the notification requirements of 401 KAR Chapter 32 and 38 when:

1. The sample is being transported to a laboratory for the purpose of testing; or

2. The sample is being transported back to the sample collector after testing; or

3. The sample is being stored by the sample collector before transport to a laboratory for testing; or

4. The sample is being stored in a laboratory before testing; or

5. The sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

6. The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(b) In order to qualify for the exemption in paragraphs (a)1 and 2 of this subsection, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector shall:

1. Comply with DOT, USPS, or any other applicable shipping requirements; or

2. Comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

a. Assure that the following information accompanies the sample:

(i) The sample collector's name, mailing address, and telephone number;

(ii) The laboratory's name, mailing address, and telephone number;

(iii) The quantity of the sample;

(iv) The date of shipment; and

(v) A description of the sample.

b. Package the sample so that it does not leak, spill, or vaporize from its packaging.

c. This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in paragraph (a) of this subsection.

(5) Treatability study samples.

(a) Except as provided in paragraph (b) of this subsection, persons who generate or collect samples for the purpose of conducting treatability studies shall not be subject to any requirement of 401 KAR Chapters 31 to 33 or to the notification requirements of KRS 224.46-510(3) and 401 KAR Chapters 32 and 38, nor shall the samples be included in the quantity determinations of Section 6 of this administrative regulation and 401 KAR 32.030, Section 5(4) if:

1. The sample is being collected and prepared for transporta-

tion by the generator or sample collector; or

2. The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility; or

3. The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study;

(b) The exemption in paragraph (a) of this subsection shall be applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies if:

1. The generator or sample collector uses (in treatability studies) no more than 1000 kg of any nonacute hazardous waste; one (1) kg of acute hazardous waste; or 250 kg of soil, water, or debris contaminated with acute hazardous waste for each process being evaluated for each generated waste stream; and

2. The mass of each sample shipment does not exceed 1000 kg of nonacute hazardous waste; one (1) kg of acute hazardous waste; or 250 kg of soils, water, or debris contaminated with acute hazardous waste; and

3. The sample is packaged so that it does not leak, spill, or vaporize from its packaging during shipment; and

4. The requirements of subparagraph a or b of this paragraph are met:

a. The transportation of each sample shipment complies with DOT, USPS or any other applicable shipping requirements; or

b. If the DOT, USPS, or other shipping requirements do not apply to the shipment of the sample, the following information shall accompany the sample:

(i) The name, mailing address, and telephone number of the originator of the sample;

(ii) The name, address, and telephone number of the facility that will perform the treatability study;

(iii) The quantity of the sample;

(iv) The date of shipment; and

(v) A description of the sample, including its EPA hazardous waste number;

5. The sample is shipped to a laboratory or testing facility which is exempt under Section 4(6) of this administrative regulation or has an appropriate RCRA permit or interim status;

6. The generator or sample collector maintains the following records for a period ending three (3) years after completion of the treatability study:

a. Copies of the shipping documents;

b. A copy of the contract with the facility conducting the treatability study;

c. Documentation showing:

(i) The amount of waste shipped under this exemption;

(ii) The name, address, and EPA identification number of the laboratory or testing facility that received the waste;

(iii) The date the shipment was made; and

(iv) Whether or not unused samples and residues were returned to the generator;

7. The generator reports the information required under Section 4(6)(b)6 of this administrative regulation in its annual report required under 401 KAR 32.040.

(c)1. The cabinet may grant requests, on a case-by-case basis, for quantity limits in excess of those specified in Section 4(6)(b)1 of this administrative regulation for up to an additional 500 kg of nonacute hazardous waste; one (1) kg of acute hazardous waste and 250 kg of soil, water, or debris contaminated with acute hazardous waste, to conduct further treatability study evaluation when:

a. There has been an equipment or mechanical failure during the conduct of a treatability study;

b. There is a need to verify the results of a previously conducted treatability study;

c. There is a need to study and analyze alternative techniques within a previously evaluated treatment process; or

d. There is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment.

2. The additional quantities allowed pursuant to subparagraph 1 of this paragraph shall be subject to all provisions in paragraph (a) and (b)2 to 7 of this subsection. The generator or sample collector shall apply to the cabinet when the sample is collected and provide in writing the following information:

a. The reason why the generator or sample collector requires

additional quantity of sample for the treatability study evaluation, and the additional quantity needed;

b. Documentation accounting for all samples of hazardous waste from the waste stream which have been sent for or undergone treatability studies including the date each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped, and the available results of each treatability study;

c. A description of the technical modifications or change in specifications which will be evaluated and the expected results;

d. If further study is being required due to equipment or mechanical failure, the applicant shall include information regarding the reason for the failure or breakdown and what procedures or equipment improvements have been made to protect against further breakdowns; and

e. Any other information that the cabinet deems necessary.

(6) Samples undergoing treatability studies at laboratories and testing facilities. Samples undergoing treatability studies and laboratories and testing facilities conducting treatability studies (to the extent the facilities are not otherwise subject to the requirements of 401 KAR Chapters 31 to 38) shall not be subject to any requirements of Section 3010 of RCRA and 401 KAR Chapters 31 to 38 provided that the conditions of paragraphs (a) to (k) of this subsection are met. A mobile treatment unit (MTU) may qualify as a testing facility subject to paragraphs (a) to (k) of this subsection. Where a group of MTUs are located at the same site, the limitations specified in paragraphs (a) to (k) of this subsection shall apply to the entire group of MTUs collectively, as if the group were one (1) MTU. The conditions for exemption are:

(a) No less than forty-five (45) days before conducting treatability studies, the facility shall notify the cabinet in writing that it intends to conduct treatability studies under this subsection;

(b) The laboratory or testing facility conducting the treatability study shall have an EPA identification number;

(c) No more than 250 kg of as-received hazardous waste shall be subjected to initiation of treatment in all treatability studies in a single day;

(d) The quantity of as-received hazardous waste stored at the facility for the purpose of evaluation in treatability studies shall not exceed 1000 kg, the total of which may include 500 kg of soils, water, or debris contaminated with acute hazardous waste or one (1) kg of acute hazardous waste. This quantity of limitation shall not include:

1. Treatability study residues; or

2. Treatment materials (including nonhazardous solid waste) added to as-received hazardous waste;

(e) No more than ninety (90) days shall elapse since the treatability study for the sample was completed, or no more than one (1) year shall elapse since the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date first occurs;

(f) The treatability study shall not involve the placement of hazardous waste on the land or open burning of hazardous waste;

(g) The facility shall maintain records for three (3) years following completion of each study that show compliance with the treatment rate limits and the storage time and quantity limits. The following specific information shall be included for each treatability study conducted:

1. The name, address, and EPA identification number of the generator or sample collector of each waste sample;

2. The date the shipment was received;

3. The quantity of waste accepted;

4. The quantity of as-received waste in storage each day;

5. The date the treatment was initiated and the amount of as-received waste introduced to treatment study each day;

6. The date the treatability study was concluded; and

7. The date any unused sample or residue generated from the treatability study was returned to the generator or sample collector or, if sent to a designated facility, the name of the facility and the EPA identification number;

(h) The facility shall keep on site a copy of the treatability study contract and all chipping papers associated with the transport of treatability study samples to and from the facility for at least three

(3) years from the completion date of each treatability study;

(i) The facility shall prepare and submit a report to the cabinet by March 15 of each year that estimates the number of studies and the amount of waste expected to be used in treatability studies during the current calendar year. The report shall also contain following information for the previous calendar year:

1. The name, address, and EPA identification number of the facility conducting the treatability studies;

2. The types (by process) of treatability studies conducted;

3. The names and addresses of persons for whom studies have been conducted (including their EPA identification numbers);

4. The total quantity of waste in storage each day;

5. The quantity and types of waste subjected to treatability studies;

6. The data on which each treatability study was conducted; and

7. The final disposition of residues and unused samples from each treatability study;

(j) The facility shall determine whether any unused samples or residues generated by the treatability study are hazardous wastes under Section 3 of this administrative regulation and, if so, are subject to 401 KAR Chapters 31 through 38, unless the residues and unused samples are returned to the sample originator under the exemption in Section 4(5) of this administrative regulation;

(k) The facility shall notify the cabinet by letter when the facility is no longer planning to conduct any treatability studies at the site.

Section 5. Special Requirements for Hazardous Waste Generated by Conditionally Exempt Small Quantity Generators (1) A generator is a conditionally exempt small quantity generator in a calendar month if he generates no more than 100 kilograms of hazardous waste in that month, except as specified in subsection (5) of this section.

(2) Except for those wastes identified in subsections (5), (6), (7), and (10) of this section, a conditionally exempt small quantity generator's hazardous wastes are not subject to administrative regulation under 401 KAR Chapters 32 to 39 and the notification requirements of KRS 224.46-510(3), provided the generator complies with the requirements of subsections (6), (7), and (10) of this section.

(3) When making the quantity determinations of this chapter and 401 KAR Chapter 32, the generator shall include all hazardous waste that it generates, except hazardous waste that:

(a) Is exempt from administrative regulation under Section 4(3) through (6), Section 6(1)(e), Section 7(1)(a), or Section 8 of this administrative regulation;

(b) Is managed immediately upon generation only in on-site elementary neutralization units, wastewater treatment units, or totally enclosed treatment facilities;

(c) Is recycled, without prior storage or accumulation, only in an on-site process subject to administrative regulation under Section 6(3)(b) of this administrative regulation;

(d) Is used oil managed under the requirements of Section 6(1)(d) of this administrative regulation and 401 KAR Chapter 44;

(e) Is spent lead acid batteries managed under the requirements of 401 KAR 36.070; or

(f) Is universal waste managed under Section 9 of this administrative regulation and 401 KAR Chapter 43.

(4) In determining the quantity of hazardous waste generated, a generator need not include:

(a) Hazardous waste when it is removed from on-site storage; or

(b) Hazardous waste produced by on-site treatment (including reclamation) of his hazardous waste, so long as the hazardous waste that is treated was counted once; or

(c) Spent materials that are generated, reclaimed, and subsequently reused on-site, so long as spent materials have been counted once.

(5) If a generator generates acute hazardous waste in a calendar month in quantities greater than set forth in this subsection, all quantities of that acute hazardous waste are subject to administrative regulations applicable to generators of greater than 1,000 kilograms of nonacute hazardous waste in a calendar month under 401 KAR Chapters 32 to 39, and the notification and permitting

~~requirements of KRS 224.01-400, 224.40-310, 224.46-510 to 224.46-590, and 224.50-130:~~

~~(a) A total of one (1) kilogram of acute hazardous wastes listed in Section 2, 3, or 4(5) of 401 KAR 31-040.~~

~~(b) A total of 100 kilograms of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill, into or on any land or water, of any acute hazardous wastes listed in Section 2, 3 or 4(5) of 401 KAR 31-040.~~

~~(6) In order for acute hazardous wastes generated by a generator of acute hazardous wastes in quantities equal to or less than those set forth in subsection (5) of this section to be excluded from full regulation under this section, the generator shall:~~

~~(a) Comply with the requirements of 401 KAR 32-010, Section 2;~~

~~(b) The generator may accumulate acute hazardous waste on-site if he accumulates at any time acute hazardous wastes in quantities greater than those set forth in subsection (5)(a) or (b) of this section, all of these accumulated wastes are subject to regulation under 401 KAR Chapters 32 through 38, and the applicable notification requirements of KRS 224.01-400. The time period of Section 5(1) of 401 KAR 32-030, for accumulation of wastes on-site, begins when the accumulated wastes exceed applicable exclusion limit, and~~

~~(c) A conditionally exempt small quantity generator may either treat or dispose of this acute hazardous waste in an on-site facility or ensure direct delivery to an off-site storage, treatment, or disposal facility, either of which if located in the U.S., is:~~

- ~~1. Permitted under 401 KAR Chapter 38;~~
- ~~2. In interim status under 401 KAR Chapters 35 and 38;~~
- ~~3. Located outside of Kentucky and is permitted under 40 C.F.R. Part 270 or in interim status under 40 C.F.R. Parts 270 and 265;~~
- ~~4. Located outside of Kentucky and is authorized to manage hazardous waste by a state with a hazardous waste management program approved under 40 C.F.R. Part 271;~~

~~5. Permitted to manage municipal or industrial solid waste and is specifically approved for that waste; or~~

~~6. A facility which:~~

- ~~a. Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or~~
- ~~b. Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation.~~

~~7. For universal waste managed under 401 KAR Chapter 43, a universal waste handler or destination facility subject to the requirements of 401 KAR Chapter 43.~~

~~(7) In order for hazardous waste generated by a conditionally exempt small quantity generator in quantities of less than 100 kilograms of hazardous waste during a calendar month to be excluded from full regulation under this section, the generator shall comply with the following requirements:~~

~~(a) 401 KAR 32-010, Section 2;~~

~~(b) The conditionally exempt small quantity generator may accumulate hazardous waste on-site if he accumulates at any time more than a total of 1000 kilograms of his hazardous wastes, all of these accumulated wastes are subject to regulation under the special provisions of 401 KAR Chapter 32 applicable to generators of between 100 kilograms and 1000 kilograms of hazardous waste in a calendar month as well as the requirements of 401 KAR Chapters 33 through 38, and the applicable notification requirements of KRS 224.01-400. The time period of Section 5 of 401 KAR 32-030 for accumulation of wastes on-site begins for a conditionally exempt small quantity generator when the accumulated wastes exceed 1000 kilograms; and~~

~~(c) Either treat or dispose of hazardous waste in an on-site facility, or ensure direct delivery to an off-site storage, treatment, or disposal facility, either of which if located in the U.S. is:~~

- ~~1. Permitted under 401 KAR Chapter 38;~~
- ~~2. In interim status under 401 KAR Chapters 35 and 38;~~
- ~~3. Located outside of Kentucky and is permitted under 40 C.F.R. Part 270 or in interim status under 40 C.F.R. Parts 270 and 265;~~
- ~~4. Located outside of Kentucky and is authorized to manage hazardous waste by a state with a hazardous waste management program approved under 40 C.F.R. Part 271;~~

~~5. Permitted to manage municipal or industrial solid waste and is specifically approved for that waste;~~

~~6. A facility which:~~

- ~~a. Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or~~
- ~~b. Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation.~~

~~7. For universal waste managed under 401 KAR Chapter 43, a universal waste handler or destination facility subject to the requirements of 401 KAR Chapter 43.~~

~~8. Approved in accordance with Section 6 of 401 KAR 32-030 for on-site treatment of hazardous waste.~~

~~(8) Hazardous waste subject to the reduced requirements of this section may be mixed with nonhazardous waste and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified in this section unless the mixture meets any of the characteristics of hazardous wastes identified in 401 KAR 31-030.~~

~~(9) If a conditionally exempt small quantity generator mixes a solid waste with a hazardous waste that exceeds the quantity exclusion level of this section, the mixture shall be subject to full administrative regulation.~~

~~(10) If a conditionally exempt small quantity generator's hazardous wastes are mixed with used oil, the mixture shall be subject to 401 KAR Chapter 44, if it is destined to be burned for energy recovery. Any material produced from such a mixture by processing, blending, or other treatment shall also be so regulated if it is destined to be burned for energy recovery. (See Section 1(2) of 401 KAR 44-010.)~~

~~Section 6. Requirements for Recyclable Materials (1)(a) Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of subsections (2) and (3) of this section, except for the materials listed in paragraphs (b) and (c) of this subsection.~~

~~(b) The following recyclable materials are not subject to the requirements of this section, but are regulated under 401 KAR Chapter 36 and all applicable provisions of 401 KAR Chapters 38 and 39:~~

- ~~1. Recyclable materials used in a manner constituting disposal (see 401 KAR 36-030);~~
- ~~2. Hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under 401 KAR 34-240 or 401 KAR 35-240 (see 401 KAR 36-040);~~
- ~~3. Recyclable materials from which precious metals are reclaimed (see 401 KAR 36-060); and~~
- ~~4. Spent lead-acid batteries that are being reclaimed (see 401 KAR 36-070).~~

~~(c) The following recyclable materials are not subject to administrative regulation under 401 KAR Chapters 32 to 38, and are not subject to the notification requirements of KRS 224.46-510(3):~~

~~1. Industrial ethyl alcohol that is reclaimed except that, unless provided otherwise in an international agreement as specified in 401 KAR 32-050.~~

~~a. A person initiating a shipment for reclamation in a foreign country, and any intermediary arranging for the shipment, shall comply with the requirements applicable to a primary exporter in Sections 4, 7(1)(a) to (d), (f), (2) and 8 of 401 KAR 32-050, export these materials only upon consent of the receiving country and in conformance with the EPA Acknowledgment of Consent as defined in 401 KAR 32-005, and provide a copy of the EPA Acknowledgment of Consent to the shipper to the transporter transporting the shipment for export;~~

~~b. Transporters transporting a shipment for export shall not accept a shipment if he knows the shipment does not conform to the EPA Acknowledgment of Consent, shall ensure that a copy of the EPA Acknowledgment of Consent accompanies the shipment, and shall ensure that it is delivered to the facility designated by the person initiating the shipment.~~

~~2. Scrap metal;~~

~~3. Fuels produced from the refining of oil-bearing hazardous wastes along with normal process streams at a petroleum refining facility if the wastes result from normal petroleum refining, production, and transportation practices (this exemption does not apply to~~

fuels produced from oil recovered from oil-bearing hazardous wastes, where the recovered oil is already excluded under Section 4(1) of this administrative regulation;

4.a. Hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under Section 1(5) of 401 KAR 35.050 and so long as no other hazardous wastes are used to produce the hazardous waste fuel;

b. Hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production, and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under of 401 KAR Chapter 44; and

c. Oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under of 401 KAR Chapter 44, and

5. Petroleum coke produced from petroleum refinery hazardous wastes containing oil by the same person who generated the waste, unless the resulting coke product exceeds one (1) or more of the characteristics of hazardous waste in 401 KAR 31.030.

(d) Used oil that is recycled and is also hazardous waste solely because it exhibits a hazardous characteristic is not subject to the requirements of 401 KAR Chapters 30 through 39, but is regulated under 401 KAR Chapter 44. Used oil that is recycled includes any used oil that is reused, following its original use, for any purpose (including the purpose for which the oil was originally used). Such term includes, but is not limited to, oil which is re-refined, reclaimed, burned for energy recovery, or reprocessed.

(2) Generators and transporters of recyclable materials are subject to the applicable requirements of 401 KAR Chapters 32 and 33 and the notification requirements under KRS 224.46-510(3) and 224.46-560, except as provided in subsection (1) of this section.

(3)(a) Owners or operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of 401 KAR 34.010 to 401 KAR 34.280, 401 KAR 35.010 to 401 KAR 35.280, 401 KAR Chapters 36 to 38, and the notification requirements under KRS 224.46-510(3) and 224.46-560, except as provided in subsection (1) of this section. (The recycling process itself is exempt from administrative regulation except as provided in subsection (4) of this section.)

(b) Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to the following requirements, except as provided in subsection (1) of this section:

1. The owner or operator shall submit an annual notification to the cabinet. After the date of promulgation of this administrative regulation, the owner or operator shall submit an initial notification on a schedule determined by the cabinet. Subsequent annual notifications shall be submitted to the cabinet at least thirty (30) days before the expiration date shown on the notification; and

2. Sections 2 and 3 of 401 KAR 35.050 (dealing with the use of the manifest and manifest discrepancies), and

3. Subsection (4) of this section.

(4) Owners or operators of facilities subject to permitting requirements in 401 KAR Chapters 34, 35, and 38 with hazardous waste management units that recycle hazardous wastes are subject to the requirements of 401 KAR 34.275 and 401 KAR 34.280, or 401 KAR 35.275 and 401 KAR 35.280.

Section 7. Residues of Hazardous Waste in Empty Containers.

(1)(a) Any hazardous waste remaining in either an empty container or an inner liner removed from an empty container, as described in subsection (2) of this section, is not subject to 401 KAR Chapters 32 to 35, and 37 to 39, but is subject to 401 KAR Chapter 47.

(b) Any hazardous waste in either a container that is not empty or an inner liner removed from a container that is not empty, as

described in subsection (2) of this section is subject to 401 KAR Chapters 32 to 35, and 37 to and 39; 401 KAR 30.020; and 401 KAR 30.030.

(2)(a) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is identified as an acute hazardous waste listed in Section 2, 3, or 4(5) of 401 KAR 31.040, is empty if:

1. All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, (for example, pouring, pumping, and aspirating); and

2. No more than two and five-tenths (2.5) centimeters (one (1) inch) of residue remain on the bottom of the container or inner liner; or

3 a. No more than three (3) percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size; or

b. No more than three-tenths (0.3) percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.

(b) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(c) A container or an inner liner removed from a container that has held an acute hazardous waste listed in Section 2, 3, or 4(5) of 401 KAR 31.040 is empty if:

1. The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

2. The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by test conducted by the generator, to achieve equivalent removal; or

3. In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container has been removed.

Section 8. PCB Wastes Regulated Under the Toxic Substances Control Act. The disposal of PCB-containing dielectric fluid and electric equipment containing such fluid authorized for use and regulated under 40 C.F.R. Part 761 and that are hazardous only because they fail the test for the toxicity characteristic (hazardous waste codes D018 to D043 only) are exempt from 401 KAR Chapters 31 to 35, 37, and 38, including the notification requirements of these chapters.

Section 9. Requirements for Universal Waste. The wastes listed in this section are exempt from regulation under 401 KAR Chapters 32 through 40 except as specified in 401 KAR Chapter 43 and therefore are not fully regulated as hazardous waste. The wastes listed in this section are subject to regulation under 401 KAR Chapter 43.

(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) Thermocats 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.

Section 10. Additional Administrative Regulation of Certain Hazardous Waste Recycling Activities on a Case-by-case Basis.

(1) The cabinet may decide on a case-by-case basis that persons accumulating or storing the recyclable materials described in Section 6(1)(b)3 of this administrative regulation shall be regulated under Section 6(2) and (3) of this administrative regulation. The basis for this decision is that the materials are being accumulated or stored in a manner that does not protect human health and the environment because the materials or their toxic constituents have not been adequately contained or because the materials being accumulated or stored together are incompatible. In making this decision, the cabinet shall consider the following factors:

(a) The types of materials accumulated or stored and the amounts accumulated or stored;

(b) The method of accumulation or storage;

(c) The length of time the materials have been accumulated or

stored before being reclaimed;

(d) Whether any contaminants are being released into the environment, or are likely to be so released; and

(e) Other relevant factors.

(2) The procedures for this decision are set forth in Section 11 of this administrative regulation.

Section 11. Procedures for Case-by-case Administrative Regulation of Hazardous Waste Recycling Activities. The cabinet shall use the following procedures when determining whether to regulate hazardous waste recycling activities described in Section 6(1)(b)4 of this administrative regulation under the provisions of Section 6(2) and (3) of this administrative regulation rather than under the provisions of 401 KAR 36.060 (precious metals being reclaimed):

(1) If a generator is accumulating the waste, the cabinet shall issue a notice setting forth the factual basis for the decision and stating that the person shall comply with the applicable requirements of 401 KAR 32.010, 32.030, 32.040, and 32.050. The notice shall become final within thirty (30) days, unless the person served requests a public hearing to challenge the decision. Upon receiving such a request, the cabinet shall hold a public hearing. The cabinet shall provide notice of the hearing to the public and allow public participation at the hearing. The cabinet shall issue a determination after the hearing stating whether or not compliance with 401 KAR Chapter 32 is required. The order shall become effective thirty (30) days after service of the determination, unless the cabinet specifies a later date.

(2) If the person is accumulating the recyclable material as a storage facility, the notice shall state that the person shall obtain a permit in accordance with all applicable provisions of 401 KAR Chapter 38. The owner or operator of the facility shall apply for a permit within no more than six (6) months of notice. If the owner or operator of the facility wishes to challenge the cabinet's decision, he may do so in his permit application, in a public hearing held on the draft permit, or in comments filed on the draft permit or on the notice of intent to deny the permit. The fact sheet accompanying the permit shall specify the reasons for the cabinet's determination. The question of whether the cabinet's decision was proper shall remain open for consideration during the public comment period discussed under Section 8 of 401 KAR 38.050 and in any subsequent hearing.

Section 12. Administrative Regulation of Mixed Radioactive Hazardous Wastes. Radioactive mixed wastes are wastes that contain both hazardous wastes subject to KRS Chapter 224 and radioactive wastes subject to the Atomic Energy Act. Radioactive mixed wastes are subject to all the requirements of 401 KAR Chapters 30 to 40 and the Atomic Energy Act.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 31:020. Criteria for Identifying the characteristics of hazardous waste and criteria for listing.

RELATES TO: KRS Subchapters 224.46, 224.50, 40 C.F.R. 261 Subpart B

STATUTORY AUTHORITY: KRS 46.510[40 C.F.R. 261 Subpart B]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.510(3) requires the cabinet to identify the characteristics of and to list hazardous wastes. [This chapter identifies and lists hazardous waste.] This administrative regulation establishes the criteria

for identifying the characteristics of hazardous waste and [it also establishes] the criteria for listing a hazardous waste.

Section 1. Definition. "Administrator" means the Environmental Protection Agency administrator, as defined in 40 C.F.R. 260.10.

Section 2. Criteria for Identifying the Characteristics of Hazardous Waste. The subject matter shall be governed by 40 C.F.R. 261.10, effective July 1, 2005.

Section 3. Criteria for Listing Hazardous Waste. The subject matter shall be governed by 40 C.F.R. 261.11, effective July 1, 2005. [Criteria for Identifying the Characteristics of Hazardous Waste. The cabinet shall identify and define a characteristic of hazardous waste in 401 KAR 31.030 only upon determining that:

(1) A waste that exhibits the characteristic may:

(a) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

(b) Pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed; and

(2) The characteristic can be:

(a) Measured by an available standardized test method which is reasonably within the capability of generators of waste or private sector laboratories that are available to serve generators of waste; or

(b) Reasonably detected by generators of waste through their knowledge of their waste.

Section 2. Criteria for Listing Hazardous Waste. (1) The cabinet shall list a waste as a hazardous waste only upon determining that the waste meets one (1) of the following criteria:

(a) It exhibits any of the characteristics of hazardous waste identified in 401 KAR 31.030.

(b) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral LD₅₀ toxicity (rat) of less than fifty (50) milligrams per kilogram, an inhalation LC₅₀ toxicity (rat) of less than two (2) milligrams per liter, or a dermal LD₅₀ toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness (Waste listed in accordance with these criteria shall be designated acute hazardous waste.)

(c) It contains any of the toxic constituents listed in 401 KAR 31:170 and, after considering the following factors, the cabinet concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed:

1. The nature of the toxicity presented by the constituent.

2. The concentration of the constituent in the waste.

3. The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in subparagraph 7 of this paragraph.

4. The persistence of the constituent or any toxic degradation product of the constituent.

5. The potential for the constituent or any toxic degradation product of the constituent to degrade into nonharmful constituents and the rate of degradation.

6. The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

7. The plausible types of improper management to which the waste could be subjected.

8. The quantities of the waste generated at individual generation sites or on a regional or national basis.

9. The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

10. Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

11. Such other factors as may be appropriate. Substances

shall be listed in 401 KAR 31:170 only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms.

(2) The cabinet may list classes or types of waste as hazardous waste if the cabinet has reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in KRS 224.01-010(24)(b).

(3) The cabinet shall use the criteria for listing specified in this section to establish the exclusion limits referred to in Section 5(3) of 401 KAR 31:010.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 31:030. Characteristics of hazardous waste.

RELATES TO: KRS Subchapters 224.01, 224.40, 224.43, 224.46, 40 C.F.R. 261 Subpart C

STATUTORY AUTHORITY: KRS 224.46-510, 40 C.F.R. 261 Subpart C

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(3) requires the cabinet to identify the characteristics of and to list hazardous wastes. [This chapter identifies and lists hazardous waste]. This administrative regulation establishes the characteristics of a hazardous waste.

Section 1. General Information. (1) The subject matter shall be governed by 40 C.F.R. 261.20, effective July 1, 2005.

(2) The citations to 3010 of RCRA in 40 C.F.R. 261.20 shall be replaced with 401 KAR Chapters 32, 34, and 38.

Section 2. Characteristics of Ignitability. (1) Except as provided in subsection (2) of this section, the subject matter shall be governed by 40 C.F.R. 261.21, effective July 1, 2005 [with the modifications, exceptions, and additions set forth in this section].

(2) The references in 40 C.F.R. 261.21(a)(3) and 261.21(a)(4) to 49 C.F.R. 173.300 and 173.151 are incorrect. The references shall[should] be listed as 49 C.F.R. 173.115(a) and 173.127(a), respectively.

Section 3. Characteristics of Corrosivity. The subject matter shall be governed by 40 C.F.R. 261.22, effective July 1, 2005.

Section 4. Characteristics of Reactivity (1) Except as provided in subsection (2) of this section, the subject matter shall be governed by 40 C.F.R. 261.23, effective July 1, 2005 [with the modifications, exceptions, and additions set forth in this section].

(2) The references in 40 C.F.R. 261.23(a)(8) to 49 C.F.R. 173.51, 173.53, and 173.88 are incorrect. The references shall[should] be listed as 49 C.F.R. 173.54, 173.52, and 173.53 respectively.

Section 5. Toxicity Characteristic. The subject matter shall be governed by 40 C.F.R. 261.24, effective July 1, 2005. [(1) A waste, as defined in Section 2 of 401 KAR 31:010 which is not excluded from administrative regulation as a hazardous waste under Section 4(2) of 401 KAR 31:010, is a hazardous waste if it exhibits any of the characteristics identified in this administrative regulation.

(2) A hazardous waste which is identified by a characteristic in this administrative regulation is assigned every EPA Hazardous Waste Number that is applicable as set forth in the respective characteristics in this administrative regulation. These numbers shall be

used in complying with the notification requirements of 401 KAR Chapters 32, 34, 35, and 38 and all applicable recordkeeping and reporting requirements under 401 KAR Chapters 32 to 35, 37, and 38.

(3) For purposes of this administrative regulation, the cabinet shall consider a sample obtained using any of the applicable sampling methods specified in 401 KAR 31:100 to be a representative sample within the meaning of 401 KAR 30:010.

Section 2. Characteristic of Ignitability. (1) A waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(a) It is a liquid, other than an aqueous solution containing less than twenty-four (24) percent alcohol by volume and has a flash point less than sixty (60) degrees C (140 degrees Fahrenheit), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-70 or D-93-80 (incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30:010), or a Setflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78 (incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30:010), or as determined by an equivalent test method approved by the cabinet and the administrator under procedures set forth in Section 2 of 401 KAR 30:020.

(b) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

(c) It is an ignitable compressed gas as defined in 49 C.F.R. Subpart C and as determined by the test methods described in that administrative regulation or equivalent test methods approved by the cabinet and the administrator under Section 2 of 401 KAR 30:020.

(d) It is an oxidizer as defined in 40 C.F.R. Subpart C.

(2) A waste that exhibits the characteristic of ignitability has the EPA hazardous waste number of D001.

Section 3. Characteristic of Corrosivity. (1) A waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(a) It is aqueous and has a pH less than or equal to two (2) or greater than or equal to twelve and five tenths (12.5), as determined by a pH meter using Method 9040 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30:010).

(b) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (approximately 0.250 inch) per year at a test temperature of fifty five (55) degrees Centigrade (approximately 130 degrees Fahrenheit) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-60 as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30:010).

(2) A waste that exhibits the characteristic of corrosivity has the EPA Hazardous Waste Number of D002.

Section 4. Characteristic of Reactivity (1) A waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

(a) It is normally unstable and readily undergoes violent change without detonating.

(b) It reacts violently with water.

(c) It forms potentially explosive mixtures with water.

(d) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(e) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between two (2) or twelve and five tenths (12.5), can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(f) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(g) It is readily capable of detonation or explosive decomposi-

tion or reaction at standard temperature and pressure-

(h) It is a forbidden explosive as defined in 40 C.F.R. Subpart C, or a Class A explosive as defined in 40 C.F.R. Subpart C, or a Class B explosive as defined in 40 C.F.R. Subpart C-

(2) A waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number of D003-

Section 5. Toxicity Characteristic. (1) A waste exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30.040, the extract from a representative sample of the waste contains any of the contaminants listed in Table 1 (see subsection (3) of this section) at a concentration equal to or greater than the respective value given in that table. Where the waste contains less than five tenths (0.5) percent filterable solids, the waste itself, after filtering using methodology outlined in Method 1311, is considered to be the extract for the purposes of this section.

(2) A waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste Number specified in Table 1 which corresponds to the toxic contaminant causing it to be hazardous.

(3) Table 1. Maximum Concentration of Contaminants for the Toxicity Characteristic

EPA Hazardous Waste Number	Contaminant	Chemical Abstract Service Number	Regulatory Level (mg/L)
D004	Arsenic	7440-39-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-0	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	200.0 ^a
D024	m-Cresol	108-39-4	200.0 ^a
D025	p-Cresol	106-44-5	200.0 ^a
D026	Cresol	—	200.0 ^a
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.6
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	0.13 ^b
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its epoxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	0.13 ^b
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl-ethyl-ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	5.0 ^c
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0

D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-04-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

¹—Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

²—If o-, m- and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/L.

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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**ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)**

401 KAR 31:040. Lists of hazardous wastes.

RELATES TO: KRS Subchapters [Chapters] 224.01, 224.40, 224.43, 224.46, 224.99, 40 C.F.R. 261 Subpart D
STATUTORY AUTHORITY: KRS 224.10-100, 224.46-510(3), 224.46-530[, 40 C.F.R. 261 Subpart D]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(3) requires the cabinet to identify the characteristics of and to list hazardous wastes. [This chapter identifies and lists hazardous waste. This administrative regulation establishes the lists of hazardous wastes for Kentucky and is equivalent to federal standards established in 40 C.F.R. 261 Subpart D except for the addition of Section 7 [5] of this administrative regulation, which contains nerve and blister agents as required by KRS 224.50-130.

Section 1. General Information (1) The subject matter shall be governed by 40 C.F.R. 261.30, effective July 1, 2005.

(2) The citation to section 3010 of RCRA in the federal regulation referred in subsection (1) of this section shall be replaced with KRS 224.46-510.

Section 2 Hazardous Wastes from Nonspecific Sources The subject matter shall be governed by 40 C.F.R. 261.31, effective July 1, 2005.

Section 3 Hazardous Waste from Specific Sources. The subject matter shall be governed by 40 C.F.R. 261.32, effective July 1, 2005.

Section 4 Discarded Commercial Chemical Products, Off-specification Species, Container Residues, and Spill Residues Thereof The subject matter shall be governed by 40 C.F.R. 261.33, effective July 1, 2005.

Section 5 Deletion of Certain Hazardous Waste Codes Following Equipment Cleaning and Replacement. The subject matter shall be governed by 40 C.F.R. 261.35, effective July 1, 2005.

Section 6 Comparable Syngas Fuel Exclusion. (1) The subject matter shall be governed by 40 C.F.R. 261.38, effective July 1, 2005.

(2) The reference in 40 C.F.R. 261.38 to 40 C.F.R. 261.28(c)(10) is incorrect. The references shall[should] be listed as 40 C.F.R. 261.38(c)(10).

Section 7. Additional Requirement Concerning Nerve and Blistering Agents. The following substances are listed as hazardous wastes in the Commonwealth of Kentucky.

Ky Hazardous Waste No	Substance
N001	GB (isopropyl methyl phosphonofluoridate) and related compounds (H)
N002	VX (O-ethyl-S-(2-diisopropyl-aminoethyl)-methyl phosphonothiolate) and related compounds (H)
N003	H (bis (2-chloroethyl) sulfide) and related compounds (H)

[Applicability and Delineating Procedures. (1) A waste is a hazardous waste if it is listed in any section of this administrative regulation unless it has been excluded from that list under 401 KAR 31:060 and 31:070.

(2) The cabinet shall indicate the basis for listing the classes or types of wastes listed in this administrative regulation by employing one (1) or more of the following Hazard Codes:

Hazard Code	Class or Type of Waste
(I)	Ignitable waste
(C)	Corrosive waste
(R)	Reactive waste
(E)	Toxicity characteristic waste
(H)	Acute hazardous waste
(T)	Toxic waste

401 KAR 31:160 identifies the constituent which caused the cabinet to list the waste as a toxicity characteristic waste (E) or toxic waste (T) in Sections 2 and 3 of this administrative regulation.

(3) Each hazardous waste listed in this administrative regulation is assigned an EPA Hazardous Waste Number, which precedes the name of the waste. This number shall be used in complying with the notification requirements of KRS 224.46-510 and the recordkeeping and reporting requirements under 401 KAR Chapters 32 to 40.

(4) The following hazardous wastes listed in Section 2 or 3 of this administrative regulation are subject to the exclusion limits for acutely hazardous wastes established in Section 5 of 401 KAR 31:010: EPA Hazardous Waste Nos F020, F021, F022, F023, F026, and F027.

Section 2 Hazardous Wastes from Nonspecific Sources. (1) Hazardous wastes from nonspecific sources are:

Industry & EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
Generic		
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten (10) percent or more (by volume) of one (1) or more of the above halogenated solvents or these solvents listed in F002, F004, and F006, and still bottoms from the recovery of these spent solvents and spent	(T)

F002	solvent mixtures— The following spent halogenated solvents: tetrachloroethylene, Methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten (10) percent or more (by volume) of one (1) or more of the above halogenated solvents or these solvents listed in F001, F004, or F005, and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F003	The following spent nonhalogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol, all spent solvent mixtures/blends containing, before use, only the above spent nonhalogenated solvents; and all spent solvent mixtures/blends containing, before use, one (1) or more of the above nonhalogenated solvents, and, a total of ten (10) percent or more (by volume) of one (1) or more of these solvents listed in F001, F002, F004, and F005, and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F004	The following spent nonhalogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten (10) percent or more (by volume) of one (1) or more of the above nonhalogenated solvents or these solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F005	The following spent nonhalogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten (10) percent or more (by volume) of one (1) or more of the above nonhalogenated solvents, or these solvents listed in F001, F002, or F004, and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I,T)
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 (sogregated 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.	(T)
F007	Spent cyanide plating bath solutions from electroplating operations.	(R,T)
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the	(R,T)

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	process.	
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	(R,T)
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	(R,T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R,T)
F012	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.	(T)
F010	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.	(T)
F020	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 tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
F021	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 pentachlorophenol or of intermediates used to produce its derivatives.	(H)
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.	(H)
F023	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 tri- or tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
F024	Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one (1) to and including five (5), with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment	(T)

	sludges, spent catalysts, and wastes listed in Sections 2 and 3 of this administrative regulation.)	
F025	Condensed light ends, 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 hydrocarbons are those having carbon chain lengths ranging from one (1) to and including five (5), with varying amounts and positions of chlorine substitution.	(T)
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.	(H)
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.)	(H)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.	(T)
F032	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenole formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with Section 6 of this administrative regulation or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (For example, F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol.	(T)
F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote or pentachlorophenol.	(T)
F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formula-	(T)

	<p>tions from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use cresote or pentachlorophenol.</p>	
F037	<p>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 noncontact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in subsection (2)(b) of this section (including sludges generated in one (1) or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing.</p>	(F)
F038	<p>Petroleum refinery secondary (emulsified) oil/water/solids separation sludge—Any 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 dissolved air filtration (DAF) units. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from noncontact 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 subsection (2) of this section (including sludges and floats generated in one (1) or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing.</p>	(F)
F039	<p>Leachate (liquids that have percolated through land disposal wastes) resulting from the disposal of more than one (1) restricted waste classified as hazardous under this administrative regulation. (Leachate resulting from the disposal of one (1) or more of the following EPA Hazardous Wastes and no other hazardous wastes retains its EPA Hazardous Waste Number: F020, F021, F022, F026, F027, and F028.)</p>	(F)

(2) Listing specific definitions.

(a) For the purposes of the F037 and F038 listings, oil/water/solids is defined as oil and water and solids.

(b)1. For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one (1) of the following four treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or high rate aeration. High rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity; and

a. The unit employs a minimum of six (6) horse power per million gallons of treatment volume, and either:

b. The hydraulic retention time of the unit is no longer than five (5) days; or

c. The hydraulic retention time is no longer than thirty (30) days and the unit does not generate a sludge that is a hazardous waste by the toxicity characteristic.

2. Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities shall maintain, in their operating or other on-site records, documents and data sufficient to prove that:

a. The unit is an aggressive biological treatment unit as defined in this subsection; and

b. The sludges sought to be exempted from the definitions of F037 or F038 were actually generated in the aggressive biological treatment unit.

(c)1. For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

2. For the purposes of the F038 listing:

a. Sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement; and

b. Floats are considered to be generated at the moment they are formed in the top of the unit.

Section 3 Hazardous Wastes from Specific Sources. Hazardous wastes from specific sources are:

Industry & EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
Wood Preservation:		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use cresote or pentachlorophenol.	(F)
Inorganic Pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	(F)
K003	Wastewater treatment sludge from the production of molybdate orange pigments.	(F)
K004	Wastewater treatment sludge from the production of zinc yellow pigments.	(F)
K005	Wastewater treatment sludge from the production of chrome green pigments.	(F)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	(F)
K007	Wastewater treatment sludge from the production of iron blue pigments.	(F)
K008	Oven residue from the production of chrome oxide green pigments.	(F)
Organic Chemicals:		

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K009	Distillation bottoms from the production of acetaldehyde from ethylene.	(F)
K010	Distillation side cuts from the production of acetaldehyde from ethylene.	(F)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.	(R,T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.	(R,T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.	(F)
K015	Still bottoms from the distillation of benzyl chloride.	(F)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride.	(F)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	(F)
K018	Heavy ends from the fractionation column in ethyl chloride production.	(F)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	(F)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	(F)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production.	(F)
K022	Distillation bottom tars from the production of phenol/acetone from cumene.	(F)
K023	Distillation light ends from the production of phthalic anhydride from naphthalene.	(F)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.	(F)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	(F)
K026	Stripping still tails from the production of methyl ethyl pyridines.	(F)
K027	Centrifuge and distillation residues from toluene diisocyanate production.	(R,T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	(F)
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.	(F)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	(F)
K083	Distillation bottoms from aniline production.	(F)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.	(F)
K093	Distillation light ends from the production of phthalic anhydride from orthoxylene.	(F)
K094	Distillation bottoms from the production of phthalic anhydride from orthoxylene.	(F)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane.	(F)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	(F)
K103	Process residues from aniline extraction from the production of aniline.	(F)
K104	Combined wastewater streams generated from nitrobenzene/aniline production.	(F)

K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	(F)
K107	Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(C,T)
K108	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(I,T)
K109	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(F)
K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(F)
K111	Product wash waters from the production of dinitrotoluene via nitration of toluene.	(C,T)
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	(F)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(F)
K114	Vienals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(F)
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(F)
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	(F)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.	(F)
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(F)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(F)
K149	Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixture of these functional groups. (This waste does not include still bottoms from the distillation of benzyl chloride).	(F)
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 mixture of these functional groups.	(F)

K161	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.	(F)
K166	Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes.	(F)
K167	Wastewaters (including scrubber waters, condenser waters, washwater, and separation waters) from the production of carbamates and carbamoyl oximes.	(F)
K168	Bag house ducts and filter/separation solids from the production of carbamates and carbamoyl oximes.	(F)
K169	Organics from the treatment of thiocarbamate wastes.	(F)
K160	Solids (including filter wastes, separation solids, and spent catalysts) from the production of thiocarbamates and solids from the treatment of thiocarbamate wastes.	(F)
K161	Purification solids (including filtration, evaporation, and centrifugation solids), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts.	(R,T)
Inorganic Chemicals:		
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	(F)
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	(F)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production.	(F)
Pesticides:		
K031	By-product salts generated in the production of MSMA and cacodylic acid.	(F)
K032	Wastewater treatment sludge from the production of chlordane.	(F)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	(F)
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	(F)
K035	Wastewater treatment sludges generated in the production of creosote.	(F)
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton.	(F)
K037	Wastewater treatment sludges from the production of disulfoton.	(F)
K038	Wastewater from the washing and stripping of phosphate production.	(F)
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phosphate.	(F)
K040	Wastewater treatment sludge from the production of phosphate.	(F)
K041	Wastewater treatment sludge from the production of toxaphene.	(F)

K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	(F)
K043	2,6-Dichlorophenol waste from production of 2,4-Dichlorophenol.	(F)
K007	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	(F)
K008	Untreated process wastewater from the production of toxaphene.	(F)
K009	Untreated wastewater from the production of 2,4-D.	(F)
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenedisithiocarbamic acid and its salts.	(F)
K124	Reactor vent scrubber water from the production of ethylenedisithiocarbamic acid and its salts.	(C,T)
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenedisithiocarbamic acid and its salts.	(F)
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenedisithiocarbamic acid and its salts.	(F)
K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.	(C,T)
K132	Spent absorbent and wastewater separator solids from the production of methyl bromide.	(F)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives.	(R)
K045	Spent carbon from the treatment of wastewater containing explosives.	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	(F)
K047	Pink/red water from TNT operations.	(F)
Petroleum Refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry.	(F)
K049	Slop oil emulsion solids from the petroleum refining industry.	(F)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.	(F)
K051	API separator sludge from the petroleum refining industry.	(F)
K052	Tank bottoms (loaded) from the petroleum refining industry.	(F)
Iron and Steel:		
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	(F)
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	(C,T)
Primary Copper:		
K064	Acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production.	(F)
Primary Lead:		
K065	Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities.	(F)
Primary Zinc:		

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K066	Sludge from treatment of process wastewater and acid plant blowdown from primary zinc production.	(F)
Primary Aluminum:		
K088	Spent potliners from primary aluminum reduction.	(F)
Ferrous alloys:		
K090	Emission control dust or sludge from ferrochromium-silicon production.	(F)
K091	Emission control dust or sludge from ferrochromium production.	(F)

The listing of wastes K064, K065, K066, K088, K090 and K091 as hazardous wastes shall become applicable to persons who generate or manage such wastes after May 22, 1990.

Secondary Lead		
K069	Emission control dust/sludge from secondary lead smelting.	(F)
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	(F)
Veterinary Pharmaceuticals:		
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organoarsenic compounds.	(F)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organoarsenic compounds.	(F)
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organoarsenic compounds.	(F)
Ink Formulation:		
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tube and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	(F)
Coking		
K060	Ammonia still lime sludge from coking operations.	(F)
K087	Decanter tank tar sludge from coking operations.	(F)
K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke byproducts produced from coal. The listing does not include K087 (decanter tank tar sludges from coking operations).	(F)
K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke byproducts produced from coal.	(F)
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 byproducts produced from coal.	(F)
K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke byproducts produced from coal.	(F)

K145	Residues from naphthalene collection and recovery operations from the recovery of coke byproducts produced from coal.	(F)
K147	Tar storage tank residues from coal tar refining.	(F)
K148	Residues from coal tar distillation, including but not limited to, still bottoms.	(F)

Section 4. Discarded Commercial Chemical Products, Off-specification Species, Container Residues, and Spill Residues Thereof. The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in Section 2(1)(b)1 of 401 KAR 31.010, when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use; when in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel:

(1) Any commercial chemical product or manufacturing chemical intermediate having the generic name listed in subsection (5) or (6) of this section.

(2) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in subsection (5) or (6) of this section.

(3) Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in subsection (5) or (6) of this section, unless the container is empty as defined in Section 7(2) of 401 KAR 31.010.

(4) Any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in subsection (5) or (6) of this section, or any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill into or on any land or water of any off-specification chemical product and manufacturing chemical intermediate which, if it met specification, would have the generic name listed in subsection (5) or (6) of this section.

(5) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in subsections (1) to (4) of this section, are identified as acute hazardous wastes (H) and are subject to the conditionally exempt small quantity generator exclusion in Section 5 of 401 KAR 31.010.

(NOTE: The primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound is only listed for acute toxicity.) These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous Waste No.	Substance	Chemical Abstracts No.
P023	Acetaldehyde, chloro-	107-20-0
P002	Acetamide, N (aminothioxomethyl)-	591-08-2
P057	Acetamide, 2-fluoro-	640-19-7
P058	Acetic acid, fluoro-, sodium salt	62-74-8
P002	1-Acetyl-2-thiourea	591-08-2
P003	Aerolem	107-02-8
P070	Aldicarb	116-06-3
P203	Aldicarb sulfone	1646-88-4
P004	Aldrin	300-00-2
P005	Allyl alcohol	107-18-6
P006	Aluminum phosphide (P,T)	20850-73-8
P007	5-(Aminomethyl)-3-isoxazolol	2763-96-4
P008	4-Aminopyridine	504-24-5
P009	Ammonium picrate (P)	131-74-8
P119	Ammonium vanadate	7803-55-6

P009	Argentate (1-), bis(cyano-C), potas- cium	506-61-6
P010	Arsenic acid H ₃ AsO ₄	7778-39-4
P012	Arsenic oxide As ₂ O ₃	1327-53-3
P011	Arsenic oxide As ₂ O ₅	1303-28-2
P011	Arsenic pentoxide	1303-28-2
P012	Arsenic trioxide	1327-53-3
P038	Arsine, diethyl-	692-42-2
P036	Arsenous dichloride, phenyl-	696-28-6
P064	Azindine	151-56-4
P067	Azindine, 2-methyl-	75-56-8
P013	Barium cyanide	542-62-1
P024	Benzenamine, 4-chloro-	106-47-8
P077	Benzenamine, 4-nitro-	100-01-6
P028	Benzene, (chloromethyl)-	100-44-7
P042	1,2-Benzenediol, 4-(1-hydroxy-2- (methylamino)ethyl)-, (R)-	61-43-4
P046	Benzeneethanamine, alpha, alpha, dimethyl-	122-09-8
P014	Benzenethiol	108-98-5
P127	7-Benzofuranol, 2,3-dihydro-2,2- dimethyl-, methylcarbamate	1563-66-2
P188	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a- hexahydro-1,2a,8- trimethylpyrrolo[2,3-b]indol-5-yl- methylcarbamate ester (1:1)	67-64-7
P001	2H-1-Benzopyran-2-one, 4-hydroxy- 3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%	81-81-2
P028	Benzyl chloride	100-44-7
P015	Beryllium powder	7440-41-7
P017	Bromoacetone	508-31-2
P018	Bruene	357-57-3
P045	2-Butanone, 3,3-dimethyl-1- (methylthio)-O-(methylamino)- carbonyl-oxime	39196-18-4
P021	Calcium cyanide	592-91-8
P021	Calcium cyanide Ca(CN) ₂	592-91-8
P189	Carbamic acid, (dibutylamino)- thio]methyl-, 2,3-dihydro-2,2- dimethyl-7-benzofuranyl ester	56285-14-8
P191	Carbamic acid, dimethyl-, 1- [(dimethyl-amino)carbonyl]-5-methyl- 1H-pyrazol-5-yl ester	644-64-4
P192	Carbamic acid, dimethyl-, 3-methyl- 1-(1-methylthio) 1H-pyrazol-5-yl ester	119-38-0
P190	Carbamic acid, methyl-, 3-m ethylphenyl ester	1129-41-5
P127	Carbofuran	1563-66-2
P022	Carbon disulfide	75-15-0
P006	Carbonic dichloride	75-44-5
P189	Carbosulfan	56285-14-8
P023	Chloroacetaldehyde	107-20-0
P024	p-Chloroaniline	106-47-8
P026	1-(o-Chlorophenyl)thiourea	5344-82-1
P027	3-Chloropropionitrile	542-76-7
P029	Copper cyanide	544-92-3
P029	Copper cyanide Cu(CN)	544-92-3
P202	m-Cumenyl methylcarbamate	64-00-6
P030	Cyanides (soluble cyanide salts), not otherwise specified	---
P031	Cyanogen	460-10-5
P033	Cyanogen chloride	506-77-4
P033	Cyanogen chloride (CN)Cl	506-77-4
P034	2-Cyclohexyl-4,6-dinitrophenol	131-89-5
P016	Dichloromethyl ether	542-88-1
P036	Dichlorophenylarsine	696-28-6
P037	Dieldrin	60-57-1

P038	Diethylarsine	692-42-2
P041	Diethyl-p-nitrophenyl phosphate	311-45-5
P040	O,O-Diethyl-O-pyrazinyl phos- phorothioate	297-07-2
P043	Diisopropylfluorophosphate (DFP)	65-91-4
P004	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a-hexahydro-, (1alpha, 4alpha, 4beta, 5alpha, 8alpha, 8beta)-	309-00-2
P060	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a-hexahydro-, (1alpha, 4alpha, 4beta, 5beta, 8beta, 8beta)-	466-73-6
P037	2,7,3,6-Dimethanonaphth(2,3-b) oxirone,3,4,5,6,9,9-hexachloro- 1a,2,2a,3,6,6a,7,7a-octahydro- (1alpha, 2beta, 2alpha, 3beta, 6beta, 6alpha, 7beta, 7alpha)-	60-57-1
P051	2,7,3,6-Dimethanonaphth(2,3-b), oxirone, 3,4,5,6,9,9-hexachloro- 1a,2,2a,3,6,6a,7,7a-octahydro- (1alpha, 2beta, 2alpha, 3alpha, 6alpha, 6beta, 7beta, 7alpha), and metabolites	172-20-8
P044	Dimethoate	60-51-5
P046	alpha, alpha-Dimethylphenethy lamine	122-09-8
P191	Dimetilan	644-64-4
P047	4,6-Dinitro-o-cresol, and salts	1534-52-1
P048	2,4-Dinitrophenol	51-29-5
P020	Dinoseb	88-85-7
P085	Diphosphoramidate, octamethyl-	152-16-9
P111	Diphosphoric acid, tetraethyl ester	107-49-3
P039	Disulfoton	298-04-4
P049	Dithioburet	541-53-7
P185	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-((methylamino)- carbonyl)oxime	26419-73-8
P050	Endosulfan	115-29-7
P088	Endothal	145-73-3
P051	Endrin	72-20-8
P051	Endrin, and metabolites	72-20-8
P042	Epinephrine	51-43-4
P031	Ethanedinitrile	460-10-5
P194	Ethanimidothioic acid, 2-dimethyl- amino-N-(((methylamino)- carbonyl)oxy)-2-oxo, methyl ester	23135-22-0
P066	Ethanimidothioic acid, N- (((methylamino)carbonyl)oxy)- methyl ester	16752-77-5
P101	Ethyl cyanide	107-12-0
P054	Ethyleneimine	151-56-4
P007	Famphur	52-85-7
P056	Fluonne	7782-41-4
P057	Fluoroacetamide	640-19-7
P058	Fluoroacetic acid, sodium salt	62-74-8
P198	Formetate hydrochloride	23422-53-9
P197	Formetanate	17702-57-7
P065	Fulmic acid, mercury (2+) salt (R,T)	628-86-4
P059	Heptachlor	76-44-8
P062	Hexaethyl tetraphosphate	757-58-4
P116	Hydrazinocarbonylthioamide	79-19-6
P068	Hydrazine, methyl-	60-34-4
P063	Hydrocyanic acid	74-90-8
P063	Hydrogen cyanide	74-90-8
P006	Hydrogen phosphide	7803-51-2
P060	Isodrin	466-73-6
P102	Isolan	119-38-0

P202	2-Isopropylphenyl-N-methyl-carbamate	64-00-6
P007	3(2H)-Isoxazolone,5-(aminomethyl)-	2763-86-4
P196	Manganese, bis(dimethyl-carbamodithioate-S,S)-	15330-36-3
P196	Manganese dimethyldithio-Carbamate	15330-36-3
P002	Mercury, (acetate-O) phenyl-	62-38-4
P065	Mercury fulminate (R,T)	628-86-4
P082	Methanamine,N-methyl-N-nitroso-	62-75-0
P064	Methane, isocyanato-	624-83-0
P016	Methane, oxybis (chloro-	542-88-1
P112	Methane, tetranitro-(R)	500-14-8
P118	Methanethiol, trichloro-	75-70-7
P198	Methanimidamide, N,N-dimethyl-N'-[3-[(methylamino)-carbonyloxy]phenyl]-, monohydrochloride	23422-53-0
P197	Methanimidamide, N,N-dimethyl-N'[2-methyl-4-[(methylamino)-carbonyloxy]phenyl]-	17702-57-7
P060	6,0-Methano-2,4,3-benzodioxathiopen, 6,7,8,9,10,10-hexachloro-7,5,6a,6,0,9a-hexahydro-3-oxide	115-20-7
P059	4,7-Methano-1H-indeno,1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	76-44-8
P199	Methiocarb	2032-65-7
P066	Methomyl	16752-77-5
P068	Methyl hydrazine	60-34-4
P064	Methyl isocyanate	624-83-0
P060	2-Methylactonitrile	75-86-5
P071	Methyl parathion	299-00-0
P190	Metolcarb	1120-41-5
P128	Mexacarbate	315-8-4
P072	alpha-Naphthylthiourea	86-88-4
P073	Nickel carbonyl	13463-39-3
P073	Nickel carbonyl Ni(CO) ₄ , (T-4)-	13463-39-3
P074	Nickel cyanide	557-10-7
P074	Nickel cyanide Ni(CN) ₂	557-10-7
P076	Nicotine, and salts	54-11-5
P076	Nitric oxide	10102-43-0
P077	p-Nitroaniline	100-01-6
P078	Nitrogen dioxide	10102-44-0
P076	Nitrogen oxide NO	10102-43-0
P078	Nitrogen oxide NO ₂	10102-44-0
P081	Nitroglycerine (R)	55-63-0
P082	N-Nitrosodimethylamine	62-75-9
P084	N-Nitrosomethylmethylamine	4549-40-0
P085	Octamethylpyrophosphoramide	152-16-0
P087	Osmium oxide OsO ₄ , (T-4)-	20816-12-0
P087	Osmium tetroxide	20816-12-0
P088	7-Oxabicyclo (2,2,1)heptano-2,3-dicarboxylic acid	145-73-3
P194	Oxamyl	23135-22-0
P089	Parathion	56-38-2
P034	Phenol, 2-cyclohexyl-4,6-dinitro-	131-80-5
P048	Phenol, 2,4-dinitro	51-28-5
P047	Phenol, 2-methyl-4,6-dinitro, and salts	534-52-1
P020	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	88-85-7
P009	Phenol, 2,4,6-trinitro-, ammonium salt (R)	131-74-8
P128	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)	315-18-4
P199	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate	2032-65-7
P202	Phenol, 3-(1-methylethyl)-, Methylcarbamate	64-00-6

P201	Phenol, 3-methyl-5-(1-methylethyl)-, methylcarbamate	2631-37-0
P092	Phenylmercury acetate	62-38-4
P093	Phenylthiourea	103-85-5
P094	Phorate	298-02-2
P095	Phosgene	75-44-5
P096	Phosphine	7803-51-2
P041	Phosphonic acid, diethyl-4-nitrophenyl ester	311-45-5
P039	Phosphorodithioic acid, 0,0-diethyl-S-(2-(ethylthio)ethyl) ester	298-04-4
P094	Phosphorodithioic acid, 0,0-diethyl-S-((ethylthio)methyl) ester	298-02-2
P044	Phosphorodithioic acid, O,O-dimethyl-S-(2-(methylamino)-2-oxoethyl) ester	60-51-5
P043	Phosphorofluoridic acid, bis(1-methylethyl) ester	55-91-4
P089	Phosphorothioic acid, O, O-diethyl-O-(4-nitrophenyl) ester	56-38-2
P040	Phosphorothioic acid, O, O-diethyl-O-pyrazinyl ester	297-97-2
P087	Phosphorothioic acid, O-(4-((dimethylamino) sulfonyl) phenyl) 0,0-dimethyl ester	62-85-7
P074	Phosphorothioic acid, 0,0-dimethyl-O-(4-nitrophenyl) ester	298-00-0
P204	Physostigmine	67-47-6
P188	Physostigmine salicylate	67-64-7
P110	Plumbane, tetraethyl-	78-00-2
P098	Potassium cyanide	161-60-8
P098	Potassium cyanide K(CN)	161-60-8
P099	Potassium silver cyanide	506-61-6
P201	Promecarb	2631-37-0
P203	Propanal, 2-methyl-2(methyl-Sulfonyl)-O-[(methylamino)carbonyloxy]oxime	1646-88-4
P070	Propanal, 2-methyl-2-(methylthio)-O-((methylamino)carbonyloxy)oxime	116-06-3
P101	Propanenitrile	107-12-0
P027	Propanenitrile, 3-chloro-	542-76-7
P069	Propanenitrile, 2-hydroxy-2-methyl-	75-86-5
P081	1,2,3-Propanetriol, trinitrate (R)	55-63-0
P017	2-Propanone, 1-bromo-	598-31-2
P102	Propargyl alcohol	107-19-7
P003	2-Propenal	107-02-8
P005	2-Propen-1-ol	107-18-6
P067	1,2-Propylenimine	75-55-8
P102	2-Propyn-1-ol	107-19-7
P008	4-Pyridinamine	504-24-5
P075	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, and salts	54-11-5
P204	Pyrrole[2,3-b]indol-5-ol,1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-	57-47-6
P114	Selenious acid, dithallium(1+)salt	12039-52-0
P103	Selenourea	630-10-4
P104	Silver cyanide	506-64-0
P104	Silver cyanide Ag(CN)	506-64-0
P105	Sodium azide	26628-22-8
P106	Sodium cyanide	143-33-0
P106	Sodium cyanide Na(CN)	143-33-0
P108	Strychnidin-10-one, and salts	57-24-9
P018	Strychnidin-10-one, 2,3-dimethoxy-	357-57-3
P108	Strychnine, and salts	57-24-9
P115	Sulfonic acid, dithallium (1+)salt	7446-18-6
P109	Tetraethylthiopyrophosphate	3689-24-5
P110	Tetraethyl lead	78-00-2
P111	Tetraethyl pyrophosphate	107-49-3
P112	Tetranitromethane (R)	600-14-8

P062	Tetraphosphone acid, hexaethyl ester	767-68-4
P113	Thallic oxide	1314-32-5
P113	Thallium oxide Tl ₂ O ₃	1314-32-5
P114	Thallium (I) selenite	12039-62-0
P115	Thallium (I) sulfate	7446-18-6
P109	Thiodiphosphone acid, tetraethyl ester	3689-24-5
P045	Thiofanex	39196-18-4
P049	Thioimidedicarbonyl diamide ((H ₂ N)C(S)) ₂ NH	541-53-7
P014	Thiophenol	108-98-5
P116	Thiosemicarbazide	79-19-6
P026	Thiourea, (2-chlorophenyl)-	5344-82-1
P072	Thiourea, 1-naphthalenyl-	86-89-4
P093	Thiourea, phenyl-	103-85-5
P186	Thiuram	26419-73-8
P123	Toxaphene	8001-35-2
P118	Trichloromethanethiol	75-70-7
P119	Vanadic acid, ammonium salt	7903-55-6
P120	Vanadium oxide V ₂ O ₅	1314-62-1
P120	Vanadium pentoxide	1314-62-1
P094	Vinylamine, N-methyl-N-nitroso-	4549-40-0
P001	Warfarin, and salts, when present at concentrations greater than 0.3%	*81-81-2
P205	Zinc, bis(dimethylcarbamothioate-S,S') ₂	137-30-4
P121	Zinc cyanide	567-21-1
P121	Zinc cyanide Zn(CN) ₂	567-21-1
P122	Zinc phosphide Zn ₃ P ₂ , when present at concentrations greater than 10% (R,T)	1314-84-7
P206	Ziram	137-30-4

*CAS number given for parent compound only

(6) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in subsections (1) to (4) of this section, are identified as toxic wastes (T), unless otherwise designated, and are subject to the conditionally exempt small quantity generator exclusion in Section 5 of 401 KAR 31:010.

(NOTE: The primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.) These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous Waste No.	Substance	Chemical Abstracts No.
U394	A2213	30558-43-1
U001	Acetaldehyde (I)	75-07-0
U034	Acetaldehyde, trichloro-	75-87-6
U187	Acetamide, N-(4-ethoxyphenyl)-	62-44-2
U006	Acetamide, N-OH-fluoren-2-yl-	53-96-3
U240	Acetic acid, (2,4-dichlorophenoxy)-, salts and esters	*94-75-7
U112	Acetic acid ethyl ester (I)	141-78-6
U144	Acetic acid, lead (2+) salt	301-04-2
U214	Acetic acid, thallium (1+) salt	563-68-8
See F027	Acetic acid, (2,4,5-trichlorophenoxy)-	93-76-5
U002	Acetone (I)	67-64-1
U003	Acetonitrile (I,T)	75-05-8
U004	Acetophenone	98-86-2
U005	2-Acetylaminofluorene	53-96-3
U006	Acetyl chloride (C,R,T)	75-36-5
U007	Acrylamide	79-06-1
U008	Acrylic acid (I)	79-10-7

U009	Acrylonitrile	107-13-1
U011	Amtrite	61-82-5
U012	Aniline (I,T)	62-53-3
U136	Arsinic acid, dimethyl-	75-60-5
U014	Auramine	492-80-8
U015	Azaserine	116-02-6
U365	H-Azepine-1-carboethioic acid, hexahydro-, S-ethyl ester	2212-67-1
U010	Azirino (2',3',3,4)-pyrrolo (1,2-a) indolo 4, 7-dione, 6-amino-8-(((aminocarbonyloxy) methyl)-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, (1aS-(1aalpha,8beta,8aalpha,8balpha))-	50-07-7
U280	Barban	101-27-0
U278	Bendiocarb	22781-23-3
U364	Bendiocarb phenol	22961-82-6
U271	Benomyl	17804-35-2
U157	Benz(j)aceanthrylene, 1,2-dihydro-3-methyl-	56-49-5
U016	Benz(e)acodine	225-51-4
U017	Benzal chloride	89-87-3
U192	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	23050-58-5
U018	Benz(a)anthracene	56-55-3
U094	Benz(a)anthracene, 7,12-dimethyl-	67-97-6
U012	Benzenamine (I,T)	62-53-3
U014	Benzenamine, 4,4'-carbonimidoylbis (N,N-dimethyl-	492-80-8
U049	Benzenamine, 4-chloro-2-methyl-, hydrochloride	3165-93-3
U093	Benzenamine, N, N-dimethyl-4-(phenylazo)-	60-11-7
U328	Benzenamine, 2-methyl-	95-53-4
U353	Benzenamine, 4-methyl-	106-49-0
U158	Benzenamine, 4,4'-methylolonebis (2-chloro-	101-14-4
U222	Benzenamine, 2-methyl-, hydrochloride	636-21-5
U181	Benzenamine, 2-methyl-5-nitro	99-55-8
U019	Benzene (I,T)	71-43-2
U038	Benzenoacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester	510-15-6
U030	Benzene, 1-bromo-4-phenoxy-	101-55-3
U035	Benzenobutanoic acid, 4-(bis (2-chloroethyl)amino)-	306-03-3
U037	Benzene, chloro-	108-90-7
U224	Benzenediamine, ar-methyl-	25376-45-8
U028	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	117-81-7
U069	1,2-Benzenedicarboxylic acid, dibutyl ester	84-74-2
U088	1,2-Benzenedicarboxylic acid, diethyl ester	84-66-2
U102	1,2-Benzenedicarboxylic acid, dimethyl ester	131-11-3
U107	1,2-Benzenedicarboxylic acid, diethyl ester	117-84-0
U070	Benzene, 1,2-dichloro-	95-50-1
U071	Benzene, 1,3-dichloro-	541-73-1
U072	Benzene, 1,4-dichloro-	106-46-7
U060	Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro-	72-54-8
U017	Benzene, (dichloromethyl)-	98-87-3
U223	Benzene, 1,3-dicyanato-methyl- (R,T)	26471-62-5
U239	Benzene, dimethyl- (I,T)	1330-20-7
U204	1,3-Benzenediol	108-46-3
U127	Benzene, hexachloro-	118-74-1
U056	Benzene, hexahydro (I)	110-82-7

U220	Benzene, methyl-	108-88-3
U106	Benzene, 1-methyl-2, 4-dinitro-	121-14-2
U106	Benzene, 2-methyl-1,3-dinitro-	606-20-2
U065	Benzene, (1-methylethyl) (l)	99-92-8
U160	Benzene, nitro-	98-05-3
U183	Benzene, pentachloro-	608-93-6
U185	Benzene, pentachloronitro-	82-68-8
U020	Benzenesulfonic acid chloride (C,R)	98-09-9
U020	Benzenesulfonyl chloride (C,R)	98-09-9
U207	Benzene, 1,2,4,5-tetrachloro-	95-94-3
U064	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro-	60-29-3
U247	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-methoxy-	72-43-5
U023	Benzene, (trichloromethyl)-	98-07-7
U234	Benzene, 1,3,5-trinitro-	99-35-4
U021	Benzidine	92-87-5
U202	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, and salts	*81-07-02
U278	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate	22781-23-3
U364	1,3-Benzodioxol-4-ol, 2,2-dimethyl-	22961-82-6
U203	1,3-Benzodioxole, 5-(2-propenyl)-	94-59-7
U141	1,3-Benzodioxole, 5-(1-propenyl)-	120-58-1
U367	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-	1563-38-8
U090	1,3-Benzodioxole, 5-propyl-	94-58-6
U064	Benzo(ot)pentaphene	189-55-9
U248	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl), and salts, when present at concentrations of 0.3% or less	*81-81-2
U022	Benzo(a)pyrene	50-32-8
U197	p-Benzoquinone	106-51-4
U023	Benzotrichloride (C,R,T)	98-07-7
U085	2,2-Bioxirane	1464-53-5
U021	(1,1'-Biphenyl)-4,4'-diamine	92-87-5
U073	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dichloro-	91-94-1
U091	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethoxy-	110-00-4
U096	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethyl-	110-93-7
U401	Bis(dimethylthiocarbamoyl) sulfide	97-74-5
U400	Bis(pentamethylene)thiuramtetrasulfide	120-54-7
U225	Bromoform	75-25-2
U030	4-Bromophenyl phenyl ether	101-55-3
U128	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	87-69-3
U172	1-Butanamine, N-butyl-N-nitroso-	924-16-3
U031	1-Butanol (l)	71-36-3
U159	2-Butanone (l,T)	78-93-3
U160	2-Butanone, peroxide (R,T)	1338-23-4
U053	2-Butenal	4170-30-3
U074	2-Butene, 1,4-dichloro (l,T)	764-41-0
U143	2-Butenoic acid, 2-methyl-7-((2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutyl)methyl)-2,3,5,7a-tetrahydro-	303-34-4
	1H-pyrrolizin-1-yl ester, (1S-(1alpha(Z), 7(2S*,3R*),7aalpha))-	
U031	n-Butyl alcohol (l)	71-36-3
U392	Butylate	2008-41-6
U136	Caecylic acid	75-60-5
U032	Calcium chromate	13765-19-0
U372	Carbamic acid, 1H-benzimidazol-2-yl-, methyl ester	10605-21-7

U271	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester	17804-35-2
U375	Carbamic acid, butyl-, 3-iodo-2-propenyl ester	55406-53-6
U280	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butanyl ester	101-27-9
U238	Carbamic acid, ethyl ester	51-70-6
U178	Carbamic acid, methylnitroso-, ethyl ester	615-53-2
U373	Carbamic acid, phenyl-, 1-methylethyl ester	122-42-9
U409	Carbamic acid, [1,2-phenylenebis(iminocarbonothioyl)]bis-, dimethylester	23564-05-8
U097	Carbamic chloride, dimethyl-	79-44-7
U379	Carbamodithioic acid, dibutyl-, sodium salt	136-30-1
U277	Carbamodithioic acid, diethyl-, 2-chloro-2-propenyl ester	95-06-7
U381	Carbamodithioic acid, diethyl-, sodium salt	148-18-5
U383	Carbamodithioic acid, dimethyl-, potassium salt	128-93-9
U382	Carbamodithioic acid, dimethyl-, sodium salt	128-94-1
U376	Carbamodithioic acid, dimethyl-, tetraamhydro sulfide with orthothioarsenious acid	144-34-3
U378	Carbamodithioic acid, (hydroxymethyl)methyl-, monopotassium salt	51026-28-9
U384	Carbamodithioic acid, methyl-, monosodium salt	137-42-8
U377	Carbamodithioic acid, methyl-, monopotassium salt	137-41-7
U389	Carbamodithioic acid, bis-(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl)ester	2303-17-5
U392	Carbamodithioic acid, bis-(2-methylpropyl)-, S-ethyl ester	2008-41-6
U391	Carbamodithioic acid, butylethyl-, S-propyl ester	1114-71-2
U386	Carbamodithioic acid, cyclohexylethyl-, S-ethyl ester	1134-23-2
U390	Carbamodithioic acid, dipropyl-, S-ethyl ester	759-94-4
U387	Carbamodithioic acid, dipropyl-, S-(phenylmethyl) ester	5288-80-9
U385	Carbamodithioic acid, dipropyl-, S-propyl ester	1929-77-7
U114	Carbamodithioic acid, 1,2-ethanedithylbis-, salts and esters	*111-54-6
U062	Carbamodithioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester	2302-16-4
U279	Carbaryl	63-25-2
U372	Carbendazim	10605-21-7
U367	Carbofuran phenol	1563-38-8
U215	Carbonic acid, dithallium (1+) salt	6533-73-9
U033	Carbonic difluoride	353-50-4
U156	Carbonochloridic acid, methyl ester (l,T)	79-22-1
U033	Carbon oxyfluoride (R,T)	353-50-4
U211	Carbon tetrachloride	56-23-5
U034	Chloral	75-97-6
U035	Chlorambuel	305-93-3
U036	Chlordane, alpha and gamma isomers	57-74-9
U026	Chloromaphazin	494-93-1
U037	Chlorobenzene	108-90-7
U038	Chlorobenzilate	510-15-6
U039	p-Chloro-m-cresol	59-50-7

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U042	2-Chloroethyl vinyl ether	110-75-8
U044	Chloroform	67-66-3
U046	Chloromethyl methyl ether	107-30-2
U047	beta-Chloronaphthalene	81-58-7
U048	o-Chlorophenol	95-57-8
U049	4-Chloro-o-toluidine, hydrochloride	2165-03-3
U032	Chromic acid-H ₂ CrO ₄ , calcium salt	13765-10-0
U060	Chrysene	218-01-0
U393	Copper, bis(dimethylcarbamodithioate-S,S')	137-20-1
U393	Copper dimethyldithiocarbamate	137-20-1
U051	Cresol	-----
U052	Cresol (Cresylic acid)	1319-77-3
U053	Crotonaldehyde	4170-30-3
U055	Cumene (l)	98-82-8
U246	Cyanogen bromide (CN) Br	506-68-3
U396	Cycloate	1134-23-2
U197	2,5-Cyclohexadione-1,4-dione	106-51-4
U056	Cyclohexane (l)	110-82-7
U129	Cyclohexane,1,2,3,4,5,6-hexachloro-(1alpha, 2alpha, 3beta, 4alpha, 5alpha, 6beta)-	58-89-9
U057	Cyclohexanone (l)	108-94-1
U130	1,3-Cyclopentadiene,1,2,3,4,5,6-hexachloro-	77-47-4
U058	Cyclophosphamide	50-18-0
U240	2,4-D, salts and esters	104-75-7
U069	Daunomycin	20830-81-3
U366	Dazomet	533-74-4
U060	DDD	72-54-8
U061	DDT	50-29-3
U062	Diallate	2303-16-4
U063	Dibenz(a,h) anthracene	63-70-3
U064	Dibenzo(a,i) pyrene	189-55-9
U066	1,2-Dibromo-3-chloropropane	96-12-8
U069	Dibutyl phthalate	84-74-2
U070	o-Dichlorobenzene	95-50-1
U071	m-Dichlorobenzene	641-73-1
U072	p-Dichlorobenzene	106-46-7
U073	3,3'-Dichlorobenzidine	91-94-1
U074	1,4-Dichloro-2-butene (l,T)	764-41-0
U075	Dichlorodifluoromethane	75-71-8
U078	1,1-Dichloroethylene	75-35-4
U079	1,2-Dichloroethylene	156-60-5
U025	Dichloroethyl ether	111-44-4
U027	Dichloroisopropyl ether	108-60-1
U024	Dichloromethoxy ethane	111-91-1
U081	2,4-Dichlorophenol	120-83-2
U082	2,6-Dichlorophenol	87-65-0
U084	1,3-Dichloropropene	542-75-6
U085	1,2,3,4-Diepoxybutane (l,T)	1464-53-5
U108	1,4-Diethyleneoxide	123-91-1
U028	Diethylenyl phthalate	117-81-7
U395	Diethylene glycol, dicarbamate	5952-26-1
U086	N,N-Diethylhydrazine	1615-80-1
U087	O,O-Diethyl-S-methyl dithiophosphate	3288-58-2
U088	Diethyl phthalate	84-66-2
U089	Diethylstilbesterol	56-53-1
U090	Dihydroacrole	94-58-6
U091	3,3'-Dimethoxybenzidine	110-90-4
U092	Dimethylamine (l)	124-40-3
U093	p-Dimethylaminobenzene	60-11-7
U094	7,12-Dimethylbenz(a)anthracene	57-07-6
U095	3,3'-Dimethylbenzidine	110-93-7
U096	alpha, alpha-Dimethylbenzylhydroperoxide (R)	80-15-9
U097	Dimethylcarbamoyl chloride	79-44-7
U098	1,1-Dimethylhydrazine	57-14-7
U099	1,2-Dimethylhydrazine	540-73-8

U101	2,4-Dimethylphenol	105-67-0
U102	Dimethyl phthalate	131-11-3
U103	Dimethyl sulfate	77-78-1
U105	2,4-Dinitrotoluene	121-14-2
U106	2,6-Dinitrotoluene	606-20-2
U107	Di-n-octyl phthalate	117-84-0
U108	1,4-Dioxane	123-91-1
U109	1,2-Diphenylhydrazine	122-66-7
U110	Dipropylamine (l)	142-84-7
U111	Di-n-propylnitrosamine	621-64-7
U403	Disulfiram	87-77-8
U390	EPTC	759-94-4
U041	Epichlorohydrin	106-89-8
U001	Ethanal (l)	75-07-0
U404	Ethanamine, N,N-diethyl-	121-44-8
U174	Ethanamine, N-ethyl-N-nitroso-	55-18-5
U155	1,2-Ethanediamine, N,N-di-methyl-N'-2-pyridinyl-N'-(2-thionylmethyl)-	91-80-5
U067	Ethane, 1,2-dibromo-	106-93-4
U076	Ethane, 1,1-dichloro-	75-34-3
U077	Ethane, 1,2-dichloro-	107-06-2
U131	Ethane, hexachloro-	67-72-1
U024	Ethane, 1,1'-(methylenobis(oxy))bis(2-chloro-)	111-91-1
U117	Ethane, 1,1'-oxybis (l)	60-29-7
U025	Ethane, 1,1'-oxybis(2-chloro-)	111-44-4
U184	Ethane, pentachloro-	76-01-7
U208	Ethane, 1,1,1,2-tetrachloro-	630-20-6
U209	Ethane, 1,1,2,2-tetrachloro-	79-34-5
U218	Ethanethioamide	62-55-5
U226	Ethane, 1,1,1-trichloro-	71-55-6
U227	Ethane, 1,1,2-trichloro-	70-00-5
U410	Ethanimidethioic acid, N,N'-[thio-bis(methylimino) carbonyloxy]]bis-, dimethyl ester	59669-26-0
U394	Ethanimidethioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester	30558-43-1
U359	Ethanol, 2-ethoxy-	110-80-5
U173	Ethanol, 2,2'-(nitrosoimino)bis-	1116-54-7
U395	Ethanol, 2,2'-oxybis-, dicarbamate	5952-26-1
U004	Ethanone, 1-phenyl	98-86-2
U043	Ethene, chloro-	75-01-4
U042	Ethene, (2-chloroethoxy)-	110-75-8
U078	Ethene, 1,1-dichloro-	75-35-4
U079	Ethene, 1,2-dichloro-, (E)	156-60-5
U210	Ethene, tetrachloro-	127-18-4
U228	Ethene, trichloro-	79-01-6
U112	Ethyl acetate (l)	141-78-6
U113	Ethyl acrylate (l)	140-88-5
U238	Ethyl carbamate (urethane)	51-79-6
U117	Ethyl ether (l)	60-29-7
U114	Ethylenobis(dithiocarbamic acid, salts and esters)	111-54-6
U067	Ethylene dibromide	106-93-4
U077	Ethylene dichloride	107-06-2
U359	Ethylene glycol monoethyl ether	110-80-5
U115	Ethylene oxide (l,T)	75-21-8
U116	Ethylenethiourea	96-45-7
U076	Ethylidene dichloride	75-34-3
U118	Ethyl methacrylate	97-63-2
U119	Ethyl methanesulfonate	62-50-0
U407	Ethyl Ziram	14324-55-1
U396	Ferbam	14484-64-1
U120	Fluoranthene	206-44-0
U122	Formaldehyde	50-00-0
U123	Formic acid-(G,T)	64-18-6
U124	Furan (l)	110-90-9
U125	2-Furancarboxaldehyde (l)	98-01-1
U147	2,5-Furandione	108-31-6

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U213	Furan, tetrahydro-(f)	400-00-0
U125	Furfural (f)	98-01-1
U124	Furfuran (f)	110-00-0
U206	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoamino)-D-	18883-66-4
U206	D-Glucose, 2-deoxy-2-(((methylnitrosoamino)-carbonyl(amino)-	18883-66-4
U126	Glycidylaldehyde	765-34-4
U163	Guanidine, N-methyl-N-nitro-N-nitroso-	70-25-7
U127	Hexachlorobenzene	118-74-1
U128	Hexachlorobutadiene	87-68-3
U130	Hexachlorocyclopentadiene	77-47-4
U131	Hexachloroethane	67-72-1
U132	Hexachlorophene	70-30-4
U243	Hexachloropropene	1888-71-7
U133	Hydrazine (R,T)	302-01-2
U086	Hydrazine, 1,2-diethyl-	1615-80-1
U099	Hydrazine, 1,1-dimethyl-	67-14-7
U099	Hydrazine, 1,2-dimethyl-	640-73-8
U109	Hydrazine, 1,2-diphenyl-	122-66-7
U134	Hydrofluoric acid (C,T)	7664-39-3
U134	Hydrogen fluoride (C,T)	7664-39-3
U135	Hydrogen sulfide	7783-06-4
U135	Hydrogen sulfide H ₂ S	7783-06-4
U096	Hydroperoxide, 1-methyl-1-phenylethyl-(R)	80-15-9
U116	2-Imidazolidinethione	96-45-7
U137	Indeno(1,2,3-cd)pyrene	193-39-5
U375	3-Iodo-2-propynyl n-butylcarbamate	65406-53-6
U396	Iron, tne(dimethylcarbamodithioate-S,S')	14484-64-1
U190	1,3-Isobenzofurandione	85-44-9
U140	Isobutyl alcohol (f,T)	78-83-1
U141	Isocaprole	120-58-1
U142	Kepono	143-50-0
U143	Lasiocarpine	303-34-4
U144	Lead acetate	301-04-2
U146	Lead, bis(acetato-O)tetrahydroxytri-	1335-32-6
U146	Lead phosphate	7446-27-7
U146	Lead subacetate	1335-32-6
U129	Lindane	58-89-9
U163	MNNG	70-25-7
U147	Maleic anhydride	108-31-6
U148	Maleic hydrazide	123-33-1
U149	Malononitrile	100-77-3
U150	Melphalan	148-82-3
U151	Mercury	7439-97-6
U384	Metam Sodium	137-42-8
U152	Methacrylonitrile (f,T)	126-98-7
U082	Methanamine, N-methyl-(f)	124-40-3
U029	Methane, bromo-	74-83-9
U046	Methane, chloro-(f,T)	74-87-3
U046	Methane, chloromethoxy-	107-30-2
U068	Methane, dibromo-	74-95-3
U080	Methane, dichloro-	75-00-2
U075	Methane, dichlorodifluoro-	75-71-8
U138	Methane, iodo-	74-88-4
U119	Methanesulfonic acid, ethyl ester	62-50-0
U211	Methane, tetrachloro-	56-23-5
U153	Methanethiol (f,T)	74-93-1
U225	Methane, tribromo-	75-25-2
U044	Methane, trichloro-	67-66-3
U121	Methane, trichlorofluoro-	75-60-4
U036	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,9-octachloro-2,3,3a,4,7,7a-hexahydro-	57-74-9
U154	Methanol (f)	67-56-1
U155	Methapyrilone	81-80-5

U142	1,3,4-Metheno-2H-cyclobuta (ed)pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-	143-60-0
U247	Methoxychlor	72-43-5
U154	Methyl alcohol (f)	67-56-1
U029	Methyl bromide	74-83-9
U186	1-Methylbutadiene (f)	504-60-9
U046	Methyl chloride (f,T)	74-87-3
U156	Methyl chlorocarbonate (f,T)	70-22-1
U226	Methyl chloroform	71-55-6
U157	3-Methylcholanthrene	56-49-5
U158	4,4'-Methylenebis(2-chloro-aniline)	101-14-4
U068	Methylene bromide	74-95-3
U080	Methylene chloride	75-09-2
U159	Methyl ethyl ketone (MEK) (f,T)	78-93-3
U160	Methyl ethyl ketone peroxide (R,T)	1338-23-4
U138	Methyl iodide	74-88-4
U161	Methyl isobutyl ketone (f)	109-10-1
U162	Methyl methacrylate (f,T)	80-62-6
U161	4-Methyl-2-pentanone (f)	108-10-1
U164	Methylthiourea	66-04-2
U010	Mitomycin C	50-07-7
U365	Molinate	2212-67-1
U059	5,12-Naphthacenodione, 8-acetyl-10-((3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy)-7,8,9,10-tetrahydro-6,8,11-tri-hydroxy-1-methoxy-, (8S-cis)-	20830-81-3
U167	1-Naphthalenamine	134-32-7
U168	2-Naphthalenamine	91-59-8
U026	Naphthalenamine, N,N'-bis-(2-chloroethyl)-	494-03-1
U166	Naphthalene	91-20-3
U047	Naphthalene, 2-chloro-	91-58-7
U166	1,4-Naphthalenedione	130-15-4
U236	2,7-Naphthalenedisulfonic acid, 3,3'-((3,3'-dimethyl-(1,1'-biphenyl)-4,4'-diyl)-bis(azo)bis(5-amino-4-hydroxy)-, tetrasodium salt	72-57-1
U279	1-Naphthalenol, methylcarbamate	63-25-2
U166	1,4-Naphthoquinone	130-15-4
U167	alpha-Naphthylamine	134-32-7
U168	beta-Naphthylamine	91-59-8
U217	Nitric acid, thallium(1+) salt	10102-45-1
U169	Nitrobenzene (f,T)	98-95-3
U170	p-Nitrophenol	100-02-7
U171	2-Nitropropane (f,T)	79-46-0
U172	N-Nitrosodi-n-butylamine	924-16-3
U173	N-Nitrosodipropylamine	1116-54-7
U174	N-Nitrosodimethylamine	65-18-5
U176	N-Nitroso-N-ethylurea	750-73-9
U177	N-Nitroso-N-methylurea	684-93-5
U178	N-Nitroso-N-methylurethane	615-53-2
U179	N-Nitrosopiperidine	100-75-4
U180	N-Nitrosopyrrolidine	930-55-2
U181	5-Nitro-o-toluidine	99-55-8
U183	1,2-Oxathiolane, 2,2-dioxide	1120-71-4
U058	2H-1,3,2-Oxazaphosphenn-2-amino, N,N-bis(2-chloroethyl)- tetrahydro-, 2-oxide	60-18-0
U115	Oxirane (f,T)	75-21-8
U126	Oxirane-carboxyaldehyde	765-34-4
U041	Oxirane, (chloromethyl)-	106-80-8
U182	Paraldehyde	123-63-7
U391	Peobulate	1114-71-2
U183	Pentachlorobenzene	608-03-5
U184	Pentachloroethane	76-01-7
U185	Pentachloronitrobenzene (PCNB)	82-68-8
See F027	Pentachlorophenol	87-86-5

U161	Pentanol, 4-methyl-	108-10-1
U186	1,3-Pentadione (I)	504-60-9
U187	Phenacetin	62-44-2
U188	Phenol	108-95-2
U048	Phenol, 2-chloro-	95-67-8
U039	Phenol, 4-chloro-3-methyl-	59-50-7
U081	Phenol, 2,4-dichloro-	120-93-2
U092	Phenol, 2,6-dichloro-	87-65-0
U089	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-(E)-	55-53-1
U101	Phenol, 2,4-dimethyl-	105-67-9
U052	Phenol, methyl-	1319-77-3
U132	Phenol, 2,2'-methylenebis (3,4,6-trichloro-	70-30-4
U411	Phenol, 2-(1-methylethoxy), methyl-carbamate	114-26-1
U170	Phenol, 4-nitro-	100-02-7
See F027	Phenol, pentachloro-	87-86-5
See F027	Phenol, 2,3,4,6-tetrachloro-	58-90-2
See F027	Phenol, 2,4,5-trichloro-	95-95-4
See F027	Phenol, 2,4,6-trichloro	88-06-2
U150	L-Phenylalanine, 4-(bis(2-chloroethyl)amino)-	148-82-3
U145	Phosphonic acid, lead (2+) salt (2-3)	7446-27-7
U087	Phosphorodithioic acid, O,O-diethyl S-methyl ester	3288-58-2
U189	Phosphorus sulfide (R)	1314-80-3
U190	Phthalic anhydride	85-44-9
U191	2-Picoline	109-06-8
U179	Piperidine, 1-nitroso-	100-75-4
U400	Piperidine, 1,1'-(tetrathiodicarbonethiyl)-bis-	120-54-7
U393	Potassium dimethyldithiocarbamate	128-03-0
U378	Potassium n-hydroxymethyl-n-methyldithiocarbamate	51026-28-9
U377	Potassium n-methyldithiocarbamate	137-41-7
U192	Pronamide	23950-58-5
U194	1-Propanamine (I,T)	107-10-8
U111	1-Propanamine, N-nitroso-N-propyl-	621-64-7
U110	1-Propanamine, N-propyl- (I)	142-84-7
U066	Propane, 1,2-dibromo-3-chloro-	95-12-8
U083	Propane, 1,2-dichloro-	78-97-5
U149	Propanedinitrile	100-77-3
U171	Propane, 2-nitro- (I,T)	79-46-9
U027	Propane, 2,2'-oxybis (2-chloro-	108-60-1
U193	1,3-Propano sulfone	1120-71-4
See F027	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	93-72-1
U235	1-Propanol, 2,3-dibromo-, phosphate (3-1)	126-72-7
U140	1-Propanol, 2-methyl- (I,T)	78-83-1
U002	2-Propanone (I)	67-64-1
U097	2-Propanamide	79-06-1
U084	1-Propane, 1,3-dichloro-	542-75-6
U243	1-Propane, 1,1,2,3,3,3-hexachloro-	1988-71-7
U009	2-Propanenitrile	107-13-1
U152	2-Propanenitrile, 2-methyl- (I,T)	126-98-7
U008	2-Propanoic acid (I)	79-10-7
U113	2-Propanoic acid, ethyl ester (I)	140-88-5
U118	2-Propanoic acid, 2-methyl-, ethyl ester	97-63-2
U162	2-Propanoic acid, 2-methyl-, methyl ester (I,T)	80-62-6
U373	Propham	122-42-9
U411	Propoxur	114-26-1
U387	Prothioicarb	5288-80-9
U194	n-Propylamine (I,T)	107-10-8

U083	Propylene dichloride	78-87-5
U148	3,6-Pyridazinedione, 1,2-dihydro-	123-33-1
U196	Pyridine	110-86-1
U191	Pyridine, 2-methyl-	109-06-8
U237	2,4(1H,3H)-Pyrimidinedione, 5-(bis(2-chloroethyl)amino)-	66-75-1
U164	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thio-	55-04-2
U180	Pyrrolidine, 1-nitroso-	930-55-2
U200	Reserpine	50-55-5
U201	Resorcinol	108-46-3
U202	Saccharin, and salts	*81-07-2
U203	Safrole	94-59-7
U204	Selenious acid	7783-00-8
U204	Selenium dioxide	7783-00-8
U205	Selenium sulfide	7488-56-4
U205	Selenium sulfide SeS ₂ (R,T)	7488-56-4
U376	Selenium, tetrakis(dimethyldithiocarbamate)	144-34-3
U015	L-Senne, diazoacetate (ester)	115-02-6
See F027	Silvex (2,4,5-TP)	93-72-1
U379	Sodium dibutyldithiocarbamate	136-30-1
U381	Sodium diethyldithiocarbamate	148-18-5
U382	Sodium dimethyldithiocarbamate	128-04-1
U206	Streptozotocin	18883-66-4
U103	Sulfonic acid, dimethyl ester	77-78-1
U277	Sulfalate	95-06-7
U189	Sulfur phosphide (R)	1314-80-3
See F027	2,4,6-T	93-76-5
U402	Tetrabutylthiuram disulfide	1634-02-2
U207	1,2,4,5-Tetrachlorobenzene	95-94-3
U208	1,1,1,2-Tetrachloroethane	630-20-6
U209	1,1,2,2-Tetrachloroethane	79-34-5
U210	Tetrachloroethylene	127-18-4
See F027	2,3,4,6-Tetrachlorophenol	58-90-2
U213	Tetrahydrofuran (I)	109-99-9
U401	Tetramethylthiuram monosulfide	97-74-5
U214	Thallium (I) acetate	563-68-8
U215	Thallium (I) carbonate	6533-73-9
U216	Thallium (I) chloride	7791-12-0
U216	Thallium chloride TlCl	7791-12-0
U217	Thallium (I) nitrate	10102-45-1
U366	2H-1,2,5-Thiadiazine-2-thione, tetrahydro-3,5-dimethyl-	533-74-4
U218	Thioacetamide	62-55-5
U410	Thiodicarb	59669-26-0
U153	Thiomethanol (I,T)	74-93-1
U244	Thioperoxydicarbonic diamide ((H ₂ N)C(S)) ₂ S ₂ , tetramethyl-	137-26-8
U402	Thioperoxydicarbonic diamide, tetrabutyl	1634-02-2
U403	Thioperoxydicarbonic diamide, tetraethyl	97-77-8
U409	Thiophanate-methyl	23564-05-8
U219	Thiourea	62-56-6
U244	Thiram	137-26-8
U220	Toluene	108-88-3
U221	Toluenediamine	25376-45-8
U223	Toluene diisocyanate (R,T)	26471-62-5
U328	o-Toluidine	95-53-4
U353	p-Toluidine	106-49-0
U222	o-Toluidine hydrochloride	636-21-5
U389	Tnallate	2393-17-5
U011	1H-1,2,4-Triazol-3-amine	61-82-5
U227	1,1,2-Trichloroethane	79-00-5
U228	Trichloroethylene	79-01-6
U121	Trichloromonofluoromethane	75-69-4

See F027	2,4,5-Trichlorophenol	95-95-4
See F027	2,4,6-Trichlorophenol	88-06-2
U404	Triethylamine	121-44-8
U234	1,3,5-Trinitrobenzene (R,T)	99-35-4
U182	1,3,5-Trioxane,2,4,6-trimethyl-	123-63-7
U236	Tris(2,3-dibromopropyl) phosphate	126-72-7
U236	Trypan blue	72-57-1
U237	Uracil mustard	66-75-1
U176	Urea, N-ethyl-N-nitroso-	769-73-9
U177	Urea, N-methyl-N-nitroso-	684-93-6
U385	Vemolate	1020-77-7
U043	Vinyl chloride	75-01-4
U248	Warfann, and salts, when present at concentrations of 0.3% or less	*81-81-2
U239	Xylene (I)	1330-20-7
U200	Yohimban-16-carboxylic acid, 11, 17-dimethoxy-18((3,4,5-trimethoxybenzoyl)oxy), methyl ester, (3beta,16beta,17alpha,18beta,20alpha)	50-55-5
U407	Zinc, bis(diethylcarbamodithioate-S,S')	14324-55-1
U249	Zinc phosphide-Zn ₃ P ₂ , when present at concentrations of 10% or less	1314-84-7

*CAS number given for parent compound only.

Section 5- Nerve and Blister Agents. The following substances are listed as hazardous wastes:

Ky. Waste No.	Substance	Chemical Abstracts No.
N001	GB (isopropyl methyl phosphonofluoridate) (H)	107-44-8
N002	VX (O-ethyl-S-(2-diisopropylaminoethyl) methyl phosphothiolate) (H)	50782-60-0
N003	H (bis(2-chloroethyl) sulfide) and related compounds (H)	505-60-2

Section 6- Deletion of Certain Hazardous Waste Codes Following Equipment Cleaning and Replacement. (1) Wastes from wood preserving processes at plants that do not resume or initiate use of chlorophenolic preservatives shall not meet the listing definition of F032 once the generator has met all of the requirements of subsections (2) and (3) of this section. These wastes may, however, continue to meet another hazardous waste listing description or may exhibit one (1) or more of the hazardous waste characteristics.

(2) Generators shall either clean or replace all process equipment that may have come into contact with chlorophenolic formulations or constituents thereof, including, but not limited to, treatment cylinders, pumps, tanks, piping systems, drip pads, fork lifts, and trams, in a manner that minimizes or eliminates the escape of hazardous waste or constituents, leachate, contaminated drippage, or hazardous waste decomposition products to the ground water, surface water, or atmosphere.

(a) Generators shall do one (1) of the following:

1. Prepare and follow an equipment cleaning plan and clean equipment in accordance with this section;
2. Prepare and follow an equipment replacement plan and replace equipment in accordance with this section; or
3. Document cleaning and replacement in accordance with this section, carried out after termination of use of chlorophenolic preservatives.

(b) Cleaning requirements.

1. Generators shall prepare and sign a written equipment cleaning plan that describes:

- a. The equipment to be cleaned;
- b. How the equipment will be cleaned;

- c. The solvent to be used in cleaning;
 - d. How solvent rinses will be tested; and
 - e. How cleaning residues will be disposed.
2. Equipment shall be cleaned as follows:
- a. Remove all visible residues from process equipment;
 - b. Rinse process equipment with an appropriate solvent until dioxins and dibenzofurans are not detected in the final solvent rinse.

3. Analytical requirements. Rinses shall be tested in accordance with SW-846, Method 8200, incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30.010.

4. The generator shall manage all residue from the cleaning process as F032 waste.

(c) Replacement requirements.

1. Generators shall prepare and sign a written equipment replacement plan that describes:

- a. The equipment to be replaced;
- b. How the equipment will be replaced; and
- c. How the equipment will be disposed.

2. The generator shall manage the discarded equipment as F032 waste.

(d) Documentation requirements. Generators shall document that previous equipment cleaning or replacement was performed in accordance with this section and occurred after cessation of use of chlorophenolic preservatives.

(3) The generator shall maintain the following records documenting the cleaning and replacement as part of the facility's operating record:

- (a) The name and address of the facility;
- (b) Formulations previously used and the date on which their use ceased in each process at the plant;
- (c) Formulations currently used in each process at the plant;
- (d) The equipment cleaning or replacement plan;
- (e) The name and address of any persons who conducted the cleaning and replacement;
- (f) The dates on which cleaning and replacement were accomplished;
- (g) The dates of sampling and testing;
- (h) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization, preservation, and chain-of-custody of the samples;
- (i) A description of the tests performed, the date the tests were performed, and the results of the tests;
- (j) The name and model numbers of the instrument(s) used in performing the tests;
- (k) QA/QC documentation; and
- (l) The following statement signed by the generator or his authorized representative:

I certify under penalty of law that all process equipment required to be cleaned or replaced under Section 6 of 401 KAR 31.040 was cleaned or replaced as represented in the equipment cleaning and replacement plan and accompanying documentation. I am aware that there are significant penalties for providing false information, including the possibility of fine or imprisonment.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 31:050. General provisions for special wastes.

RELATES TO: KRS Subchapters[Chapters] 224.46, 224.50 [244.50]

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-510

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(3) requires the Cabinet to identify the characteristics of and to list hazardous wastes. ~~[This chapter identifies and lists hazardous waste.]~~ This administrative regulation identifies certain special waste as being hazardous wastes subject to the requirements of KRS 224.46-520.

Section 1. Special Waste Identified as a Hazardous Waste. A special waste ~~shall be~~, as defined in KRS 224.50-760 or in 401 KAR 31.005, ~~[is] a hazardous waste if~~.

(1) ~~It~~ meets the definition of a hazardous waste ~~estab-~~ ~~lished in [Section 3 of this] 401 KAR 31:010, Section 3; and~~

(2) ~~(a)~~ It exhibits any of the characteristics of a hazardous waste ~~established~~ in 401 KAR 31:030, or

~~(b)(3)~~ It is listed as a hazardous waste in 401 KAR 31:040.

Section 2. Applicability. Any special waste which is identified as a hazardous waste as specified in Section 1 of this administrative regulation shall be:

(1) Regulated under the waste management administrative regulations pertaining to hazardous wastes; ~~and~~

~~(2) [However, special wastes which are classified as hazardous waste are] Exempt from the assessment of the Kentucky hazardous waste management fund as provided by KRS 224.46-580(7)(6).~~

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 31:070. Deltisted hazardous waste streams.

RELATES TO: KRS ~~Subchapters~~[~~Chapters~~] 224.01, 224.40, 224.43, 224.46, 224.99

STATUTORY AUTHORITY. KRS 224.10-100, 224.46-510

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224 510(3) requires the cabinet to identify the characteristics of and to list hazardous wastes. ~~[This chapter identifies and lists hazardous waste.]~~ This administrative regulation contains the list of industries whose waste stream exclusion petitions have been granted based on the criteria ~~established~~ in 401 KAR 31:035 [401 KAR 31-060].

Section 1. Purpose of Exclusions. ~~If the cabinet grants~~(+) ~~[The cabinet may] [(but shall not be required to)] [grant] an exclusion under 401 KAR 31:035, the cabinet shall~~ [401 KAR 31-060] ~~[The cabinet will] publish notice of the~~[any such] exclusion in ~~[ac-~~ ~~cordance with] Section 2 of this administrative regulation.~~

~~(2) The cabinet may (but shall not be required to) grant a temporary exclusion before making a final decision under 401 KAR 31-060 whenever it finds that there is a substantial likelihood that an exclusion will finally be granted. The cabinet will publish notice of any such temporary exclusion in accordance with Section 3 of this administrative regulation.]~~

Section 2. List of Granted Exclusions. The ~~wastes listed in this section~~[following wastes] shall not be considered hazardous waste. ~~[under this chapter.]~~

(1) Brine purification muds and saturator insolubles (K071) generated after August 18, 1989 by BFGoodrich Intermediates Company, Inc., Calvert City, Kentucky. This ~~subsection~~[section] contains the complete final rule that was published in the Federal Register on August 18, 1989. The initial testing and subsequent testing were completed, and the U.S. EPA notification under sub-

section (2)(b)2 of this section was made to BF Goodrich on April 19, 1990.

(2) This exclusion ~~shall be~~[is] conditional upon the collection and submission of data obtained from BFGoodrich's full-scale treatment system because BFGoodrich's original data was based on data presented by another petitioner using an identical treatment process. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, BFGoodrich shall implement a testing program. All sampling and analyses (including quality control procedures) shall be performed according to SW-846 procedures. This testing program shall meet the following conditions for the exclusion to be valid:

(a)1. Daily sampling. ~~BFGoodrich shall~~ collect representative grab samples from every batch of the treated mercury brine purification muds and treated saturator insolubles on a daily basis and composite the grab samples to produce two (2) separate daily composite samples (one (1) of the treated mercury brine purification muds and one (1) of the treated saturator insolubles). Prior to disposal of the treated batches, two (2) daily composite ~~sample~~[samples] shall be analyzed for EP leachate concentration of mercury. BFGoodrich shall report the analytical test data, including all quality control data, within ninety (90) days after the treatment of the first full-scale batch.

2. BFGoodrich shall compile and store on-site for a minimum of three (3) years all analytical data and quality control data. These data shall be furnished upon request and made available for inspection by the cabinet.

(b)1. ~~BFGoodrich shall~~ collect representative grab ~~sample~~[samples] from every batch of the treated mercury brine purification muds and treated saturator insolubles on a daily basis and composite the grab samples to produce two (2) separate weekly composite sample (one (1) of the treated mercury brine muds and one (1) of the treated saturator insolubles) Prior to disposal of the treated batches, two (2) weekly composite samples shall be analyzed for the EP leachate concentrations of all the EP toxic metals (except mercury), nickel, and cyanide (using distilled water in the cyanide extractions), and the total constituent concentrations of reactive sulfide and reactive cyanide. BFGoodrich shall report the analytical test data, including all quality control data, obtained during this initial period no later than ninety (90) days after the treatment of the first full-scale batch.

2. BFGoodrich shall compile and store on-site for a minimum of three (3) years all analytical data and quality control data. These data shall be furnished upon request and made available for inspection by the cabinet. These testing requirements shall be terminated when the results of four (4) consecutive weekly composite samples of both the treated mercury brine muds and treated saturator insolubles, obtained from either the initial testing ~~or~~[fer] subsequent testing, show the maximum allowable levels in paragraph (c) of this subsection are not exceeded and the U.S. EPA notifies BFGoodrich that the requirements of this condition have been lifted.

(c) If under paragraph (a) or (b) of this subsection, the EP leachate concentrations for chromium, lead, arsenic, or silver exceed 0.316 mg/l; for banum exceed 6.31 mg/l, for cadmium or selenium exceed 0.063 mg/l; for mercury exceeds 0.0126 mg/l, for nickel exceeds 3.16 mg/l; for cyanide exceeds 4.42 mg/l; or for total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste shall either be re-treated until it meets these levels or managed and disposed of in accordance with 401 KAR Chapters 31 through 39.

(d) Within one (1) week of system start-up, BFGoodrich shall notify the U.S. EPA when the full-scale system is on-line and waste treatment has begun. At the cabinet's request, BFGoodrich shall submit any other analytical data obtained through paragraph (a) or (b) of this subsection, within the time period specified by the cabinet. Failure to submit the required data ~~shall~~[will] be considered sufficient basis to revoke BFGoodrich's exclusion to the extent directed by the U.S. EPA. All data shall be accompanied by the following certification statement: "Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 U.S.C.

1001 and 42 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes shall be void as if it never had effect or to the extent directed by the U.S. EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion."

Section 3. List of Granted Temporary Exclusions. A list of granted temporary exclusions and petitions for the exclusion shall be kept[are] on file with the Division of Waste Management. These exclusions expired on November 8, 1986. To receive a copy of these files, contact the Hazardous Waste Branch, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-6716. [(1) Temporary exclusions shall remain in effect from the date the exclusion is published in this administrative regulation until November 8, 1986 or until a final determination is issued under Section 2 of this administrative regulation, whichever occurs first.

(2) List of Granted Temporary Exclusions. Each petitioner has claimed that the samples are representative of any variation of the constituent level in the waste stream(s). Copies of the petitions listed in this section have been filed with the Legislative Research Commission, Regulation Compiler's Office, The Capitol, Frankfort, Kentucky 40601. Each petition is also on file at the Natural Resources and Environmental Protection Cabinet, Department for Environmental Protection, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601. The following waste streams have been granted temporary exclusions from the lists of hazardous waste in 401 KAR 31:040:

(a) National Standard Company of Corbin

1. The National Standard Company of Corbin, involved in the production of industrial wire cloth and low carbon steel wire, has petitioned the secretary to exclude its sludge resulting from lime treatment of metal finishing wastewaters, considered EPA Hazardous Waste No. K062, (spent pickle liquor from steel finishing operations), from the list of hazardous wastes contained in 401 KAR 31:040.

2. In the petition submitted to the secretary, the test results found in this paragraph were contained. EP toxicity tests of the sludge revealed maximum chromium and lead concentrations of 0.00 and 0.15 mg/l, respectively.

(b) General Electric Company

1. The General Electric Company Appliance Park located in Louisville, involved in the manufacturing of various kitchen and home appliances, has petitioned the secretary to exclude its sludge from the lists of hazardous wastes:

a. EPA Hazardous Waste No. F006 – Wastewater treatment sludges from electroplating operations except for the following processes:

- (i) Sulfuric acid anodizing of aluminum;
- (ii) Tin plating on carbon steel;
- (iii) Zinc plating (segregated basis) on carbon steel;
- (iv) Aluminum or zinc – aluminum plating on carbon steel;
- (v) Cleaning or stripping associated with tin, zinc and aluminum plating on carbon steel; and
- (vi) Chemical etching and milling of aluminum;

b. EPA Hazardous Waste No. F019 – Wastewater treatment sludges from the chemical conversion coating of aluminum; and

c. EPA Hazardous Waste No. K062 – Spent pickle liquor from steel finishing operations.

2. In the petition submitted to the secretary, the test results found in this paragraph were contained. EP toxicity tests of the final treatment sludge revealed maximum cadmium, chromium, nickel, and lead concentrations of 0.001, 0.03, 4.63 and 0.15 ppm. Total constituent analysis for cyanide indicated a maximum concentration of 1.05 ppm. The pH ranged from 8.2 to 8.4. The maxi-

mum allowable limits for cadmium, hexavalent chromium, nickel, lead, cyanide, and pH (as described in this paragraph) are 1.0, 5.0, 20.0, 5.0, 10.0, and 2.9

(c) The Ladish Company of Cynthiana

1. The Ladish Company of Cynthiana, involved in the production of stainless steel valves, fittings, and forged steel fittings, has petitioned the secretary to exclude its lime-treated sulfuric acid sludge and its lime-treated and chemically fixed nitric/hydrofluoric acid sludge, both considered EPA Hazardous Waste No. K062 (spent pickle liquor from steel finishing operations), from the list of hazardous wastes contained in 401 KAR 31:040.

2. In the petition submitted to the cabinet, the test results found in this paragraph were contained. EP toxicity tests of the final treatment sulfuric acid sludge revealed maximum chromium and lead concentration of 0.038 and 0.012 mg/l, respectively. EP toxicity tests of the final treatment nitric/hydrofluoric acid sludge revealed maximum chromium, hexavalent chromium, and lead concentrations of 4.24, 1.62, and 0.006 mg/l respectively.

(d) Production Plating, Inc. of Lexington

1. Production Plating, Inc. of Lexington, involved in electroplating, vibratory finishing of, and etching on metals, has petitioned the secretary to exclude its zinc cyanide contaminated coil listed as EPA Hazardous Waste No. F007, spent cyanide plating bath solutions from electroplating operations (except for precious metals electroplating spent cyanide plating bath solutions) from the lists of hazardous wastes contained in 401 KAR 31:040.

2. The test results found in this paragraph were contained in the petition submitted to the cabinet. Distilled water leachate tests revealed a maximum concentration of free cyanide of 0.02 mg/l. Total constituent analysis of the soil revealed a maximum concentration of free cyanide at a concentration of 7.00 ppm.

(e) Faultless Hardware Division of Hopkinsville

1. The Faultless Hardware Division of Hopkinsville, involved in the finishing of zinc die castings into hardware trim, has petitioned the secretary to exclude its wastewater treatment sludges from electroplating operations listed as EPA Hazardous Waste No. F006 from the list of hazardous wastes contained in 401 KAR 31:040, Section 2.

2. In the petition submitted to the secretary, the test results found in this paragraph were contained. EP toxicity tests of the sludge revealed maximum cadmium, chromium, and nickel concentrations of 0.019, 0.006, and 0.636 mg/l, respectively. The maximum total and distilled water EP analysis for cyanide amenable to chlorination was 4.5 ug/gm and 0.036 mg/l, respectively.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 31:100. [Appendix on] Representative sampling methods.

RELATES TO: KRS Subchapters 224.01, 224.40, 224.43, 224.46, 224.99, 40 C.F.R. 261 Appendix I
 STATUTORY AUTHORITY: KRS 224.46-510(3) [40 C.F.R. 261 Appendix I]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(3) requires the cabinet to identify the characteristics of and to list hazardous wastes. [This chapter identifies and lists hazardous waste.] This administrative regulation establishes the requirements relating to [contains the appendix to this chapter concerning] representative [representatives] sampling methods.

Section 1. Adoption of Information on Representative Sampling

Methods. The subject matter shall be governed by 40 C.F.R. 261 Appendix I, effective July 1, 2005. [Representative Sampling Methods. The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed in subsection (1) through (4) of this section, for sampling waste with properties similar to the indicated materials, will be considered by the cabinet to be representative of the waste.

(1) Extremely viscous liquid—ASTM Standard D140-70; Crushed or powdered material—ASTM Standard D346-75; Soil or rock-like material—ASTM Standard D420-69; Soil-like material—ASTM Standard D1462-65.

(2) Fly ash-like material—ASTM Standard D2234-76 (ASTM Standards are available from ASTM, 1916 Race Street, Philadelphia, PA 19103).

(3) Containerized liquid wastes—"COLIWASA" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods." (Note: these methods are also described in "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA 600/2-90-018, January 1990.) U.S. Environmental Protection Agency, Office of Solid Waste, Washington, D.C. 20460. (Copies may be obtained from Solid Waste Information, U.S. Environmental Protection Agency, 26 W. St. Clair Street, Cincinnati, Ohio 45269).

(4) Liquid waste in pits, ponds, lagoons, and similar reservoirs—"Pond Sampler" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods." This manual also contains additional information on application of these protocols. (Note: these methods are also described in "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA 600/2-90-018, January 1990.)

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Department for Environmental Protection

Division of Waste Management

(As Amended at ARRS, May 8, 2007)

401 KAR 31:110. Method 1311 [Appendix on] toxicity characteristic leaching procedure.

RELATES TO: KRS Subchapters 224.01, 224.40, 224.43, 224.46, 40 C.F.R. 261 Appendix II

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-510(3); 40 C.F.R. 261 Appendix II]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(3) requires the cabinet to identify the characteristics of and to list hazardous wastes. [This chapter identifies and lists hazardous waste.] This administrative regulation establishes the requirements relating to contains the appendix to this chapter concerning] the toxicity characteristic leaching procedure.

Section 1. Adoption of Information Concerning Toxicity Characteristic Leaching Procedure. The subject matter shall be governed by 40 C.F.R. 261 Appendix II, effective July 1, 2005. [Applicability: Method 1311 Toxicity Characteristic Leaching Procedure is contained in SW-846, Third Edition, incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30.010.

(1) The owner or operator of a surface impoundment, landfill, land treatment facility, waste pile, underground injection well, or other disposal facility which is newly regulated due to the toxicity characteristic leaching procedure shall comply with the requirements in Section 1 of 401 KAR 35.060 by the effective date of this amendment.

(2) Surface impoundments newly regulated due to the toxicity characteristic leaching procedure shall comply with the design

requirements in Section 10 of 401 KAR 35.200 (interim status surface impoundments) or Section 2 of 401 KAR 34.200 (permitted surface impoundments) by March 20, 1994.

(3) Within thirty (30) days of the effective date of this amendment, hazardous waste generators, owners, and operators shall provide to the cabinet copies of the notification previously provided to EPA concerning TCLP. These notifications include permit applications, permit modifications, and notifications of hazardous waste activity. In addition, within thirty (30) days of the effective date of this amendment, hazardous waste generators, owners, and operators shall provide to the cabinet the completed Notification of Hazardous Waste Activity form (DEP 7037) incorporated by reference in 401 KAR 32.010, Section 4.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Department for Environmental Protection

Division of Waste Management

(As Amended at ARRS, May 8, 2007)

401 KAR 31:160. Appendix on basis for listing hazardous waste.

RELATES TO: KRS Subchapters 224.01, 224.40, 224.46, 224.99, 40 C.F.R. 261 Appendix VII

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-510(3); 40 C.F.R. 261 Appendix VII]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(3) requires the cabinet to identify the characteristics of and to list hazardous wastes. This administrative regulation establishes procedures to identify the characteristics of and to provide the basis for listing a hazardous waste [pursuant to KRS 224.46-510(3)].

Section 1. Adoption of Information Concerning the Basis for Listing Hazardous Waste. The subject matter shall be governed by 40 C.F.R. 261 Appendix VII, effective July 1, 2005. [Basis for Listing Hazardous Waste. The basis for listing hazardous waste is:

EPA Hazardous Waste No.	Hazardous Constituents for Which Listed
F001	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons.
F002	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, trichlorofluoromethane.
F003	Not Applicable (hereafter N.A.)
F004	Cresols and cresylic acid, nitrobenzene.
F005	Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, 2-ethoxyethanol, benzene, 2-nitropropane.
F006	Cadmium, hexavalent chromium, nickel, cyanide (complexed).
F007	Cyanide (salts).
F008	Cyanide (salts).
F009	Cyanide (salts).
F010	Cyanide (salts).
F011	Cyanide (salts).
F012	Cyanide (complexed).

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F010	Hexavalent chromium, cyanide (complexed)
F020	Tetra- and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amines, and other salts.
F021	Penta- and hexachlorodibenzo-p-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives.
F022	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
F023	Tetra-, and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amines and other salts.
F024	Chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1,2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allylchloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorobenzene, dichlorobenzene, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphthalene.
F025	Chloromethane; dichloromethane; trichloromethane; carbon tetrachloride; chloroethylene; 1,1-dichloroethane; 1,2-dichloroethane; trans-1,2-dichloroethylene; 1,1-dichloroethylene; 1,1,1-trichloroethane; 1,1,2-trichloroethane; trichloroethylene; 1,1,1,2-tetrachloroethane; 1,1,2,2-tetrachloroethane; tetrachloroethylene; pentachloroethane; hexachloroethane; allyl chloride (3-chloropropene); dichloropropane; dichloropropene; 2-chloro-1,3-butadiene; hexachloro-1,3-butadiene; hexachlorocyclopentadiene; benzene; chlorobenzene; dichlorobenzene; 1,2,4-trichlorobenzene; tetrachlorobenzene; pentachlorobenzene; hexachlorobenzene; toluene; naphthalene.
F026	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
F027	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amines and other salts.
F028	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amines and other salts.
F032	Benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, pentachlorophenol, arsenic, chromium, tetra-, penta-, hexa-, heptachlorodibenzo-p-dioxins, tetra-, penta-, hexa-, heptachlorodibenzofurans.
F034	Benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, arsenic, chromium.
F035	Arsenic, chromium, lead.
F037	Benzene, benzo(a)pyrene, chrysene, lead, chromium.
F038	Benzene, benzo(a)pyrene, chrysene, lead, chromium.
F039	All constituents for which treatment standards are specified for multiresource leachate (wastewaters and nonwastewaters) under Section 6 of 401 KAR 37-040, Table CCW.

K001	Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol, creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene.
K002	Hexavalent chromium, lead.
K003	Hexavalent chromium, lead.
K004	Hexavalent chromium.
K005	Hexavalent chromium, lead.
K006	Hexavalent chromium.
K007	Cyanide (complexed), hexavalent chromium.
K008	Hexavalent chromium.
K009	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraaldehyde, formic acid.
K010	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraaldehyde, formic acid, chloroacetaldehyde.
K011	Acrylonitrile, acetonitrile, hydrocyanic acid.
K013	Hydrocyanic acid, acrylonitrile, acetonitrile.
K014	Acetonitrile, acrylamide.
K015	Benzyl chloride, chlorobenzene, toluene, benzotr-chloride.
K016	Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene.
K017	Epichlorohydrin, chloroethers, (bis(chloromethyl) ether and bis(2-chloroethyl) ethers), trichloropropane, dichloropropanols.
K018	1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene.
K019	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K020	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K021	Antimony, carbon tetrachloride, chloroform.
K022	Phenol, tars (polycyclic aromatic hydrocarbons).
K023	Phthalic anhydride, maleic anhydride.
K024	Phthalic anhydride, 1,4-naphthoquinone.
K025	Meta-dinitrobenzene, 2,4-dinitrotoluene.
K026	Paraaldehyde, pyridines, 2-picoline.
K027	Toluene dicyanate, toluene 2,4-diamine.
K028	1,1,1-trichloroethane, vinyl chloride.
K029	1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform.
K030	Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride.
K031	Arsenic.
K032	Hexachlorocyclopentadiene.
K033	Hexachlorocyclopentadiene.
K034	Hexachlorocyclopentadiene.
K035	Creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(a)anthracene, dibenz(a)anthracene, acenaphthalene.
K036	Toluene, phosphorothioic acid esters.
K037	Toluene, phosphorodithioic and phosphorothioic acid esters.
K038	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K039	Phosphorodithioic and phosphorothioic acid esters.
K040	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.

K041	Toxaphene.
K042	Hexachlorobenzene, orthodichlorobenzene
K043	2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol.
K044	N.A.
K045	N.A.
K046	Lead
K047	N.A.
K048	Hexavalent chromium, lead.
K049	Hexavalent chromium, lead.
K050	Hexavalent chromium.
K051	Hexavalent chromium, lead.
K052	Lead.
K060	Cyanide, naphthalene, phenolic compounds, arsenic.
K061	Hexavalent chromium, lead, cadmium.
K062	Hexavalent chromium, lead.
K064	Lead, cadmium.
K065	Lead, cadmium.
K066	Lead, cadmium.
K069	Hexavalent chromium, lead, cadmium.
K071	Mercury.
K073	Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane.
K083	Aniline, diphenylamine, nitrobenzene, phenylenediamine.
K084	Arsenic.
K085	Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride.
K086	Lead, hexavalent chromium.
K087	Phenol, naphthalene.
K088	Cyanide (complexes).
K090	Chromium.
K091	Chromium.
K093	Phthalic anhydride, maleic anhydride.
K094	Phthalic anhydride.
K096	1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane.
K096	1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane.
K097	Chlordane, heptachlor.
K098	Toxaphene.
K099	2,4-dichlorophenol, 2,4,6-trichlorophenol.
K100	Hexavalent chromium, lead, cadmium.
K101	Arsenic.
K102	Arsenic.
K103	Aniline, nitrobenzene, phenylenediamine.
K104	Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine.
K105	Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol.
K106	Mercury.
K111	2,4-Dinitrotoluene.
K112	2,4-Toluenediamine, o-toluidine, p-toluidine, aniline.
K113	2,4-Toluenediamine, o-toluidine, p-toluidine, aniline.
K114	2,4-Toluenediamine, o-toluidine, p-toluidine.
K115	2,4-Toluenediamine.
K116	Carbon tetrachloride, tetrachloroethylene, chloroform, phosgene.
K117	Ethylene dibromide.
K118	Ethylene dibromide.
K123	Ethylene thiourea.
K124	Ethylene thiourea.
K125	Ethylene thiourea.
K126	Ethylene thiourea.
K136	Ethylene dibromide.
K141	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.
K142	Benzene, benz(a)anthracene, benzo(a)pyrene.

	benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.
K143	Benzene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene.
K144	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene.
K145	Benzene, benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, naphthalene.
K147	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.
K148	Benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.
K149	Benzotrachloride, benzyl chloride, chloroform, chloromethane, chlorobenzene, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, toluene.
K150	Carbon tetrachloride, chloroform, chloromethane, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, 1,1,2,2-tetrachloroethane, tetrachloroethylene, 1,2,4-trichlorobenzene.
K151	Benzene, carbon tetrachloride, chloroform, hexachlorobenzene, pentachlorobenzene, toluene, 1,2,4,5-tetrachlorobenzene, tetrachloroethylene.
K156	Benomyl, carbaryl, carbendazim, carbofuran, carbosulfan, formaldehyde, methylene chloride, methyamine.
K157	Carbon tetrachloride, formaldehyde, methyl chloride, methylene chloride, pyridine, triethylamine.
K158	Benomyl, carbendazim, carbofuran, carbosulfan, chloroform, methylene chloride.
K159	Benzene, butylate, EPTC, molinate, pebulate, vor-nolate.
K160	Benzene, butylate, EPTC, molinate, pebulate, vor-nolate.
K161	Antimony, arsenic, metam sodium, ziram.]

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: November 28, 2006 at 10 a.m.
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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 31:170. Appendix on hazardous waste constituents.

RELATES TO: KRS Subchapters 224.01, 224.40, 224.43, 224.46, 224.99, 40 C.F.R. Part 261 Appendix VIII
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-510(3) [40 C.F.R. Part 261 Appendix VIII]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(3) requires the cabinet to identify the characteristics of and to list hazardous wastes. This administrative regulation establishes procedures to identify the characteristics of and to list hazardous wastes [pursuant to KRS 224.46-510(3)].

Section 1. Adoption of Information Concerning Hazardous Waste Constituents. The subject matter shall be governed by 40 C.F.R. 261 Appendix VIII, effective July 1, 2005. [Hazardous Waste Constituents. The list of hazardous waste constituents for use in interpreting any requirement in this chapter or any other hazardous waste administrative regulation is:

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COMMON NAME	CHEMICAL ABSTRACTS NAME	CHEMICAL ABSTRACTS NO. (HAZARDOUS WASTE NO.)
A2213	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester	30558-43-1 (U304)
Acetonitrile	Same	75-05-8 (U003)
Acetophenone	Ethanone, 1-phenyl-	98-86-2 (U004)
2-Acetylaminofluorene	Acetamide, N-(9H-fluoren-2-yl)-	53-06-3 (U005)
Acetyl chloride	Same	75-36-5 (U006)
1-Acetyl-2-thiourea	Acetamide, N-(aminothioxomethyl)-	591-08-2 (P002)
Acrolein	2-Propenal	107-02-8 (P003)
Acrylamide	2-Propenamamide	79-06-1 (U007)
Acrylonitrile	2-Propenenitrile	107-13-1 (U009)
Aflatoxins	Same	1402-68-2 (—)
Aldicarb	Propanal, 2-methyl-2-(methylthio)-0-((methylamino) carbonyl)oxime	116-06-3 (P070)
Aldicarb sulfone	Propanal, 2-methyl-2-(methylsulfonyl)-, 0-((methylamino) carbonyl)oxime	1646-88-4 (P203)
Aldrin	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha, 4alpha, 4abeta, 5alpha, 8alpha, 8abeta)-	309-00-02 (P004)
Allyl alcohol	2-Propen-1-ol	107-18-6 (P005)
Allyl chloride	1-Propane, 3-chloro	107-18-6
Aluminum phosphide	Same	20850-73-8 (P006)
4-Aminobiphenyl	(1,1'-Biphenyl)-4-amine	92-67-1 (—)
5-(Aminomethyl)-3-isoxazolol	3(2H)-isoxazolone, 5-(aminomethyl)-	2763-06-4 (P007)
4-Aminopyridine	4-Pyridinamine	504-24-6 (P008)
Amitrole	1H-1,2,4-Triazol-3-amine	61-82-5 (U011)
Ammonium vanadate	Vanadic acid, ammonium salt	7803-56-6 (P119)
Aniline	Benzenamine	62-53-3 (U012)
Antimony	Same	7440-36-0 (—)
Antimony compounds, N-O-S*	-----	---
Aramite	Sulfurous acid, 2-chloroethyl 2-(4-(1,1-dimethylethyl)phenoxy)-1-methylethyl ester	140-57-8 (—)
Arsenic	Same	7440-38-2 (—)
Arsenic compounds, N-O-S*	-----	---
Arsenic acid	Arsenic acid-H ₂ AsO ₄	7778-39-4 (P010)
Arsenic pentoxide	Arsenic oxide-As ₂ O ₅	1303-28-2 (P011)
Arsenic trioxide	Arsenic oxide-As ₂ O ₃	1327-53-3 (P012)
Auramine	Benzenamine, 4,4'-carbonimidoylbis(N,N-Dimethyl)	482-80-8 (U014)
Azaserone	L-Serine, diazoacetate (ester)	115-02-6 (U015)
Barban	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butanyl ester	101-27-0 (U280)
Barium	Same	7440-39-3 (—)
Barium compounds, N-O-S*	-----	---
Barium cyanide	Same	542-62-1 (P013)
Bendiocarb	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate	22781-23-3 (U278)
Bendiocarb phenol	1,3-Benzodioxol-4-ol, 2,2-dimethyl	22961-82-6 (U364)
Benomyl	Carbamic acid, [1-(butylamino) carbonyl]-1H-benzimidazol-2-yl]-, methyl ester	17804-35-2 (U271)
Benz(e)acridine	Same	225-51-4 (U016)
Benz(a)anthracene	Same	56-55-3 (U018)
Benzal chloride	Benzene, (dichloromethyl)-	98-87-3 (U017)
Benzene	Same	71-43-2 (U019)
Benzenearsenic acid	Arsenic acid, phenyl-	98-05-5 (—)
Benzidine	(1,1'-Biphenyl)-4,4'-diamine	92-87-5 (U021)
Benzo(b)fluoranthene	Benz(e)acephenanthrylene	205-90-2 (—)
Benzo(i)fluoranthene	Same	205-82-3 (—)
Benzo(k)fluoranthene	Same	207-08-9
Benzo(a)pyrene	Same	50-32-8 (U022)
p-Benzquinone	2,5-Cyclohexadiene-1,4-diene	106-51-4 (U107)
Benzotrichloride	Benzene, (trichloromethyl)-	98-07-7 (U023)
Benzyl chloride	Benzene, (chloromethyl)-	100-44-7 (P028)
Beryllium powder	Same	7440-41-7 (P015)
Beryllium compounds, N-O-S*	-----	---
Bis-(pentamethylene) thiuram tetrasulfide	Piperidine, 1,1'-(tetrathiodicarbonothioyl)-bis-	120-54-7 (U400)
Bromoacetone	2-Propanone, 1-bromo-	508-31-2 (P017)
Bromoforn	Methane, tribromo-	75-25-2 (U226)
4-Bromophenyl phenyl ether	Benzene, 1-bromo-4-phenoxy-	101-55-3 (U030)

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Bucine	Strychnidin-10-one,2,3-dimethoxy-	357-57-3 (P018)
Butyl benzyl phthalate	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester	85-69-7 (—)
Butylate	Carbamothioic acid, bis (2-methylpropyl), S-ethyl ester	2008-41-5 (U392)
Caecolytic acid	Arsinic acid, dimethyl-	75-60-5 (U136)
Cadmium	Same	7440-43-9 (—)
Cadmium compounds, N.O.S.*	—————	—(—)
Calcium chromate	Chromic acid H ₂ CrO ₄ , calcium salt	13765-19-0 (U032)
Calcium cyanide	Calcium cyanide Ca (CN) ₂	592-01-8 (P021)
Carbaryl	1-Naphthalenol, methylcarbamate	63-26-2 (U279)
Carbendazim	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester	10605-21-7 (U372)
Carbofuran	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl, methylcarbamate	1563-66-2 (P127)
Carbofuran-phenol	7-Benzofuranol, 2,2-dihydro-2,2-dimethyl-	1563-38-8 (U367)
Carbon disulfide	Same	75-15-0 (P022)
Carbon oxydifluoride	Carbonio difluoride	353-50-4 (U033)
Carbon tetrachloride	Methano,tetrachloro-	56-23-5 (U211)
Carboouffan	Carbamic acid, [(dibutylamino) thio]methyl 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	55285-14-8 (P189)
Chloral	Acetaldehyde, trichloro-	75-87-6 (U034)
Chlorambucil	Benzene butanoic acid, 4-(bis(2-chloroethyl)amino)-	305-03-3 (U035)
Chlordane	4,7-Methano-1H-indeno,1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	57-74-9 (U036) U036
Chlordane (alpha and gamma isomers)	—————	—(U036)
Chlorinated benzene, N.O.S.*	—————	—(—)
Chlorinated ethane, N.O.S.*	—————	—(—)
Chlorinated fluoro-carbons, N.O.S.*	—————	—(—)
Chlorinated naphthalene, N.O.S.*	—————	—(—)
Chlorinated phenol, N.O.S.*	—————	—(—)
Chloromaphazin	Naphthalenamine, N,N'-bis(2-chloroethyl)-	484-03-1 (U026)
Chloroacetaldehyde	Acetaldehyde, chloro-	107-20-0 (P023)
Chloroalkyl ethers, N.O.S.*	—————	—(—)
p-Chloroaniline	Benzenamine, 4-chloro-	106-47-8 (P024)
Chlorobenzene	Benzene, chloro-	108-90-7 (U037)
Chlorobenzilate	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-ethyl ester	510-15-6 (U038)
p-Chloro-m-cresol	Phenol, 4-chloro-3-methyl-	59-50-7 (U039)
2-Chloroethyl vinyl ether	Ethene, (2-chloroethoxy)-	110-75-8 (U042)
Chloroform	Methane, trichloro-	67-66-3 (U044)
Chloromethyl methyl ether	Methane, chloromethoxy-	107-30-2 (U046)
beta-Chloronaphthalene	Naphthalene, 2-chloro-	81-58-7 (U047)
o-Chlorophenol	Phenol, 2-chloro-	95-57-8 (U048)
1-(o-Chlorophenyl)thiourea	Thiourea, (2-chlorophenyl)-	5344-82-1 (P026)
Chloroprene	1,3-Butadiene, 2-chloro-	126-99-8 (—)
3-Chloropropionitrile	Propanenitrile, 3-chloro-	542-76-7 (P027)
Chromium	Same	7440-47-3 (—)
Chromium compounds, N.O.S.*	—————	—(—)
Chrysene	Same	218-01-9 (U050)
Citrus red No-2	2-Naphthalenol, 1-((2,5-dimethoxyphenyl)azo)-	6358-53-8 (—)
Coal tar creosote	Same	8007-45-2 (—)
Copper cyanide	Copper cyanide CuCN	544-82-3 (P029)
Copper dimethyldithio-carbamate	Copper, bis(dimethylcarbamodithioate-S,S')	137-29-1 (U393)
Creosote	Same	—(U051)
Cresol (Cresylic acid)	Phenol, methyl-	1319-77-3 (U052)
Crotonaldehyde	2-Butenal	4170-30-3 (U053)
M-Cumonyl methylcarbamate	Phenol, 3-(methylthyl)-, methyl carbamate	64-00-6 (P202)
Cyanides (soluble salts and complexes), N.O.S.*	—————	—(P030)
Cyanogen	Ethanedinitrile	460-19-5 (P031)
Cyanogen bromide	Cyanogen bromide (CN) Br	506-68-3 (U246)
Cyanogen chloride	Cyanogen chloride (CN) Cl	506-77-4 (P033)
Cyasin	beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl	14901-08-7 (—)
Cycloate	Carbamothioic acid, cyclohexylethyl-, S-ethyl ester	1134-23-2 (U386)
2-Cyclohexyl-4,6-dinitrophenol	Phenol, 2-cyclohexyl-4,6-dinitro-	131-89-5 (P034)
Cyclophosphamide	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide	50-18-0 (U058)
2,4-D	Acetic acid, (2,4-dichlorophenoxy)-	94-75-7 (U240)
2,4-D, salts, esters	—————	—(U240)
Daunomycin	5,12-Naphthacenedione, 8-acetyl-10-((3-amino-2,3,6,indooxy-alpha-L-lyxo-hexopyranosyl)oxy)-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-(8S-cis)-	20830-81-3 (U059)

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Dazomet	2H-1,3,5-thiadiazine-2-thione, tetrahydro-3,5-dimethyl	533-74-4 (U366)
DDD	Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro-	72-54-8 (U060)
DDE	Benzene, 1,1'-(dichloroethylidene)bis(4-chloro-	72-55-0 (—)
DDT	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro-	50-29-3 (U061)
Diallate	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester	2303-16-4 (U062)
Dibenz(a,h)acridine	Same	226-36-8 (—)
Dibenz(a,i)acridine	Same	224-42-0 (—)
Dibenz(a,h)anthracene	Same	53-70-3 (U063)
7H-Dibenzo(c,g)carbazole	Same	194-50-2 (—)
Dibenzo(a,e)pyrene	Naphtho(1,2,3,4-def)chrysene	182-65-4 (—)
Dibenzo(a,h)pyrene	Dibenzo(b,def)chrysene	180-64-0 (—)
Dibenzo(a,i)pyrene	Benzo(rs)pentaphene	189-55-9 (U064)
1,2-Dibromo-3-chloropropane	Propane, 1,2-dibromo-3-chloro-	96-12-8 (U066)
Dibutyl phthalate	1,2-Benzenedicarboxylic acid, dibutyl ester	84-74-2 (U069)
o-Dichlorobenzene	Benzene, 1,2-dichloro-	95-50-1 (U070)
m-Dichlorobenzene	Benzene, 1,3-dichloro-	541-73-1 (U071)
p-Dichlorobenzene	Benzene, 1,4-dichloro-	106-46-7 (U072)
Dichlorobenzene, N.O.S.*	Benzene, dichloro-	25323-22-6 (—)
3,3'-Dichlorobenzidine	(1,1'-Biphenyl)-4,4'-diamino, 3,3'-dichloro-	81-94-1 (U073)
1,4-Dichloro-2-butene	2-Butene, 1,4-dichloro-	764-41-0 (U074)
Dichlorodifluoromethane	Methane, dichlorodifluoro-	75-71-8 (U075)
Dichloroethylene, N.O.S.*	Dichloroethylene	25323-30-2 (—)
1,1-Dichloroethylene	Ethene, 1,1-dichloro-	75-35-4 (U078)
1,2-Dichloroethylene	Ethene, 1,2-dichloro-, (E)-	156-60-5 (U079)
Dichloroethyl ether	Ethane, 1,1'-oxybis (2-chloro-	111-44-4 (U025)
Dichloroisopropyl ether	Propane, 2,2'-oxybis (2-chloro-	108-60-1 (U027)
Dichloromethoxy ethane	Ethane, 1,1'-(methylenedioxy) bis (2-chloro-	111-91-1 (U024)
Dichloromethyl ether	Methane, oxybis (chloro-	542-88-1 (P016)
2,4-Dichlorophenol	Phenol, 2,4-dichloro-	120-83-2 (U081)
2,6-Dichlorophenol	Phenol, 2,6-dichloro-	87-65-0 (U082)
Dichlorophenylarsine	Arsinous dichloride, phenyl-	696-28-6 (P036)
Dichloropropane, N.O.S.*	Propane, dichloro-	26638-19-7 (—)
Dichloropropanol, N.O.S.*	Propanol, dichloro-	26645-73-3 (—)
Dichloropropene, N.O.S.*	1-Propene, dichloro-	26052-23-8 (—)
1,3-Dichloropropene	1-Propene, 1,3-dichloro-	542-75-6 (U084)
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-, (aalpha,2beta,2alpha,3beta,6beta,6aalpha,7beta,7aalpha)-	60-57-1 (P037)
1,2,3,4-Diepoxybutane	2,2'-Dioxirane	1464-53-5 (U085)
Diethylarsine	Arsine, diethyl-	692-42-2 (P038)
Diethylene glycol, dicarbamate	Ethanol, 2,2'-oxybis-, dicarbamate	595-26-1 (U395)
1,4-Dioxoleneoxide	1,4-Dioxane	123-91-1 (U108)
Diethylhexyl phthalate	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	117-81-7 (U028)
N,N'-Diethylhydrazine	Hydrazine, 1,2-diethyl-	1615-80-1 (U086)
O,O-Diethyl S-methyl dithio-phosphate	Phosphorodithioic acid, O,O-diethyl S-methyl ester	3288-58-2 (U087)
Diethyl p-nitrophenyl phosphate	Phosphoric acid, diethyl 4-nitrophenyl ester	311-45-5 (P041)
Diethyl phthalate	1,2-Benzenedicarboxylic acid, diethyl ester	84-66-2 (U088)
O,O-Diethyl O-pyrazinyl phosphorothioate	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	297-97-2 (P040)
Diethylstilbestrol	Phenol, 4, 4'-(1,2-diethyl-1,2-ethenediyl) bis-, (E)-	56-53-1 (U089)
Dihydrocafeole	1,3-Benzodioxole, 5-propyl-	94-58-6 (U090)
Diisopropylfluorophosphate (DFP)	Phosphorofluoric acid, bis(1-methylethyl) ester	55-91-4 (P043)
Dimethoate	Phosphorodithioic acid, O,O-dimethyl S-(2-(methylamino)-2-oxoethyl) ester	60-51-5 (P044)
3,3'-Dimethoxybenzidine	(1,1'-Biphenyl)-4,4'-diamino, 3,3'-dimethoxy-	119-90-4 (U091)
p-Dimethylaminoazobenzene	Benzenamine, N,N-dimethyl-4-(phenylazo)-	60-11-7 (U093)
7,12-Dimethylbenz(a)anthracene	Benzo(a)anthracene, 7,12-dimethyl-	57-97-6 (U094)
3,3'-Dimethylbenzidine	(1,1'-Biphenyl)-4,4'-diamino, 3,3'-dimethyl-	119-93-7 (U095)
Dimethylcarbamoyl chloride	Carbamic chloride, dimethyl-	70-44-7 (U097)
1,1-Dimethylhydrazine	Hydrazine, 1,1-dimethyl-	57-14-7 (U098)
1,2-Dimethylhydrazine	Hydrazine, 1,2-dimethyl-	640-73-8 (U099)
alpha, alpha-Dimethylphenethylamine	Benzeneethanamine, alpha, alpha-dimethyl-	122-00-8 (P046)
2,4-Dimethylphenol	Phenol, 2,4-dimethyl-	105-67-0 (U101)
Dimethyl phthalate	1,2-Benzenedicarboxylic acid, dimethyl ester	131-11-3 (U102)
Dimethyl sulfate	Sulfuric acid, dimethyl ester	77-78-1 (U103)
Dimetilan	Carbamic acid, dimethyl-, 1-[(dimethylamino) carbonyl]-5-methyl-1H-pyrazol-3-yl ester	644-64-4 (P101)

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Dinitrobenzene, N-O-S*	Benzene, dinitro-	25154-54-5 (—)
4,6-Dinitro-o-cresol	Phenol, 2-methyl-4,6-dinitro-	534-52-1 (P047)
4,6-Dinitro-o-cresol salts	—————	— (P047)
2,4-Dinitrophenol	Phenol, 2,4-dinitro-	51-29-5 (P048)
2,4-Dinitrotoluene	Benzene, 1-methyl-2,4-dinitro-	121-14-2 (U105)
2,6-Dinitrotoluene	Benzene, 2-methyl-1,3-dinitro-	606-20-2 (U106)
Dinoseb	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	89-85-7 (P020)
Di-n-octyl phthalate	1,2-Benzenedicarboxylic acid, dioctyl ester	117-84-0 (U017)
Diphenylamine	Benzenamine, N-phenyl-	122-39-4 (—)
1,2-Diphenylhydrazine	Hydrazine, 1,2-diphenyl-	122-66-7 (U109)
Di-n-propylnitrosamine	1-Propanamine, N-nitroso-N-propyl-	621-64-7 (U111)
Disulfiram	Thioperoxydicarbonic diamide, tetraethyl	97-77-8 (U409)
Disulfoton	Phosphorodithioic acid, O,O-diethyl S-(2-ethylthioethyl)ester	298-04-4 (P039)
Dithioburet	Thioimidodicarbonic diamide ((H ₂ N)C(S)) ₂ NH	541-53-7 (P049)
Endosulfan	6,9-Methano-2,4,3-benzodioxathiofen, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide	116-29-7 (P050)
Endothal	7-Oxabicyclo(2-2-1)heptane-2,3-dicarboxylic acid	145-73-3 (P088)
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)-	72-20-8 (P051)
Endrin metabolites	—————	— (P051)
Epichlorohydrin	Oxirane, (chloromethyl)-	106-89-8 (U041)
Epinephrine	1,2-Benzenediol, 4-(1-hydroxy-2-(methylamino)ethyl)- (R)-	51-43-4 (P042)
EPTC	Carbamathioic acid, dipropyl-, S-ethyl ester	759-94-4 (U390)
Ethyl carbamate (urethane)	Carbamic acid, ethyl ester	51-79-6 (U238)
Ethyl cyanide	Propanenitrile	107-12-0 (P101)
Ethylenebis(dithiocarbamic acid)	Carbamodithioic acid, 1,2-Ethanediybis-	111-54-6 (U114)
Ethylenebis(dithiocarbamic acid, salts and esters)	—————	— (U114)
Ethylene dibromide	Ethane, 1,2-dibromo-	106-93-4 (U067)
Ethylene dichloride	Ethane, 1,2-dichloro-	107-06-2 (U077)
Ethylene glycol monoethyl ether	Ethanol, 2-ethoxy-	110-80-5 (U359)
Ethyleneimine	Aziridine	151-56-4 (P054)
Ethylene oxide	Oxirane	75-21-8 (U115)
Ethylenethiourea	2-Imidazolidinethione	96-45-7 (U116)
Ethylene dichloride	Ethane, 1,1-dichloro-	75-34-3 (U076)
Ethyl methacrylate	2-Propenoic acid, 2-methyl-, ethyl ester	97-63-2 (U118)
Ethyl methane sulfonate	Methanesulfonic acid, ethyl ester	62-50-0 (U119)
Ethyl Ziram	Zinc, bis(diethylcarbamodithioate S,S')	14324-55-1 (U407)
Famphur	Phosphorothioic acid, O-(4-((dimethylamino)sulfonyl)phenyl)O,O-dimethyl ester	52-85-7 (P097)
Ferbam	Iron, tnc(dimethylcarbamodithioat S,S')	14484-64-1 (U396)
Fluoranthene	Same	206-44-0 (U120)
Fluorine	Same	7782-41-4 (P056)
Fluoroacetamide	Acetamide, 2-fluoro-	640-19-7 (P057)
Fluoroacetic acid, sodium salt	Acetic acid, fluoro-, sodium salt	62-74-8 (P058)
Formaldehyde	Same	50-00-0 (U122)
Formetanate hydrochloride	Methanimidamide, N,N-dimethyl-N'-[3-[(methylamino)carbonyloxy]phenyl]-monohydrochloride	23422-53-9 (198)
Formic acid	Same	64-18-6 (U123)
Formparanato	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[[(methylamino)carbonyloxy]phenyl]-	17702-57-7 (P197)
Glycidylaldehyde	Oxiranecarboxylaldehyde	765-34-4 (U126)
Halomethanes, N-O-S*	—————	— (—)
Heptachlor	4,7-Methano-1H-indeno, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	76-44-8 (P059)
Heptachlor-epoxide	2,5-Methano-2H-indeno(1,2-b)oxireno, 2,3,4,5,6,7,7-heptachloro-1a,1b,5-, 5a-, 6-, 6a-hexa-hydro-, (1aalpha,1bbeta,2alpha,5alpha,5abeta,6beta,6aalpha)-	1024-57-3 (—)
Heptachlor-epoxide (alpha, beta, and gamma isomers)	—————	— (—)
Heptachlorodibenzofurane	—————	— (—) (—)
Heptachlorodibenzo-p-dioxine	—————	— (—) (—) (—)
Hexachlorobenzene	Benzene, hexachloro-	118-74-1 (U127)
Hexachlorobutadiene	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	87-68-3 (U128)
Hexachlorocyclopentadiene	1,3-Cyclopentadiene, 1,2,3,4,5-hexachloro-	77-47-4 (U130)
Hexachlorodibenzo-p-dioxans	—————	— (—)
Hexachlorodibenzofurans	—————	— (—)
Hexachloroethane	Ethane, hexachloro-	67-72-1 (U131)
Hexachlorophene	Phenol, 2,2'-Methylenebis(3,4,6-trichloro-	70-30-4 (U132)
Hexachloropropene	1-Propene, 1,1,2,3,3,3-hexachloro-	1888-71-7 (U243)
Hexaethyl tetraphosphate	Tetraphosphoric acid, hexaethyl ester	757-58-4 (P062)
Hydrazine	Same	302-01-2 (U133)

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Hydrogen cyanide	Hydrocyanic acid	74-00-8 (P063)
Hydrogen fluoride	Hydrofluoric acid	7664-39-3 (U134)
Hydrogen sulfide	Hydrogen sulfide H ₂ S	7783-06-4 (U136)
3-Iodo-2-propynyl n-butylcarbamate	Carbamic acid, butyl-, 3-iodo-2-propynyl ester	65406-53-6 (U376)
Indeno(1,2,3-cd)pyrene	Same	193-39-5 (U137)
Isobutyl alcohol	1-Propanol, 2-methyl-	78-83-1 (U140)
Isodrin	1,4,5,8-Dimethanonaphthalone, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-4abeta,5beta,8beta,8abeta-	465-73-6 (P060)
Isolan	Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester	119-38-0 (P182)
Isosafrole	1,3-Benzodioxole, 5-(1-propenyl)-	120-58-1 (U141)
Kepono	1,3,4-Metheno-2H-cyclobuta-(ed)pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachlorooctahydro-	143-50-0 (U142)
Laciocarpine	2-Butenoic acid, 2-methyl-, 7-((2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy)methyl)-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, (1S-(1alpha(Z),7(2S),3R),7aalpha)-)	303-34-1 (U143)
Lead	Same	7439-92-1 (—)
Lead compounds, N.O.S.*	—	— (—)
Lead acetate	Acetic acid, lead (2+) salt	301-04-2 (U144)
Lead phosphate	Phosphoric acid, lead (2+) salt (2-3)	7446-27-7 (U145)
Lead subacetate	Lead, bis(acetate O)tetrahydroxytri-	1335-32-6 (U146)
Lindane	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)	68-89-0 (U129)
Maleic anhydride	2,5-Furandione	108-31-6 (U147)
Maleic hydrazide	3,6-Pyridazinodione, 1,2-dihydro-	123-33-1 (U148)
Malononitrile	Propanedinitrile	109-77-3 (U149)
Manganese dimethyl-dithiocarbamate	Manganese, bis(dimethylcarbamodithioate S,S'),	15339-36-3 (P196)
Melphalan	L-Phenylalanine, 4-(bis(2-chloroethyl)amino)-	148-82-3 (U150)
Mercury	Same	7439-97-6 (U151)
Mercury compounds, N.O.S.*	—	— (—)
Mercury fulminate	Fulminic acid, mercury (2+) salt	628-86-4 (P065)
Motam Sodium	Carbamodithioic acid, methyl-, monosodium salt	137-42-8 (U384)
Methacrylonitrile	2-Propanenitrile, 2-methyl-	126-98-7 (U152)
Methapyrene	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thionylmethyl)-	81-80-5 (U155)
Methocarb	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate	2032-66-7 (P199)
Methomyl	Ethanimidothioic acid, N-(((methylamino)carbonyl)oxy)-, methyl ester	16752-77-5 (P066)
Methoxychlor	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-methoxy-	72-43-5 (U247)
Methyl bromide	Methane, bromo-	74-83-0 (U029)
Methyl chloride	Methane, chloro-	74-87-3 (U045)
Methyl chlorocarbonate	Carbonochloridic acid, methyl ester	79-22-1 (U156)
Methyl chloroform	Ethane, 1,1,1-trichloro-	71-55-6 (U226)
3-Methylcholanthrene	Benz(j)aceanthrylene, 1,2-dihydro-3-methyl-	66-49-5 (U157)
4,4'-Methylenebis(2-chloroaniline)	Benzenamine, 4,4'-methylenebis(2-chloro-	101-14-4 (U158)
Methylene bromide	Methane, dibromo-	74-95-3 (U068)
Methylene chloride	Methane, dichloro-	75-09-2 (U080)
Methyl ethyl ketone (MEK)	2-Butanone	78-93-3 (U159)
Methyl ethyl ketone peroxide	2-Butanone, peroxide	1338-23-4 (U160)
Methyl hydrazine	Hydrazine, methyl-	60-34-4 (P068)
Methyl iodide	Methane, iodo-	74-88-4 (U138)
Methyl isocyanate	Methane, isocyanato-	624-83-9 (P064)
2-Methylactonitrile	Propanenitrile, 2-hydroxy-2-methyl-	75-86-5 (P069)
Methyl methacrylate	2-Propanoic acid, 2-methyl-, methyl ester	80-62-6 (U162)
Methyl methanesulfonate	Methanesulfonic acid, methyl ester	66-27-3 (—)
Methyl parathion	Phosphorothioic acid, O,O-dimethyl-O-(4-nitrophenyl)ester	298-00-0 (P071)
Methylthiourea	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-	56-04-2 (U164)
Motolcarb	Carbamic acid, methyl-, 3-methylphenyl ester	1129-41-6 (P190)
Moxacarbate	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)	361-18-4 (P128)
Mitomycin C	Azino(2',3'-3,4)pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-(((aminocarbonyl)oxy)methyl)-1,1a,2,2a,8a,9b-hexahydro-8a-methoxy-6-methyl-(1aS-(1alpha,8beta,8aalpha,8balpha)-)	50-07-7 (U010)
MNNG	Guanidine, N-methyl-N'-nitro-N-nitroso-	70-25-7 (U163)
Molinate	1H-Azepine-1-carbothioic acid, hexahydro-, S-ethyl ester	2212-67-1 (U366)
Mustard gas	Ethane, 1,1'-thiobis(2-chloro-	605-60-2 (—)
Naphthalene	Same	91-20-3 (U165)
1,4-Naphthoquinone	1,4-Naphthalenedione	130-15-4 (U166)
alpha-Naphthylamine	1-Naphthalenamine	134-32-7 (U167)
beta-Naphthylamine	2-Naphthalenamine	91-59-8 (U168)
alpha-Naphthylthiourea	Thiourea, 1-naphthalenyl-	86-88-4 (P072)

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Nickel	Same	7440-02-0 (—)
Nickel compounds, N.O.S. ²	—————	—(—)
Nickel carbonyl	Nickel carbonyl Ni(CO) ₄ (T-4)	13463-39-3 (P073)
Nickel cyanide	Nickel cyanide Ni(CN) ₂	657-10-7 (P074)
Nicotine	Pyridine, 3-(1-methyl-2-pyrrolidinyl), (S)-	54-11-5 (P075)
Nicotine salts	—————	—(P075)
Nitric oxide	Nitrogen oxide-NO	10102-43-0 (P076)
p-Nitroaniline	Benzenamine, 4-nitro-	100-01-6 (P077)
Nitrobenzene	Benzene, nitro-	98-95-3 (U169)
Nitrogen dioxide	Nitrogen oxide-NO ₂	10102-44-0 (P078)
Nitrogen mustard	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-	61-76-2 (—)
Nitrogen mustard, hydrochloride salt	—————	—(—)
Nitrogen mustard-N-oxide	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-, N-oxide	126-85-2 (—)
Nitrogen mustard, N-oxide, hydrochloride salt	—————	—(—)
Nitroglycerin	1,2,3-Propanetriol, trinitrate	65-63-0 (P081)
p-Nitrophenol	Phenol, 4-nitro-	100-02-7 (U170)
2-Nitropropane	Propane, 2-nitro	79-46-0 (U171)
Nitrosamines, N.O.S. ²	—————	36576-01-1D (—)
N-Nitrosod-n-butylamine	1-Butanamine, N-butyl-N-nitroso-	924-16-3 (U172)
N-Nitrosodiethanolamine	Ethanol, 2,2'-(nitrosoimino)bis-	1116-64-7 (U173)
N-Nitrosodimethylamine	Ethanamine, N-ethyl-N-nitroso-	65-18-5 (U174)
N-Nitrosodimethylamine	Methanamine, N-methyl-N-nitroso-	62-75-0 (P082)
N-Nitroso-N-ethylurea	Urea, N-ethyl-N-nitroso-	769-73-0 (U176)
N-Nitrosomethyl ethylamine	Ethanamine, N-methyl-N-nitroso-	10595-95-6 (—)
N-Nitroso-N-methylurea	Urea, N-methyl-N-nitroso-	684-93-5 (U177)
N-Nitroso-N-methylurethane	Carbamic acid, methylnitroso-, ethyl ester	615-63-2 (U179)
N-Nitrosomethylvinylamine	Vinylamine, N-methyl-N-nitroso-	4549-40-0 (P084)
N-Nitrosomorpholine	Morpholine, 4-nitroso-	69-89-2 (—)
N-Nitrososarcosine	Pyridine, 3-(1-nitroso-2-pyrrolidinyl), (S)-	16643-56-8 (—)
N-Nitrosopiperidine	Piperidine, 1-nitroso-	100-76-4 (U179)
N-Nitrosopyrrolidine	Pyrrolidine, 1-nitroso-	930-55-2 (U180)
N-Nitrososarcosine	Glycine, N-methyl-N-nitroso-	13256-22-0 (—)
5-Nitro-p-toluidine	Benzenamine, 2-methyl-5-nitro-	99-55-8 (U181)
Octamethylpyrophosphoramide	Diphosphoramide, octamethyl-	152-16-0 (P085)
Osmium tetroxide	Osmium oxide OsO ₄ (T-4)	20816-12-0 (P087)
Oxamyl	Ethanimidethioic acid, 2-(dimethylamino)-N-[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester	23135-22-0 (P104)
Paraldehyde	1,3,5-Trioxane, 2,4,6-trimethyl-	123-63-7 (U182)
Parathion	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester	66-38-2 (P089)
Pebulate	Carbamothioic acid, butylethyl-, S-propyl ester	4114-71-2 (U301)
Pentachlorobenzene	Benzene, pentachloro-	608-93-5 (U183)
Pentachlorodibenzo-p-dioxins	—————	—(—)
Pentachlorodibenzofurans	—————	—(—)
Pentachloroethane	Ethane, pentachloro-	76-01-7 (U184)
Pentachloronitrobenzene (PCNB)	Benzene, pentachloronitro-	82-68-8 (U185)
Pentachlorophenol	Phenol, pentachloro-	87-86-5 (See F027)
Phenacetin	Acetamide, N-(4-ethoxyphenyl)-	62-44-2 (U187)
Phenol	Same	108-95-2 (U188)
Phenylenediamine	Benzenediamine	25265-76-3 (—)
Phenylmercury acetate	Mercury, (acetato-O)phenyl-	62-38-4 (P092)
Phenylthiourea	Thiourea, phenyl-	103-85-5 (P093)
Phorate	Phosphorodithioic acid, O,O-diethyl S-((ethylthio)methyl) ester	298-02-2 (P094)
Phosgene	Carbonic dichloride	75-44-5 (P095)
Phosphine	Same	7803-51-2 (P096)
Phthalic acid esters, N.O.S. ²	—————	—(—)
Phthalic anhydride	1,3-Isobenzofurandione	85-44-0 (U190)
Physostigmine	Pyrrole[2,3-b]indol-5-yl-, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-	57-47-6 (P204)
Physostigmine salicylate	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrole[2,3-b]indol-5-yl methylcarbamate ester (1:1)	57-64-7 (P188)
2-Picoline	Pyridine, 2-methyl-	109-06-8 (U191)
Polychlorinated biphenyls, N.O.S. ²	—————	—(—)
Potassium cyanide	Potassium cyanide K(CN)	151-50-8 (P098)
Potassium dimethyldithiocarbamate	Carbamodithioic acid, dimethyl-, potassium salt	128-03-0 (U383)

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Potassium hydroxymethyl-n-methyl-dithiocarbamate	Carbamodithioic acid, (hydroxymethyl) methyl, monopotassium salt	51026-28-0 (U378)
Potassium n-methyl-dithiocarbamate	Carbamodithioic acid, methyl, monopotassium salt	137-41-7 (U377)
Potassium pentachloro-phenate	Pentachlorophenol, potassium salt	7778736 None
Potassium silver cyanide	Argentate(1-), bis(cyano C)-, potassium	506-61-6 (P089)
Promecarb	Phenol, 3-methyl-5-(1-methylthio)-, methyl carbamate	2631-37-0 (P201)
Pronamide	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	23950-58-5 (U102)
1,3-Propane sulfone	1,2-Oxathiolane, 2,2-dioxide	1120-71-4 (U103)
Propargyl alcohol	2-Propyn-1-ol	107-10-7 (P102)
Propam	Carbamic acid, phenyl-, 1-methylethyl ester	122-42-0 (U373)
Propoxur	Phenol, 2-(1-methylethoxy)-, methylcarbamate	114-26-1 (U411)
n-Propylamine	1-Propanamine	107-10-8 (U194)
Propylene dichloride	Propane, 1,2-dichloro-	78-87-5 (U083)
1,2-Propylenimine	Azidine, 2-methyl-	75-55-8 (P067)
Propylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-propyl-2-thio-	51-52-5 (—)
Prosculfocarb	Carbamodithioic acid, dipropyl-, S-(phenylmethyl) ester	52888-80-0 (U387)
Pyridine	Same	110-86-1 (U196)
Reserpine	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-((3,4,5-trimethoxybenzoyloxy)cmethyl ester, (3beta,16beta,17alpha,18beta,20alpha)-	50-55-5 (U200)
Resorcinol	1,3-Benzenediol	108-46-3 (U201)
Saccharin	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide	81-07-2 (U202)
Saccharin salts	—	— (U202)
Safrole	1,3-Benzodioxole, 5-(2-propenyl)-	94-50-7 (U203)
Selenium	Same	7782-49-2 (—)
Selenium compounds, N.O.S.*	—	— (—)
Selenium dioxide	Selenious acid	7783-00-8 (U204)
Selenium sulfide	Selenium sulphide SeS ₂	7488-66-4 (U205)
Selenium, tetrakis (dimethyl-dithiocarbamate	Carbamodithioic acid, dimethyl-, tetraanhydrosulfide with ortho-thioselenious acid	144-34-3 (U376)
Selenourea	Same	630-10-4 (P103)
Silver	Same	7440-22-4 (—)
Silver compounds, N.O.S.*	—	— (—)
Silver cyanide	Silver cyanide Ag (CN)	506-64-0 (P104)
Silvex (2,4,5-TP)	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	93-72-1 (See F027)
Sodium cyanide	Sodium cyanide Na(CN)	143-33-9 (P106)
Sodium dibutylthio-carbamate	Carbamodithioic acid, dibutyl-, sodium salt	136-30-1 (U379)
Sodium diethylthio-carbamate	Carbamodithioic acid, diethyl-, sodium salt	148-18-5 (U381)
Sodium dimethylthio-carbamate	Carbamodithioic acid, dimethyl-, sodium salt	128-04-1 (U382)
Sodium pentachloro-phenate	Pentachlorophenol, sodium salt	131522 None
Streptozotocin	D-Glucose, 2-deoxy-2-(((Methylnitrosoamino)carbonyl)amino)-	18883-66-4 (U206)
Strychnine	Strychnidin-10-one	57-24-9 (P108)
Strychnine salts	—	— (P108)
Sulfallate	Carbamodithioic acid, diethyl-, 2-chloro-2-propenyl ester	95-06-07 (U277)
TCDD	Dibenzo(b,e)(1,4)dioxin, 2,3,7,8-tetrachloro-	1746-01-6 (—)
Tetrabutylthiuram disulfide	Thioperoxydicarbonic diamide, tetrabutyl	1634-02-2 (U402)
Tetrabutylthiuram monosulfide	Bis (dimethylthiocarbonyl) sulfide	97-74-5 (U401)
1,2,4,5-Tetrachlorobenzene	Benzene, 1,2,4,5-tetrachloro-	95-04-3 (U207)
Tetrachlorodibenzo-p-dioxine	—	— (—)
Tetrachlorodibenzofurane	—	— (—)
Tetrachloroethane, N.O.S.*	Ethane, tetrachloro-, N.O.S.*	25322-20-7 (—)
1,1,1,2-Tetrachloroethane	Ethane, 1,1,1,2-tetrachloro-	630-20-6 (U208)
1,1,2,2-Tetrachloroethane	Ethane, 1,1,2,2-tetrachloro-	79-34-5 (U200)
Tetrachloroethylene	Ethene, tetrachloro-	127-18-4 (U210)
2,3,4,6-Tetrachlorophenol	Phenol, 2,3,4,6-tetrachloro-	58-90-2 (See F027)
2,3,4,6-Tetrachlorophenol, potassium salt	Same	53535276 None
2,3,4,6-Tetrachlorophenol, sodium salt	Same	25567550 None
Tetraethylthiopyrophosphate	Thiodiphosphoric acid, tetraethyl ester	3680-24-5 (P109)
Tetraethyl lead	Plumbane, tetraethyl-	78-00-2 (P110)
Tetraethyl pyrophosphate	Diphosphoric acid, tetraethyl ester	107-49-3 (P111)
Tetranitromethane	Methane, tetranitro-	500-14-8 (P112)
Thallium	Same	7440-28-0 (—)
Thallium compounds, N.O.S.*	—	— (—)
Thalio oxide	Thallium oxide Tl ₂ O ₃	1314-32-5 (P113)
Thallium (I) acetate	Acetic acid, thallium (1+) salt	563-68-8 (U214)
Thallium (I) carbonate	Carbonic acid, thallium (1+) salt	6533-73-0 (U215)
Thallium (I) chloride	Thallium chloride TlCl	7701-12-0 (U216)

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Thallium (I) nitrate	Nitric acid, thallium (1+) salt	10102-45-1 (U217)
Thallium selenite	Selenious acid, dithallium (1+) salt	12030-52-0 (P114)
Thallium (I) sulfate	Sulfuric acid, dithallium (1+) salt	7446-18-6 (P115)
Thioacetamide	Ethanedithioamide	62-55-5 (U218)
Thiodicarb	Ethanimidodithioic acid N,N'-[thiobis(methylimino) carbonyloxy]-bis-, dimethyl ester	69669-26-0 (U410)
Thiofanox	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-((methylamino)carbonyl)oxime	30106-18-4 (P045)
Thiomethanol	Methanethiol	74-93-1 (U153)
Thiophanate methyl	Carbamic acid, [1,2-phenylenebis(iminocarbonothioyl)]-bis-, dimethyl ester	23564-05-8 (U409)
Thiophenol	Benzenethiol	108-08-5 (P014)
Thiocomicarbazide	Hydrazinocarbthioamide	79-10-6 (P116)
Thiourea	Same	62-56-6 (U210)
Thiram	Thioperoxydicarbonyl diamide((H ₂ N)C(S)) ₂ S ₂ , Tetramethyl	137-26-8 (U244)
Tirpate	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, o-[(methylamino)carbonyl] oxime	26419-73-8 (P185)
Toluene	Benzene, methyl-	108-88-3 (U220)
Toluenediamine	Benzenediamine, ar-methyl-	25376-45-8 (U221)
Toluene-2,4-diamine	1,3-Benzenediamine, 4-methyl-	05-80-7 (—)
Toluene-2,6-diamine	1,3-Benzenediamine, 2-methyl-	823-40-5 (—)
Toluene-2,4-diamine	1,2-Benzenediamine, 4-methyl-	496-72-0 (—)
Toluene diisocyanate	Benzene, 1,3-diisocyanatomethyl-	26471-62-5 (U223)
o-Toluidine	Benzenamine, 2-methyl-	95-53-4 (U328)
p-Toluidine	Benzenamine, 4-methyl-	106-49-0 (U353)
o-Toluidine hydrochloride	Benzenamine, 2-methyl-, hydrochloride	636-21-5 (U222)
Toxaphene	Same	8001-36-2 (P123)
Triallate	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester	2303-17-5 (U389)
1,2,4-Trichlorobenzene	Benzene, 1,2,4-trichloro-	120-82-1 (—)
1,1,2-Trichloroethane	Ethane, 1,1,2-trichloro-	79-00-5 (U227)
Trichloroethylene	Ethene, trichloro-	79-01-6 (U228)
Trichloromethanethiol	Methanethiol, trichloro-	75-70-7 (P118)
Trichloromono-fluoromethane	Methane, trichloro-fluoro-	75-60-4 (U121)
2,4,5-Trichlorophenol	Phenol, 2,4,5-trichloro-	95-95-4 (See F027)
2,4,6-Trichlorophenol	Phenol, 2,4,6-trichloro-	88-06-2 (See F027)
2,4,5-T	Acetic acid (2,4,5-trichlorophenoxy)-	83-76-5 (See F027)
Trichloropropane, N.O.S.*	—	25735-20-8 (—)
1,2,3-Trichloropropane	Propane, 1,2,3-trichloro-	96-18-4 (—)
Triethylamine	Ethanamine, N,N-diethyl-	121-44-8 (U404)
O,O,O-Triethyl phosphorothioate	Phosphorothioic acid, O,O,O-triethyl ester	126-68-1 (—)
1,3,5-Trinitrobenzene	Benzene, 1,3,5-trinitro	99-35-4 (U234)
Tris(1-aziridinyl) phosphine sulfide	Aziridine, 1,1',1'-phosphinothioylidynetris-	52-24-4 (—)
Tris(2,3-dibromopropyl) phosphate	1-Propanol, 2,3-dibromo-, phosphate (3:1)	126-72-7 (U235)
Trypan blue	2,7-Naphthalenedisulfonic acid, 3,3'-(3,3'-dimethyl)-1,1'-biphenyl-4,4'-diyl)bis(azo)-bis(5-amino-4-hydroxy-, tetrasodium-salt	72-57-1 (U236)
Uracil-mustard	2,4-(1H,3H)-Pyrimidinedione, 5-(bis(2-chloroethyl)amino)-	66-75-1 (U237)
Vanadium pentoxide	Vanadium oxide V ₂ O ₅	1314-62-1 (P120)
Vemolate	Carbamothioic acid, dipropyl-, S-propyl ester	1929-77-7 (U385)
Vinyl chloride	Ethene, chloro-	75-01-4 (U043)
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3%	81-81-2 (U248)
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations greater than 0.3%	81-81-2 (P001)
Warfarin salts, when present at concentrations less than 0.3%	—	— (U248)
Warfarin salts, when present at concentrations greater than 0.3%	—	— (P001)
Zinc cyanide	Zinc cyanide Zn(CN) ₂	557-21-1 (P121)
Zinc phosphide	Zinc phosphide Zn ₃ P ₂ , when present at concentrations greater than 10%	1314-84-7 (P122)
Zinc phosphide	Zinc phosphide Zn ₃ P ₂ , when present at concentrations of 10% or less	1314-84-7 (U249)
Ziram	Zinc, bis(dimethylcarbamodithioate-S,S'), (T-4)-	137-30-4 (P205)

*The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix.

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TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: November 28, 2006 at 10 a.m.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 32:005. Definitions for [related to] 401 KAR Chapter 32.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.46, 40 C.F.R. 260.10

STATUTORY AUTHORITY: KRS 224.10-100, 40 C.F.R. 260.10

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(30) authorizes the Environmental and Public Protection Cabinet to promulgate administrative regulations, [The chapter implements provisions of KRS 224.46-610 and establishes the general provisions applicable to generators of hazardous waste.] This administrative regulation defines essential terms that are used in 401 KAR Chapter 32 [this chapter]. [The majority of terms defined in this administrative regulation are equivalent to federal terms contained in 40 C.F.R. Parts 260 through 269.] Some federal terms have been modified [clarified to eliminate federal ambiguities and] to conform to Kentucky statutory mandates. Definitions contained in KRS Chapter 224 have been referenced to the appropriate statutory citation. Some terms do not have a federal counterpart and [These terms] have been added to clarify requirements and provisions of KRS Chapter 224 and 401 KAR Chapter 32 [this chapter].

Section 1. Definitions. Except as provided in this section, the definitions established in 40 C.F.R. 260.10, effective September 9, 2005, shall apply. [The subject matter shall be governed by 40 C.F.R. 260.10, effective September 9, 2005. The following modifications, exceptions, and additions set forth in this section shall amend 40 C.F.R. 260.10.]

(1) "Administrator", "agency", "assistant administrator", "regional administrator", "director", or "regional director" means cabinet as defined in KRS 224.01-010(9).

(2) "Cabinet" is defined by KRS 224.01-010(9).

(3) "Disposal" is defined by KRS 224.01-010(10).

(4) "Environmental Protection Agency" or "EPA" means the Kentucky Department for Environmental Protection except if [when] used in the phrases "EPA hazardous waste number," "EPA identification number," "EPA Region," "EPA Acknowledgment of Consent," "EPA Test Methods," and "EPA publications".

(5) "Federal Register" means the "Administrative Register of Kentucky" as described in KRS 13A.050.

(6) "Generator" is defined by KRS 224.01-010(13).

(7) "Hazardous waste" is defined by KRS 224.01-010(31)(b).

(8) "Manifest" is defined by KRS 224.01-010(37).

(9) "Performance Track Program" means the US EPA National Environmental Performance Track Program or the Master level of the Kentucky EXCEL Program.

(10) "Person" is defined by KRS 224.01-010(17).

(11) "Publicly-owned treatment works" is defined by KRS 224.01-010(19).

(12) "Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the waste facility or activity.

(13) "Solid waste" is [means "waste" as] defined in KRS 224.01-010(31)(a).

(14) "Special waste" is defined by KRS 224.50-760(1)(a).

(15) "Storage" is defined by KRS 224.01-10(28).

(16) "Storage facility" means a facility or part of a facility:

(a) At which hazardous waste is held for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere; and

(b) That does not include [-] a generator who accumulates his own hazardous wastes in an approved manner for less than ninety (90) days for subsequent transport on-site or off-site [and is not operating or maintaining a storage facility].

(17) "Transfer facility" is defined by KRS 224.01-10(48).

(18) "Transportation" is defined by KRS 224.01-10(29).

(19) "Treatment" is defined by KRS 224.01-010(30).

(20) "United States" means the Commonwealth of Kentucky

(21) "Used oil" is defined by KRS 224.50-545(2)(a).

(22) "Water" is defined by KRS 224.01-10(33).

Section 2. Substitution of Federal References. (1) The following federal parts and subparts, which are cited by federal regulations referenced in 401 KAR Chapter 32 [this chapter], shall be substituted with the state administrative regulations listed below.

Federal Regulation	State Regulation
40 C.F.R. Part 260	401 KAR Chapter 30
40 C.F.R. 260 Subpart A	401 KAR 30:020
40 C.F.R. 260 Subpart B	401 KAR 30:005, 30:020, 31:005, 32:005, 33:005, 34:005, 35:005, 36:005, 37:005, 38:005, 43:005, and 44:005.
40 C.F.R. 260 Subpart C	401 KAR 30:035
40 C.F.R. Part 261	401 KAR Chapter 31
40 C.F.R. 261 Subpart A	401 KAR 31:010
40 C.F.R. 261 Subpart B	401 KAR 31:020
40 C.F.R. 261 Subpart C	401 KAR 31:030
40 C.F.R. 261 Subpart D	401 KAR 31:040
40 C.F.R. Part 262	401 KAR Chapter 32
40 C.F.R. 262 Subpart A	401 KAR 32:010
40 C.F.R. 262 Subpart B	401 KAR 32:020
40 C.F.R. 262 Subpart C	401 KAR 32:030
40 C.F.R. 262 Subpart D	401 KAR 32:040
40 C.F.R. 262 Subpart E	401 KAR 32:050, Sections 1-9
40 C.F.R. 262 Subpart F	401 KAR 32:050, Section 10
40 C.F.R. 262 Subpart G	401 KAR 32:060
40 C.F.R. 262 Subpart H	401 KAR 32:065
40 C.F.R. Part 263	401 KAR Chapter 33
40 C.F.R. 263 Subpart A	401 KAR 33:010
40 C.F.R. 263 Subpart B	401 KAR 33:020
40 C.F.R. 263 Subpart C	401 KAR 33:030
40 C.F.R. Part 264	401 KAR Chapter 34
40 C.F.R. 264 Subpart A	401 KAR 34:010
40 C.F.R. 264 Subpart B	401 KAR 34:020
40 C.F.R. 264 Subpart C	401 KAR 34:030
40 C.F.R. 264 Subpart D	401 KAR 34:040
40 C.F.R. 264 Subpart E	401 KAR 34:050
40 C.F.R. 264 Subpart F	401 KAR 34:060
40 C.F.R. 264 Subpart G	401 KAR 34:070
40 C.F.R. 264 Subpart H	401 KAR 34:080, 34:090, 34:100, 34:110, 34:120, 34:130
40 C.F.R. 264 Subpart I	401 KAR 34:180

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<u>40 C.F.R. 264 Subpart J</u>	<u>401 KAR 34:190</u>
<u>40 C.F.R. 264 Subpart K</u>	<u>401 KAR 34:200</u>
<u>40 C.F.R. 264 Subpart L</u>	<u>401 KAR 34:210</u>
<u>40 C.F.R. 264 Subpart M</u>	<u>401 KAR 34:220</u>
<u>40 C.F.R. 264 Subpart N</u>	<u>401 KAR 34:230</u>
<u>40 C.F.R. 264 Subpart O</u>	<u>401 KAR 34:240</u>
<u>40 C.F.R. 264 Subpart S</u>	<u>401 KAR 34:287</u>
<u>40 C.F.R. 264 Subpart W</u>	<u>401 KAR 34:285</u>
<u>40 C.F.R. 264 Subpart X</u>	<u>401 KAR 34:250</u>
<u>40 C.F.R. 264 Subpart AA</u>	<u>401 KAR 34:275</u>
<u>40 C.F.R. 264 Subpart BB</u>	<u>401 KAR 34:280</u>
<u>40 C.F.R. 264 Subpart CC</u>	<u>401 KAR 34:281</u>
<u>40 C.F.R. 264 Subpart DD</u>	<u>401 KAR 34:245</u>
<u>40 C.F.R. 264 Subpart EE</u>	<u>401 KAR 34:370</u>
<u>40 C.F.R. Part 265</u>	<u>401 KAR Chapter 35</u>
<u>40 C.F.R. 265 Subpart A</u>	<u>401 KAR 35:010</u>
<u>40 C.F.R. 265 Subpart B</u>	<u>401 KAR 35:020</u>
<u>40 C.F.R. 265 Subpart C</u>	<u>401 KAR 35:030</u>
<u>40 C.F.R. 265 Subpart D</u>	<u>401 KAR 35:040</u>
<u>40 C.F.R. 265 Subpart E</u>	<u>401 KAR 35:050</u>
<u>40 C.F.R. 265 Subpart F</u>	<u>401 KAR 35:060</u>
<u>40 C.F.R. 265 Subpart G</u>	<u>401 KAR 35:070</u>
<u>40 C.F.R. 265 Subpart H</u>	<u>401 KAR 35:080, 35:090, 35:100, 35:110, 35:120, 35:130</u>
<u>40 C.F.R. 265 Subpart I</u>	<u>401 KAR 35:180</u>
<u>40 C.F.R. 265 Subpart J</u>	<u>401 KAR 35:190</u>
<u>40 C.F.R. 265 Subpart K</u>	<u>401 KAR 35:200</u>
<u>40 C.F.R. 265 Subpart L</u>	<u>401 KAR 35:210</u>
<u>40 C.F.R. 265 Subpart M</u>	<u>401 KAR 35:220</u>
<u>40 C.F.R. 265 Subpart N</u>	<u>401 KAR 35:230</u>
<u>40 C.F.R. 265 Subpart O</u>	<u>401 KAR 35:240</u>
<u>40 C.F.R. 265 Subpart P</u>	<u>401 KAR 35:250</u>
<u>40 C.F.R. 265 Subpart Q</u>	<u>401 KAR 35:260</u>
<u>40 C.F.R. 265 Subpart R</u>	<u>401 KAR 35:270</u>
<u>40 C.F.R. 265 Subpart W</u>	<u>401 KAR 35:285</u>
<u>40 C.F.R. 265 Subpart AA</u>	<u>401 KAR 35:275</u>
<u>40 C.F.R. 265 Subpart BB</u>	<u>401 KAR 35:280</u>
<u>40 C.F.R. 265 Subpart CC</u>	<u>401 KAR 35:281</u>
<u>40 C.F.R. 265 Subpart DD</u>	<u>401 KAR 35:245</u>
<u>40 C.F.R. 265 Subpart EE</u>	<u>401 KAR 35:350</u>
<u>40 C.F.R. Part 266</u>	<u>401 KAR Chapter 36</u>

<u>40 C.F.R. 266 Subpart C</u>	<u>401 KAR 36:030</u>
<u>40 C.F.R. 266 Subpart F</u>	<u>401 KAR 36:060</u>
<u>40 C.F.R. 266 Subpart G</u>	<u>401 KAR 36:070</u>
<u>40 C.F.R. 266 Subpart H</u>	<u>401 KAR 36:020</u>
<u>40 C.F.R. 266 Subpart M</u>	<u>401 KAR 36:080</u>
<u>40 C.F.R. 266 Subpart N</u>	<u>401 KAR 36:090</u>
<u>40 C.F.R. Part 268</u>	<u>401 KAR Chapter 37</u>
<u>40 C.F.R. 268 Subpart A</u>	<u>401 KAR 37:010</u>
<u>40 C.F.R. 268 Subpart B</u>	<u>401 KAR 37:020</u>
<u>40 C.F.R. 268 Subpart C</u>	<u>401 KAR 37:030</u>
<u>40 C.F.R. 268 Subpart D</u>	<u>401 KAR 37:040</u>
<u>40 C.F.R. 268 Subpart E</u>	<u>401 KAR 37:050</u>
<u>40 C.F.R. Part 270</u>	<u>401 KAR Chapter 38</u>
<u>40 C.F.R. 270 Subpart A</u>	<u>401 KAR 38:010</u>
<u>40 C.F.R. 270 Subpart B</u>	<u>401 KAR 38:070, 38:080, 38:090, 38:150 through 38:310</u>
<u>40 C.F.R. 270 Subpart C</u>	<u>401 KAR 38:030</u>
<u>40 C.F.R. 270 Subpart D</u>	<u>401 KAR 38:040, Sections 1 through 4, 7</u>
<u>40 C.F.R. 270 Subpart E</u>	<u>401 KAR 38:040, Sections 5 and 6</u>
<u>40 C.F.R. 270 Subpart F</u>	<u>401 KAR 38:060</u>
<u>40 C.F.R. 270 Subpart G</u>	<u>401 KAR 38:020</u>
<u>40 C.F.R. 270 Subpart H</u>	<u>401 KAR 38:320</u>
<u>40 C.F.R. 270 Subpart I</u>	<u>401 KAR 38:330</u>
<u>40 C.F.R. 270 Subpart J</u>	<u>401 KAR 38:340</u>
<u>40 C.F.R. Part 124</u>	<u>401 KAR 38:050</u>
<u>40 C.F.R. Part 273</u>	<u>401 KAR Chapter 43</u>
<u>40 C.F.R. 273 Subpart A</u>	<u>401 KAR 43:010</u>
<u>40 C.F.R. 273 Subpart B</u>	<u>401 KAR 43:020</u>
<u>40 C.F.R. 273 Subpart C</u>	<u>401 KAR 43:030</u>
<u>40 C.F.R. 273 Subpart D</u>	<u>401 KAR 43:040</u>
<u>40 C.F.R. 273 Subpart E</u>	<u>401 KAR 43:050</u>
<u>40 C.F.R. 273 Subpart F</u>	<u>401 KAR 43:060 [43:070]</u>
<u>40 C.F.R. 273 Subpart G</u>	<u>401 KAR 43:070 [43:080]</u>
<u>40 C.F.R. Part 279</u>	<u>401 KAR Chapter 44</u>
<u>40 C.F.R. 279 Subpart A</u>	<u>401 KAR 44:005</u>
<u>40 C.F.R. 279 Subpart B</u>	<u>401 KAR 44:010</u>
<u>40 C.F.R. 279 Subpart C</u>	<u>401 KAR 44:020</u>
<u>40 C.F.R. 279 Subpart D</u>	<u>401 KAR 44:030</u>
<u>40 C.F.R. 279 Subpart E</u>	<u>401 KAR 44:040</u>
<u>40 C.F.R. 279 Subpart F</u>	<u>401 KAR 44:050</u>
<u>40 C.F.R. 279 Subpart G</u>	<u>401 KAR 44:060</u>

40 C.F.R. 279 Subpart H	401 KAR 44 070
40 C.F.R. 279 Subpart I	401 KAR 44-080

(2) The requirements of the following federal regulations, which are referenced in 401 KAR Chapter 32 [this chapter], shall also include the modifications, exceptions, and additions that are specific to the Commonwealth of Kentucky set forth in the following state administrative regulations referenced [identified] in the table below.

Federal Regulation	State Regulation
40 C.F.R. 260.10	401 KAR 30:005, 401 KAR 31:005, 401 KAR 32:005, 401 KAR 33:005, 401 KAR 34:005, 401 KAR 35:005, 401 KAR 36:005, 401 KAR 37:005, 401 KAR 38:005, 401 KAR 43:005, 401 KAR 44:005, and 401 KAR 30:020
40 C.F.R. 270.1	401 KAR 38:010, Section 1(2)
40 C.F.R. 260.22	401 KAR 30:035 [30:030], Section 3(2) and (3)
40 C.F.R. 263.30	401 KAR 33:030, Section 3
40 C.F.R. 264.1082	401 KAR 34:281, Section 2
40 C.F.R. 266.205	401 KAR 36:080, Section 6
40 C.F.R. 270.61	401 KAR 38:060, Section 2

(3) The following federal regulations, which are cited by the federal regulations referenced in 401 KAR Chapter 32 [this chapter], shall be replaced with the state administrative regulations as identified in the table below.

Federal Regulation	State Regulation
40 C.F.R. Part 60 Appendix A	401 KAR 59 020
[40 C.F.R. Part 124]	[401 KAR 38 059]
40 C.F.R. Part 257	401 KAR Chapter 47
40 C.F.R. Part 258	401 KAR Chapter 48
40 C.F.R. 262.12	401 KAR 32:010, Sections 3 and 4
40 C.F.R. 262.41	401 KAR 32:040, Section 3
40 C.F.R. 264.140	401 KAR 34 080, Section 2
40 C.F.R. 264.141	401 KAR 34 080, Section 1 [3]
40 C.F.R. 264.142	401 KAR 34 090, Section 1
40 C.F.R. 264.143	401 KAR 34 090, Sections 2 through 12
40 C.F.R. 264.144	401 KAR 34:100, Section 1
40 C.F.R. 264.145	401 KAR 34:100, Sections 2 through 12
40 C.F.R. 264.146	401 KAR 34 110
40 C.F.R. 264.147	401 KAR 34:120
40 C.F.R. 264.148	401 KAR 34:130
40 C.F.R. 265.140	401 KAR 35 080, Section 2
40 C.F.R. 265.141	401 KAR 35 080, Section 1
40 C.F.R. 265.142	401 KAR 35.090, Section 1
40 C.F.R. 265.143	401 KAR 35 090, Sections 3 through 11

40 C.F.R. 265.144	401 KAR 35:100, Section 1
40 C.F.R. 265.145	401 KAR 35:100, Sections 2 through 11
40 C.F.R. 265.146	401 KAR 35:110
40 C.F.R. 265.147	401 KAR 35:120
40 C.F.R. 265.148	401 KAR 35:130
40 C.F.R. 266 Appendix I Table I-D	401 KAR 36 025, Section 1(2)(a)
40 C.F.R. 266 Appendix I Table I-E	401 KAR 36:025, Section 1(2)(b)
40 C.F.R. 270.51	401 KAR 38:040, Section 6
40 C.F.R. Part 280	401 KAR Chapter 42

[Unless otherwise specifically defined in KRS Chapter 224 or otherwise specifically indicated by context, terms in 401 KAR Chapter 32 shall have the meanings given in this section.

(1) "100-year floodplain" means any land area which is subject to a one (1) percent or greater chance of flooding in any given year from any source.

(2) "100-year flood" means a flood that has a one (1) percent chance of being equaled or exceeded in any given year.

(3) "Aboveground tank" means a device meeting the definition of "tank" and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

(4) "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.

(5) "Accumulated speculatively" means that a material is accumulated before being recycled.

(a) A material is not accumulated speculatively, if the person accumulating it can show:

1. That the material is potentially recyclable and has a feasible means of being recycled, and

2. That — during the calendar year (commencing on January 1) — the amount of material that is recycled, or transferred to a different site for recycling, equals at least seventy-five (75) percent by weight or volume of the amount of that material accumulated at the beginning of the calendar year (including any material accumulated from previous years).

(b) In calculating the percentage of turnover, the seventy-five (75) percent requirement is to be applied to each material of the same type that is recycled in the same way. Materials accumulating in units that would be exempt from administrative regulation under Section 4(3) of 401 KAR 31:010 are not to be included in making the calculation. (Materials that are already defined as wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling.

(6) "Active fault" means a land area which, according to the weight of geological evidence, has a reasonable probability of being affected by movement along a fault to the extent that a waste site or facility would be damaged and thereby pose a threat to human health and the environment.

(7) "Active life" of a facility means the period from the initial receipt of waste at a waste site or facility until the cabinet receives certification of final closure.

(8) "Active portion" means any area of a facility where treatment, storage, or disposal operations are being or have been conducted and which have not been closed. It includes the treated area of a landfill and the active face of a landfill. Covered, closed, or inactive portions of landfills, building roofs, and roads are excluded unless designated as "active portions" by the cabinet.

(9) "Admixed liner" means a liner made from a mixture of any of a multitude of materials, often asphalt or cement, with widely varying physical and chemical properties. Admixed liners shall be demonstrated to be structurally sound and chemically resistant to the waste placed in it so as to be capable of supporting the waste

without cracking or disintegrating or allowing waste or leachate to escape.

(10) "Agricultural waste" means any nonhazardous waste resulting from the production and processing of on-the-farm agricultural products, including manures, prunings and crop residues.

(11) "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.

(12) "Ampule" means a small sealed glass container for one (1) dose of sterile medicine.

(13) "Ancillary 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 from its point of generation to hazardous waste management units including tanks between hazardous waste storage and treatment tanks to a point of disposal on site, or to a point of shipment for disposal off site.

(14) "Application" means the form approved by the cabinet for applying for a permit, including any additions, revisions or modifications and any narrative and drawings required by 401 KAR Chapters 30 to 48. The term includes: Part A of the application (Part A), Part B of the application (Part B); notice of intent; administration application; special waste application; or technical application.

(15) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs.

(16) "As received waste" refers to the waste as received in the shipment from the generator or sample collector.

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

(18) "Attenuation" means any decrease in the maximum concentration or total quantity of an applied chemical or biological constituent in a fixed time or distance traveled resulting from a physical, chemical, or biological reaction or transformation occurring in the zone of aeration or zone of saturation.

(19) "Authorized representative" means the person responsible for the overall operation of a facility or an operational unit or part of a facility, such as the plant manager, superintendent, or person of equivalent responsibility.

(20) "Average volatile organic concentration" or "average VO concentration" means the mass weighted average volatile organic concentration of a hazardous waste as determined in accordance with the requirements of Section 4 of 401 KAR 35 281.

(21) "Base flood" means a flood that has a one (1) percent or greater chance of recurring in any year, or a flood of a magnitude equal to or exceeded once in 100 years on the average over a significantly long period.

(22) "Battery" means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

(23) "Board" shall have the meaning specified in KRS 224.46-810.

(24) "Bodily injury" shall have the meaning given by applicable Kentucky statutes. Bodily injury does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for bodily injury.

(25) "Boiler" means an enclosed device using control flame combustion and having the following characteristics:

(a) 1. The unit shall have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

2. The unit's combustion chamber and primary energy recovery section(s) shall be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section (such as water walls and superheaters) shall be physically formed into one (1) manufactured or assembled unit. A unit in which the

combustion chamber and the primary energy recovery section are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters (units that transfer energy directly to a process stream) and fluidized bed combustion units; and

3. While in operation, the unit shall maintain a thermal energy recovery efficiency of at least sixty (60) percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

4. The unit shall export and utilize at least seventy-five (75) percent of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps); or

(b) The unit is one (1) which the cabinet has determined, on a case-by-case basis, to be a boiler, after considering the standards in 401 KAR 30.080.

(26) "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.

(27) "Burn" means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient.

(28) "By-product" is a material that is not one (1) of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slugs or distillation column bottoms. The term does not include a coproduct that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

(29) "Cabinet" shall have the meaning specified in KRS 224.01-010.

(30) "Carbon regeneration unit" means any enclosed thermal treatment device used to regenerate spent activated carbon.

(31) "Cation exchange capacity" means the sum of exchangeable cations a soil can absorb expressed in milliequivalents per 100 grams of soil as determined by sampling the soil to the depth of cultivation or solid waste placement, whichever is greater, and analyzing by the summation method for distinctly acid soils or the sodium acetate method for neutral, calcareous, or saline soils.

(32) "Certificate" shall have the meaning specified in KRS 224.46-810.

(33) "Certification" means a statement of professional opinion based upon knowledge and belief.

(34) "Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements.

(35) "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.

(36) "Closure plan" means the plan for closure prepared in accordance with the requirements of Section 3 of 401 KAR 34:070 or Section 3 of 401 KAR 35-070.

(37) "Closure" shall have the meaning specified in KRS 224.01-010.

(38) "Component" means either the tank or ancillary equipment of a tank system.

(39) "Condenser" means a heat transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

(40) "Conditionally exempt small quantity generator" means: (a) A generator who generates no more than 100 kilograms of hazardous waste in a calendar month; or

(b) A generator who generates acutely hazardous waste listed in Sections 2, 3, and 4(5) of 401 KAR 31.040 in a calendar month in quantities no greater than one (1) kilogram. All quantities of that acutely hazardous waste are subject to administrative regulation under 401 KAR Chapters 32 through 39, and the notification and permitting requirements of KRS 224.01-400, 224.40-310, 224.46-510, 224.46-580, and 224.50-130 to 224.50-413.

(41) "Confined aquifer" means an aquifer bounded above and

below by impervious beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined groundwater.

(42) "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.

(43) "Consignee" means the ultimate treatment, storage or disposal facility in a receiving country to which the hazardous waste is sent.

(44) "Constituent" shall have the same meaning as "hazardous waste constituent".

(45) "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.

(46) "Containment building" means a hazardous waste management unit that is used to store or treat hazardous waste under the provisions of 401 KAR 34-245 or 35-245.

(47) "Contaminate" means introduce a substance that would cause:

(a) The concentration of that substance in the groundwater to exceed the maximum contaminant level specified in 401 KAR 30-031, Sections 5 and 6 of 401 KAR 47-030, or Section 8 of 401 KAR 34-060;

(b) An increase in the concentration of that substance in the groundwater where the existing concentration of that substance exceeds the maximum contaminant level specified in 401 KAR 30-031, 401 KAR 47-030, or Section 8 of 401 KAR 34-060, or

(c) A significant increase above established background levels, for substances that do not have an established maximum contamination level.

(48) "Contamination" means the degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.

(49) "Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in the event of a fire, explosion, or release of waste or waste constituents into the environment which has the potential for endangering human health and the environment. Financial planning to identify resources for initiation of such action is a part of contingency plan development.

(50) "Continuous recorder" means a data recording device recording an instantaneous data value at least once every 15 minutes.

(51) "Control device shutdown" means the cessation of operation of a control device for any purpose.

(52) "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.

(53) "Corrective action management unit" or "CAMU" means an area within a facility that is designated by the cabinet under 401 KAR 34-287, for the purpose of implementing corrective action requirements under Section 12 of 401 KAR 34-060 and KRS 224-46-520. A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility.

(54) "Cover" means a device or system which is placed on or over a hazardous waste such that the entire hazardous waste surface area is enclosed and sealed to reduce air emissions to the atmosphere. A cover may have openings such as access hatches, sampling ports, and gauge wells that are necessary for operation, inspection, maintenance, or repair of the unit on which the cover is installed provided that each opening is closed and sealed when not in use. Examples of covers include a fixed roof installed on a tank, a floating membrane cover installed on a surface impoundment, a lid installed on a drum, and an enclosure in which an open container is placed during waste treatment.

(55) "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.

(56) "Current closure cost estimates" means the most recent of the estimates prepared in accordance with Section 1(1), (2) and (3) of 401 KAR 34-090 or Section 1(1), (2) and (3) of 401 KAR 35-090.

(57) "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.

(58) "Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with 40 C.F.R. 144.62(a), (b), and (c).

(59) "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 or Section 1(1), (2) and (3) of 401 KAR 35-100.

(60) "Debris" means solid material exceeding a 60mm particle size that is intended for disposal and that is: a manufactured object; plant or animal matter; or natural geologic material. However, the following materials are not debris: Any material for which a specific treatment standard is provided in 401 KAR 37-040, namely lead-acid batteries, cadmium batteries, and radioactive lead solids; Process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by Section 6 of 401 KAR 37-040 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection.

(61) "Designated facility" means a hazardous waste treatment, storage, or disposal facility which:

(a) Has received a hazardous waste site or facility permit (or a facility with interim status) in accordance with the requirements of 401 KAR Chapter 38;

(b) Has received a permit from a state authorized in accordance with 40 C.F.R. Part 271, and EPA permit (or a facility with interim status) in accordance with 40 C.F.R. Parts 270 and 124, or

(c) Is regulated under Section 6(3)(b) of 401 KAR 31-010 or 401 KAR Chapter 36, 40 C.F.R. 261.6(e)(2) or 40 C.F.R. Part 266; and

(d) That has been designated on the manifest by the generator pursuant to Section 1 of 401 KAR 32-020. If a waste is destined to a hazardous waste site or facility in an authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, then the designated facility shall be a facility allowed by the receiving state to accept that waste.

(62) "Destination facility" means a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in Section 4(1) and (3) of 401 KAR 43-020 and Section 4(1) and (3) of 401 KAR 43-030. A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

(63) "Destruction or adverse modification" means an alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.

(64) "Dike" means an embankment or ridge of either natural or manmade materials used to prevent the movement of liquids, sludges, solids, or other materials.

(65) "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.

(66) "Disposal" shall have the meaning specified in KRS 224.01-010.

(67) "Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed.

(68) "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.

(69) "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.

(70) "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(71) "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.

(72) "Draft permit" shall have the same meaning as "proposed permit".

(73) "Drip pad" means an engineered structure consisting of a curbed, free-draining base, constructed of nonearthen materials and designed to convey preservative kick-back or drippage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants.

(74) "Effluent Limitations" shall have the same meaning as KRS 224.01-010.

(75) "Elementary neutralization unit" means a device which

(a) is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in Section 3 of 401 KAR 31.030, or they are listed in 401 KAR 31.040 only for this reason; and

(b) meets the definition of tank, tank system, container, transport vehicle, or vessel in this section.

(76) "Emergency permit" means a permit issued by the cabinet to temporarily store, treat or dispose of hazardous waste in accordance with the provisions of Section 2 of 401 KAR 38.060, to temporarily manage, process, or dispose of a solid waste in accordance with the provisions of Section 2 of 401 KAR 47.150 or to temporarily store, treat, or dispose of special waste in accordance with the provisions of Section 1 of 401 KAR 45.135.

(77) "Endangered or threatened species" means any species listed as such pursuant to Section 4 of the Endangered Species Act, as amended, 16 U.S.C. 1536.

(78) "Engineer" shall have the meaning specified in KRS 322.010. An independent, professional engineer shall be registered in Kentucky pursuant to KRS 322.040 and shall be qualified to engage in waste management engineering practices.

(79) "EPA acknowledgment of consent" means the cable sent to EPA from the U.S. Embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment.

(80) "EPA hazardous waste number" means the number assigned by EPA and the cabinet to each hazardous waste listed in 401 KAR 31.040, and to each characteristic identified in 401 KAR 31.030.

(81) "EPA identification number" means the number assigned by EPA or the cabinet to each generator, transporter, or treatment, storage, or disposal facility.

(82) "Ephemeral stream" means a stream which flows only in direct response to precipitation in the immediate watershed or in response to the melting of a cover of snow and ice and which has a channel bottom that is always above the local water table.

(83) "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 401 KAR 34.276.

(84) "Equivalent method" means any testing or analytical method, approved jointly by the administrator and the secretary under 401 KAR Chapter 31, or methods in 401 KAR Chapters 47 and 48, approved by the secretary of the cabinet.

(85) "Existing" 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.

(86) "Existing component" shall have the same meaning as "existing tank system".

(87) "Existing facility" shall have the same meaning as "existing hazardous waste site or facility".

(88) "Existing hazardous waste site or facility" means a hazardous waste facility which was in operation, or for which continuous construction had commenced, on or before November 19, 1980. A facility has commenced construction if:

(a) The owner or operator had obtained the federal, state and local approvals or permits necessary to begin physical construction; and

(b) Either:

1. A continuous on-site, physical construction program has begun; or

2. 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.

(89) "Existing portion" means that land surface area of an existing hazardous waste management unit, included in the original Part A permit application, on which wastes have been placed prior to the issuance of a permit.

(90) "Existing tank system" means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation commenced on or prior to July 14, 1986. Installation will be considered to have commenced if the owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either:

(a) A continuous on-site physical construction or installation 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 site or installation of the tank system to be completed within a reasonable time.

(91) "External floating roof" means a pontoon or double-deck type floating roof that rests on the surface of a hazardous waste being managed in a tank that has no fixed roof.

(92) "Face amount" means the total amount the insurer is obligated to pay under the policy.

(93) "Facility" means:

(a) All contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one (1) or more landfills, surface impoundments, or combinations of them);

(b) For the purpose of implementing corrective action under Section 12 of 401 KAR 34.060, all contiguous property under the control of the owner or operator seeking a hazardous waste permit. This definition also applies to facilities implementing corrective action under KRS 224.46-520.

(94) "Facility mailing list" means the mailing list for a facility maintained in accordance with Section 7(3)(a)4c of 401 KAR 38.060.

(95) "Federal agency" means any department, agency, or other instrumentality of the federal government, any independent agency or establishment of the federal government including any government corporation, and the United States Government Printing Office.

(96) "Federal, state, and local approvals or permits necessary to begin physical construction" means permits and approvals required under federal, state, or local hazardous waste control statutes, administrative regulations, or ordinances.

(97) "Final closure" of a hazardous waste site or facility means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under 401 KAR Chapters 34 and 35 are no longer conducted at the facility unless subject to the provisions in Section 5 of 401 KAR 32.030.

(98) "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.

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

(100) "Fixed roof" means a rigid cover that is installed in a stationary position so that it does not move with fluctuations in the level of the hazardous waste placed in a tank.

(101) "Flame zone" means the portion of the combustion chamber in a boiler occupied by the flame envelope.

(102) "Floating membrane cover" means a cover consisting of a synthetic flexible membrane material that rests upon and is supported by the hazardous waste being managed in a surface impoundment.

(103) "Floating roof" means a pontoon-type or double-deck type cover that rests upon and is supported by the hazardous waste being managed in a tank, and is equipped with a closure seal or seals to close the space between the cover edge and the tank wall.

(104) "Flood plain" means areas adjoining inland waters which are inundated by the base flood, unless otherwise specified in 401 KAR 30.031 or 401 KAR 47.030, and includes: 100-year floodplain and floodway.

(105) "Floodway" means the channel of the waterway, stream or river and that portion of the adjoining floodplain which provides for passage of the 100-year flood flow without increasing the floodwater depth across the 100-year floodplain by more than one (1) foot.

(106) "Flow indicator" means a device that indicates whether gas flow is present in a vent stream.

(107) "Food chain crops" means tobacco, crepe grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

(108) "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.

(109) "Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

(110) "Frooboard" means the vertical distance between the top of a tank or surface impoundment dike and the surface of the waste contained therein.

(111) "Generator" shall have the meaning specified in KRS 224.01-010.

(112) "Governing body" shall have the same meaning as KRS 224.01-010.

(113) "Groundwater" means the subsurface water occurring in the zone of saturation beneath the water table, and perched water zones below the B soil horizon, including water circulating through fractures, bedding planes, and solution conduits.

(114) "Groundwater table" means the upper boundary of the saturated zone in which the hydrostatic pressure of the groundwater is equal to the atmospheric pressure.

(115) "Halogenated organic compounds" or "HOCs" means these compounds having a carbon-halogen bond that are listed under 401 KAR 37.110.

(116) "Hazardous constituent" shall have the meaning specified in KRS 224.01-010.

(117) "Hazardous debris" means debris that contains a hazardous waste listed in 401 KAR 31.040 or that exhibits a characteristic of hazardous waste identified in 401 KAR 31.030.

(118) "Hazardous waste" shall have the meaning specified in KRS 224.01-010.

(119) "Hazardous waste constituent" means a constituent which caused the cabinet to list the hazardous waste in 401 KAR 31.040, or a constituent listed in Section 5(3) of 401 KAR 31.030.

(120) "Hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

(121) "Hazardous waste management unit" is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit, the unit includes containers and the land or pad upon which

they are placed. Hazardous waste management units include: aboveground tank; component, existing tank system or existing component; in-ground tank; new tank system or new tank component, on-ground tank; tank system, underground tank, or unfit for-use tank system.

(122) "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.

(123) "Hazardous waste site or facility" means any place at which hazardous waste is treated, stored, or disposed of by landfilling, incineration, or any other method. Hazardous waste site or facility includes: boiler, disposal facility, elementary neutralization unit, incinerator, industrial furnace, hazardous waste transfer facility, injection well, landfill, land treatment facility, miscellaneous unit, pile or waste pile, replacement unit, storage facility, sludge dryer, surface impoundment, tank, thermal treatment facility, totally enclosed treatment facility, treatment facility, or wastewater treatment unit.

(124) "Hazardous waste transfer facility" means any transportation related facility including loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

(125) "Holocene" means the most recent epoch of the quaternary period, extending from the end of the pleistocene to the present.

(126) "Hot well" means a container for collecting condensate as in a steam condenser serving a vacuum jet or steam jet ejector.

(127) "Household waste" means any waste material (including garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

(128) "In existence" shall have the same meaning as "existing."

(129) "In gas service" means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

(130) "In heavy liquid service" means that the piece of equipment is not in gas service or in vapor service or in light liquid service.

(131) "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.

(132) "In operation" refers to a facility which is treating, storing, or disposing of hazardous waste.

(133) "In situ sampling systems" means nonextractive samplers or in-line samplers.

(134) "In vacuum service" means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

(135) "In vapor service" shall have the same meaning as "in gas service."

(136) "In-ground tank" means a device meeting the definition of "tank" in this section whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

(137) "Inactive portion" means that portion of a hazardous waste site or facility which was not operated after November 10, 1990.

(138) "Incinerator" means any enclosed device that:
 (a) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or

(b) Meets the definition of infrared incinerator or plasma arc incinerator.

(139) "Incompatible waste" means a hazardous waste which is unsuitable for placement in a particular device or facility because it may cause corrosion or decay of containment materials, or unsuitable for commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

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

(141) "Individual generation site" means the contiguous site at or on which one (1) or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one (1) or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

(142) "Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use thermal treatment to accomplish recovery of materials or energy:

- (a) Cement kilns;
- (b) Lime kilns;
- (c) Aggregate kilns;
- (d) Phosphate kilns;
- (e) Coke ovens;
- (f) Blast furnaces;
- (g) Smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, roasters, and foundry furnaces);
- (h) Titanium dioxide chloride process oxidation reactors;
- (i) Methane reforming furnaces;
- (j) Pulping liquor recovery furnaces;
- (k) Combustion devices used in the recovery of sulfur values from spent sulfuric acid;

(l) Halogen acid furnaces (HAFs) for the production of acid from halogenated hazardous waste generated by chemical production facilities where the furnace is located on the site of a chemical production facility, the acid product has a halogen acid content of at least three (3) percent, the acid product is used in a manufacturing process, and, except for hazardous waste burned as fuel, hazardous waste fed to the furnace has a minimum halogen content of twenty (20) percent as generated, or

(m) Other devices as the cabinet may, after notice and comment, add to this list on the basis of criteria and Section 5 of 401 KAR 30.080.

(143) "Infrared incinerator" means any enclosed device that uses electric powered resistance heaters as a source of radiant heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

(144) "Injection well" means a well into which fluids are injected to achieve subsurface emplacement.

(145) "Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained hazardous waste or reagents used to treat the hazardous waste.

(146) "Installation inspector" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of a hazardous waste management unit including tank systems.

(147) "Interim status" means the designation of a hazardous waste site or facility which was in existence on November 10, 1980, and has submitted a Part A application under 401 KAR Chapter 38 or under 40 C.F.R. Part 270 and is treated as having a permit until final administrative disposition of the application is made.

(148) "Intermittent stream" means a stream or reach of stream that drains a watershed of one (1) square mile or more but does not flow continuously during the calendar year.

(149) "International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

(150) "Internal floating roof" means a floating roof that rests or

floats on the surface (but not necessarily in complete contact with it) of a hazardous waste being managed in a tank that has a fixed roof.

(151) "Karst terrain" means a type of topography where limestone, dolomite or gypsum is present and is characterized by naturally occurring closed topographic depressions or sinkholes, caves, disrupted surface drainage, and well developed underground solution channels formed by dissolution of these rocks by water moving underground.

(152) "Key personnel" shall have the meaning specified in KRS 224.01-010.

(153) "Lab pack" means any large container equal to or smaller than fifty-five (55) gallons that holds many smaller containers of various content tightly secured with packing material.

(154) "Lamp" means the bulb or tube portion of a lighting device specifically designed to produce radiant energy, most often in the ultraviolet (UV), visible, and infrared (IR) regions of the electromagnetic spectrum. Examples of common lamps include, but is not limited to, incandescent, fluorescent, high pressure sodium, mercury vapor, metal halide, high intensity discharge, and neon lamps.

(155) "Land disposal" shall have the meaning specified in KRS 224.01-010.

(156) "Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface. Those facilities are disposal facilities if the waste will remain after closure.

(157) "Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, or an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit.

(158) "Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

(159) "Large quantity handler of universal waste" means a universal waste handler who accumulates 5,000 kilograms or more total universal waste (batteries, lamps, pesticides, or thermostats, calculated collectively) at any time. This designation as a large quantity handler of universal waste is retained through the end of the calendar year in which 5,000 kilograms or more total of universal waste is accumulated.

(160) "Leachate" means any liquid including any suspended components in the liquid, that has percolated through or drained from waste.

(161) "Leak detection system" means a system capable of detecting the failure of either the primary or secondary containment system or the presence of a release of hazardous waste, hazardous waste constituents or accumulated liquid in the secondary containment system. Such a system shall employ operational controls (daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment system or the presence of a release of hazardous waste constituents or accumulated liquids into the secondary containment system.

(162) "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.

(163) "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.

(164) "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.

(165) "Liquid mounted seal" means a foam or liquid-filled primary seal mounted in contact with the hazardous waste between

the tank wall and the floating roof continuously around the circumference of the tank.

(166) "Local government" means the fiscal court of the county, urban-county government, or governing body of an incorporated municipality wherein a hazardous waste landfill or other site or facility for the land disposal of hazardous waste is proposed.

(167) "Major modification" means for hazardous waste sites or facilities, a change in ownership where the cabinet determines that other changes in the permit are necessary as a result of the change in ownership or operational control, area occupied, disposal method, or other significant change in the operation of a waste site or facility (Note: Minor modifications are described in Section 3 of 401 KAR 38-040).

(168) "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.

(169) "Manifest" shall have the meaning specified in KRS 224.01-010.

(170) "Manifest document number" means the EPA twelve (12) digit identification number assigned to the generator plus a unique, serially increasing, five (5) digit document number assigned to the manifest by the generator for recordkeeping and reporting purposes.

(171) "Maximum organic vapor pressure" means the equilibrium partial pressure exerted by the hazardous waste contained in a tank determined at the temperature equal to either:

(a) The local maximum monthly average temperature as reported by the National Weather Service when the hazardous waste is stored or treated at ambient temperature, or

(b) The highest calendar month average temperature of the hazardous waste when the hazardous waste is stored at temperatures above the ambient temperature or when the hazardous waste is stored or treated at temperatures below the ambient temperature.

(172) "Mining overburden returned to the mine site" means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

(173) "Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of, and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 C.F.R. Part 146, containment building, corrective action management unit, or unit eligible for a research, development, and demonstration permit under Section 6 of 401 KAR 38-060.

(174) "Monitoring" means the act of systematically inspecting and collecting data on operational parameters or on the quality of the air, soil, groundwater, or surface water.

(175) "Monitoring well" means a well used to obtain water samples for water quality and quantity analysis and groundwater levels.

(176) "Movement" means that hazardous waste transported to a facility in an individual vehicle.

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

(178) "Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

(179) "New facility" means any hazardous waste site or facility that commenced construction after November 10, 1980.

(180) "New tank component" shall have the same meaning as "new tank system."

(181) "New tank system" means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation commenced after July 14, 1986, however, for purposes of Section 4(7)(b) of 401 KAR 34:190 and Section 4(7)(b) of 401 KAR 35:190, a new tank system is one for which construction commenced after July 14, 1986.

(182) "No detectable organic emissions" means no escape of organics from a device or system to the atmosphere as determined by an instrument reading less than 500 parts per million by volume (ppmv) above the background level at each joint, fitting, and seal when measured in accordance with the requirements of Method 21

in 40 C.F.R. Part 60, Appendix A, and by no visible openings or defects in the device or system such as rips, tears, or gaps.

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

(184) "Nonwastewaters" means wastes that do not meet the criteria for wastewaters found in the definition for wastewaters.

(185) "Not detected" means at or below the lower method calibration limit (MCL) in SW-846, Method 8200, Table 1.

(186) "Off-site" means properties noncontiguous to the site.

(187) "On-site" means on the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing, as opposed to going along the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access is also considered on-site property.

(188) "Onground tank" means a device meeting the definition of tank that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

(189) "Open burning" means the combustion of any material or solid waste without:

(a) Control of combustion air to maintain adequate temperature for efficient combustion;

(b) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(c) Control of emission of the gaseous combustion products.

(190) "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.

(191) "Operational plan" means the approved plan of operations filed with the cabinet which describes the method of operation that the permittee will use in the treatment, storage, or disposal of wastes.

(192) "Operator" means any person responsible for overall operation of an on-site or off-site waste facility, including any private contractor conducting operational activities at a federal facility.

(193) "Other site or facility for the land disposal of hazardous waste" means a disposal facility but shall not include a storage facility or a treatment facility.

(194) "Owner" means any person who owns an on-site or off-site waste facility, or any part of a facility.

(195) "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.

(196) "Part A of the application" or "Part A" means the standard forms or format for applying for a hazardous waste site or facility permit as required in 401 KAR 38-080.

(197) "Part B of the application" or "Part B" means the standard format for applying for a hazardous waste site or facility permit as required in 401 KAR 38-090 to 401 KAR 38-210.

(198) "Partial closure" means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of 401 KAR Chapters 34 and 35 at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

(199) "Perennial stream" means a stream or that part of a stream that flows continuously during all of the calendar year as a result of groundwater discharge or surface run-off. The term does not include "intermittent stream" or "ephemeral stream".

(200) "Permit" means the authorization or other control document issued by the cabinet to implement the requirements of the waste management administrative regulations. The term permit includes permit-by-rule, registered permit-by-rule, research, development, and demonstration permit, and emergency permit. How-

ever, the term permit does not include draft permit or proposed permit.

(201) "Permit by rule" means authorization allowing certain classes of sites or facilities to manage waste consistent with 401 KAR Chapters 30 to 49, without submission of a registration or permit application to the cabinet. Examples of hazardous waste sites or facilities which are permitted by rule include facilities operating under an interim status permit and facilities identified in Section 1 of 401 KAR 38:060.

(202) "Permittee" means any person holding a valid permit issued by the cabinet to manage, treat, store, or dispose of waste.

(203) "Person" shall have the meaning specified in KRS 224.01-010.

(204) "Personnel" or "facility personnel" means all persons who work at or oversee the operations of a waste facility, and whose actions or failure to act may result in noncompliance with the requirements of the waste management administrative regulations.

(205) "Pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, other than any article that:

(a) is a new animal drug under FFDCFA section 201(w), or

(b) is an animal drug that has been determined by regulation of the Secretary of Health and Human Services not to be a new animal drug, or

(c) is an animal feed under FFDCFA section 201(x) that bears or contains any substances described by paragraph (a) or (b) of this subsection.

(206) "Pile" or "waste pile" means any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage and that is not a containment building.

(207) "Plasma arc incinerator" means any enclosed device using a high intensity electrical discharge or arc as a source of heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

(208) "Point of compliance" means for hazardous waste site and facilities, groundwater monitoring wells located within 250 feet of the waste boundary as approved by the cabinet.

(209) "Point of waste origination" means as follows:

(a) When the facility owner or operator is the generator of the hazardous waste, the point of waste origination means the point where a solid waste produced by a system, process, or waste management unit is determined to be a hazardous waste as identified in 401 KAR Chapter 31.

(b) When the facility owner and operator are not the generator of the hazardous waste, point of waste origination means the point where the owner or operator accepts delivery or takes possession of the hazardous waste.

(210) "Point of waste treatment" means the point where a hazardous waste exits a waste management unit used to destroy, degrade, or remove organics in the hazardous waste.

(211) "Point source" means any discernible, confined, and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

(212) "Pollutant" shall have the same meaning as KRS 224.01-010.

(213) "Polychlorinated biphenyls" or "PCB" means halogenated organic compounds defined in accordance with 40 C.F.R. 761.2 as of July 1980.

(214) "Postclosure care" means the manner in which a facility shall be maintained when it no longer accepts waste for disposal.

(215) "Postclosure monitoring and maintenance" shall have the meaning specified in KRS 224.01-010.

(216) "Postclosure plan" means the plan for postclosure care prepared in accordance with the requirements of Sections 8 to 11 of 401 KAR 34:070 or Sections 8 to 11 of 401 KAR 35:070.

(217) "Pressure release" means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

(218) "Primary exporter" means any person who is required to originate the manifest for a shipment of hazardous waste in accor-

dance with Section 1 of 401 KAR 32:020 which specifies a treatment, storage, or disposal facility in a receiving country as the facility to which the hazardous waste will be sent and any intermediary arranging for the export.

(219) "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.

(220) "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.

(221) "Property damage" shall have the meaning given by applicable Kentucky statutes. Property damage does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for property damage.

(222) "Proposed permit" means a document prepared by the cabinet indicating the cabinet's tentative decision to issue or deny, modify, revoke or terminate a permit.

(223) "Publicly owned treatment works" or "POTW" shall have the meaning specified in KRS 224.01-010.

(224) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

(225) "Qualified groundwater scientist" means a geologist registered in Kentucky who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and has sufficient training and experience in groundwater hydrology and related fields to enable that individual to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport.

(226) "Receiving country" means a foreign country to which a hazardous waste is sent for the purpose of treatment, storage or disposal (except short term storage incidental to transportation).

(227) "Recharge zone" means an area supplying the water which enters an underground drinking water source.

(228) "Reclaimed" means a material that is processed to recover a usable product, or that is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(229) "Recovered material" shall have the meaning specified in KRS 224.01-010.

(230) "Recyclable materials" means hazardous wastes that are recycled.

(231) "Recycled" means a material that is used, reused, or reclaimed.

(232) "Recycling" shall have the meaning specified in KRS 224.01-010.

(233) "Regional integrated waste treatment and disposal demonstration facility" shall have the meaning specified in KRS 224.01-010.

(234) "Regulated unit" means hazardous waste land disposal sites or facilities, or portions of existing hazardous waste land disposal sites or facilities that continued to receive waste after January 26, 1983.

(235) "Remediation waste" means all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements under Section 12 of 401 KAR 34:060 and KRS 224.46-520. For a given facility, remediation wastes may originate only from within the facility boundary, but may include waste managed in implementing KRS 224.46-520 for releases beyond the facility boundary.

(236) "Repaired" means that equipment is adjusted, or otherwise altered, to eliminate a leak.

(237) "Replacement unit" means a landfill, surface impoundment, or waste pile unit from which all or substantially all of the waste is removed, and that is subsequently reused to treat, store,

or dispose of hazardous waste. "Replacement unit" does not apply to a unit from which waste is removed during closure, if the subsequent reuse solely involves the disposal of waste from that unit and other closing units or corrective action areas at the facility, in accordance with an approved closure plan or approved corrective action.

(238) "Representative sample" means a sample of a universe or whole (for example, waste pile, lagoon, or groundwater) which can be expected to exhibit the average properties of the universe or whole.

(239) "Research, development, and demonstration permit" means a permit issued by the cabinet for a hazardous waste treatment facility that utilizes 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 through 36.

(240) "Resource recovery" means the recovery of material or energy from waste.

(241) "Run-off" means any rainwater, leachate, or other liquid that drains overland from any part of a facility.

(242) "Run-on" means any rainwater, leachate, or other liquid that drains overland onto any part of a facility.

(243) "Saturated zone" shall have the same meaning as "zone of saturation".

(244) "Schedule of compliance" means a schedule of remedial measures included in a permit or cabinet order, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with KRS Chapter 224 and 401 KAR Chapters 30 to 49.

(245) "Scrap metal" is bits and pieces of metal parts (for example, bars, turnings, rods, sheets, or wire) or metal pieces that may be combined together with bolts or soldering (for example, radiators, scrap automobiles, or railroad boxcars), which when worn or superfluous can be recycled.

(246) "Secretary" shall have the meaning specified in KRS 224.01-010.

(247) "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.

(248) "Separator tank" means a device used for separation of two immiscible liquids.

(249) "Sewage system" shall have the meaning specified in KRS 224.01-010.

(250) "Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the waste facility or activity.

(251) "Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant or any other waste having similar characteristics and effects.

(252) "Sludge dryer" means any enclosed thermal treatment device that is used to dehydrate sludge and that has a maximum total thermal input, excluding the heating value of the sludge itself, of 2,500 BTU per pound of sludge treated on a wet weight basis.

(253) "Small quantity generator" means a generator who generates more than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month.

(254) "Small quantity handler of universal waste" means a universal waste handler who does not accumulate more than 5,000 kilograms of universal waste (batteries, lamps, pesticides, or thermocouples, calculated collectively) at any time.

(255) "Solid waste management unit" shall mean any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

(256) "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.

(257) "Sorb" means to either adsorb, absorb, or both.

(258) "Sorbent" means a material that is used to soak up free liquids by either adsorption or absorption, or both.

(259) "Spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

(260) "Spill" means any accidental spilling, leaking, pumping, pouring, emitting, or dumping of hazardous wastes or materials which, when spilled, become hazardous wastes into or on any land or water.

(261) "Start-up" means the setting in operation of a hazardous waste management unit or control device for any purpose.

(262) "State" means any of the fifty (50) states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Northern Mariana Islands or Guam but does not include any foreign country.

(263) "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.

(264) "Storage" shall have the meaning specified in KRS 224.01-010.

(265) "Storage facility" means a facility or part of a facility at which hazardous waste is held for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere. A generator who accumulates his own hazardous wastes in an approved manner for less than ninety (90) days for subsequent transport on site or off site is not operating or maintaining a storage facility.

(266) "Storage of hazardous waste" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed, or stored elsewhere.

(267) "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.

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

(269) "Sump" means any pit or reservoir that meets the definition of tank, and those troughs and trenches connected to it, that serves to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities; except that as used in the landfill, surface impoundment, and waste pile administrative regulations, "sump" means any lined pit or reservoir that serves to collect liquids drained from a leachate collection and removal system or leak detection system for subsequent removal from the system.

(270) "Surface impoundment" means a facility or part of a facility which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

(271) "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.

(272) "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.

(273) "Tank" means a stationary device designed to contain an accumulation of hazardous waste that is constructed primarily of nonearthen materials (for example, wood, concrete, steel, or plastic) which provide structural support and which does not meet the definition of any other unit.

(274) "Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

(275) "Termination" shall have the meaning specified in KRS 224.01-010.

(276) "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, 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.

(277) "Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge (see also "incinerator" and "open burning").

(278) "Thermal treatment facility" means a facility or part of a facility which uses elevated temperatures as the primary means to change the chemical, physical or biological character or composition of hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge.

(279) "Thermocast" means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of Section 4(3)(b) of 401 KAR 43.020 or Section 4(3)(b) of 401 KAR 43.030.

(280) "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.

(281) "Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which acid is neutralized.

(282) "Transit country" means any foreign country, other than a receiving country, through which a hazardous waste is transported.

(283) "Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body is a separate transport vehicle.

(284) "Transportation" shall have the meaning specified in KRS 224.01-010.

(285) "Transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, highway or water.

(286) "Treatability study" means:

(a) A study in which a hazardous waste is subjected to a treatment process to determine:

1. Whether the waste is amenable to the treatment process;
2. What pretreatment, if any, is required;
3. The optimal process conditions needed to achieve the desired treatment;
4. The efficiency of a treatment process for a specific waste or wastes; or
5. The characteristics and volumes of residuals from a particular treatment process.

(b) For the purpose of 401 KAR 31.010, Section 4(6) and (6), exemptions are liner compatibility, corrosion, and other material compatibility studies and toxicological and health effects studies.

(c) A "treatability study" is not a means to commercially treat or dispose of hazardous waste.

(287) "Treatment" shall have the meaning specified in KRS 224.01-010.

(288) "Treatment facility" means a facility or part of a facility using any method, technique or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous or less hazardous; safer to transport, store, or dispose of, or amenable for recovery, amenable for storage, or reduced in volume.

(289) "Treatment zone" means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents

are degraded, transformed, or immobilized.

(290) "Underground drinking water source" means-

(a) An aquifer supplying drinking water for human consumption; or

(b) An aquifer in which the groundwater contains less than 10,000 mg/l total dissolved solids.

(291) "UIC well" means an underground injection control well as provided in 40 C.F.R. Part 144.

(292) "Underground injection" means the subsurface emplacement of fluids through a bored, drilled, or driven well; or through a dug well, where the depth of the dug well is greater than the largest surface dimension (See also "injection well").

(293) "Underground tank" means a device meeting the definition of "tank" in this section whose entire surface area is totally below the surface of and covered by the ground.

(294) "Underlying hazardous constituent" means any constituent listed in Section 1 of 401 KAR 37.040, Table - Treatment Standards for Hazardous Wastes, except vanadium and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific treatment standards.

(295) "Unfit for use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

(296) "Universal waste" means any of the following hazardous wastes that are subject to the universal waste requirements of 401 KAR Chapter 43:

- (a) Batteries as described in Section 2 of 401 KAR 43.010;
- (b) Pesticides as described in Section 3 of 401 KAR 43.010;
- (c) Thermostats as described in Section 4 of 401 KAR 43.010;

and

- (d) Spent lamps as described in Section 5 of 401 KAR 43.010.

(297) "Universal waste handler,"

(a) Means:

1. A generator of universal waste; or
2. The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination.

(b) Does not mean:

1. A person who treats (except under the provisions of Sections 4(1) or (3) of 401 KAR 43.020 or Sections 4(1) or (3) of 401 KAR 43.030), disposes of, or recycles universal waste; or
2. A person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

(298) "Universal waste transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of universal waste are held during the normal course of transportation for ten days or less.

(299) "Universal waste transporter" means a person engaged in the off-site transportation of universal waste by air, rail, highway, or water.

(300) "Unsaturated zone" shall have the same meaning as "Zone of aeration".

(301) "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with the aquifer within the facility's property boundary.

(302) "Used oil" shall have the same meaning as KRS 224.50-545.

(303) "Used or reused" means a material that is either:

(a) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one (1) process used as feedstock in another process). However, a material shall not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or

(b) Employed in a particular function or application as an effec-

tive substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

(304) "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.

(305) "Vapor recovery system" means that equipment, device, or apparatus capable of collecting vapors and gases discharged from a storage tank, and a vapor processing system capable of affecting such vapors and gases so as to prevent their emission into the atmosphere.

(306) "Vapor-mounted seal" means a foam-filled primary seal mounted continuously around the circumference of the tank so that there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the hazardous waste surface, and the floating roof.

(307) "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.

(308) "Vessel" means any watercraft used or capable of being used as a means of transportation on the water.

(309) "Volatile organic concentration" or "VO concentration" means the fraction by weight of organic compounds in a hazardous waste expressed in terms of parts per million (ppmw) as determined by direct measurement using Method 25D or by knowledge of the waste in accordance with the requirements of Section 4 of 401 KAR 35-281.

(310) "Washout" means the carrying away of waste by water as a result of flooding.

(311) "Waste" shall have the meaning specified in KRS 224.01-010.

(312) "Waste boundary" means the outermost perimeter of the waste (projected in the horizontal plane) as it would exist at completion of the disposal activity.

(313) "Waste determination" means performing all applicable procedures in accordance with the requirements of Section 4 of 401 KAR 35-281 to determine whether a hazardous waste meets standards specified in 401 KAR Chapter 35. Examples of a waste determination include performing the procedures in accordance with the requirements of Section 4 of 401 KAR 35-281 to determine the average VO concentration of a hazardous waste at the point of waste origination; the average VO concentration of a hazardous waste at the point of waste treatment and comparing the results to the exit concentration limit specified for the process used to treat the hazardous waste; determining the organic reduction efficiency and the organic biodegradation efficiency for a biological process used to treat a hazardous waste and comparing the results to the applicable standards; or the maximum volatile organic vapor pressure for a hazardous waste in a tank and comparing the results to the applicable standards.

(314) "Waste pile" shall have the same meaning as "pile".

(315) "Waste stabilization process" means any physical or chemical process used to either reduce the mobility of hazardous constituents in a hazardous waste or eliminate free liquids as determined by Test Method 9006 (Paint Filter Liquids Test) in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, (incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30-010). A waste stabilization process includes mixing the hazardous waste with binders or other materials, and curing the resulting hazardous waste and binder mixture. Other synonymous terms used to refer to this process are "waste fixation" or "waste solidification."

(316) "Wastewaters" means 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:

(a) 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 1 of 401 KAR 37:040 in Table Treatment Standards for Hazardous Waste;

(b) K011, K013, K014 wastewaters contain less than five (5) percent by weight TOC and less than one (1) percent by weight TSS, as generated; and

(c) K103 and K104 wastewaters contain less than four (4) percent by weight TOC and less than one (1) percent by weight TSS.

(317) "Wastewater treatment unit" means a device that

(a) is part of a wastewater treatment facility that is subject to administrative regulation under either section 402 or 307(b) of the CWA;

(b) receives and treats or stores an influent wastewater which is a hazardous waste as defined in 401 KAR 31-010, Section 3; or generates and accumulates a wastewater treatment sludge that is a hazardous waste as defined in 401 KAR 31-010, Section 3; or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in Section 3 of 401 KAR 31-010; and

(c) meets the definition of tank or tank system in this administrative regulation.

(318) "Water" or "waters of the Commonwealth" shall have the meaning specified in KRS 224.01-010.

(319) "Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

(320) "Well" means any shaft or pit dug or bored into the earth, generally of cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

(321) "Wetlands" means land that has a predominance of hydric soils and is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

(322) "Zone of aeration" means that region of the soil or rock between the land surface and the nearest saturated zone in which the interstices are occupied partially by air.

(323) "Zone of engineering control" means an area under the control of the owner or operator that upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to waters of the Commonwealth.

(324) "Zone of saturation" means that part of the earth's crust containing groundwater in which all voids, large and small, are filled with liquid.

Section 2. Acronyms and Abbreviations. Unless otherwise specifically indicated by context, acronyms and abbreviations used in 401 KAR Chapter 31 shall have the meaning as identified in Table 1 of this administrative regulation.

Am-	Amended
C	Corrosive waste
CAA	Clean Air Act, as amended
C.F.R.	Code of Federal Regulations
cm	Centimeter
cm ²	Centimeter squared
CO	Carbon monoxide
CO ₂	Carbon dioxide
CWA	Clean Water Act, as amended
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
DOT	United States Department of Transportation
DRE	Destruction and removal efficiency
E	Explosive waste
eff.	Effective
EPA	United States Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIA	Federal Insurance Administration
FR	Federal Register
H	Acutely hazardous waste
ha	Hectare
HTMR	High temperature metals recovery

HSWA	Hazardous and Solid Waste Amendments of 1994
I	Ignitable waste
KAR	Kentucky Administrative Regulation
kg	Kilogram
KPDES	Kentucky Pollution Discharge Elimination System
KRS	Kentucky Revised Statute
Ky.R.	Administrative Register of Kentucky
L	Liter
LC	Lethal concentration
LD	Lethal dose
ml	Milliliter
mm	Millimeter
N	Normal
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NPDES	National Pollutant and Discharge Elimination System
PCB	Polychlorinated biphenyl
ppm/l	Picograms per liter
PHC	Principal hazardous constituent
Permit	Permitted principal organic hazardous constituent
POHC	Principal organic hazardous constituent
PM	Particulate matter
POHC	Principal organic hazardous constituent
ppm	parts per million
Trial POHC	Trial burn principal organic hazardous constituent
POTW	Publicly owned treatment works
RSD	Prevention of significant deterioration
psi	Pounds per square inch
psig	Pounds per square inch gauge
R	Reactive waste
RCRA	Resource Conservation and Recovery Act, as amended
SDWA	Safe Drinking Water Act, as amended
SEC	Securities and Exchange Commission
SIC	Standard Industrial Classification Code
SPCC	Spill Prevention, Control, and Countermeasures Plan
T	Toxic waste
UIC	Underground Injection Control
UICP	Underground Injection Control Program
U.S.C.	United States Code
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
USPS	United States Postal Service

TERESA J HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: November 28, 2006 at 10 a.m.
 CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 32:010. General provisions for generators.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.46, 224.99, 40 C.F.R. 262 Subpart A
 STATUTORY AUTHORITY: KRS 10-100, 224.46-510[~~40 C.F.R. 262 Subpart A~~]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(1) requires the Environmental and Public Protection Cab-

net to promulgate administrative regulations to establish requirements relating to generators of hazardous waste. This administrative regulation establishes procedures to implement provisions of KRS 224.46-510 and to establish the applicable general provisions for generators. This administrative regulation is equivalent to corresponding federal regulations, except it requires [Sections 3 and 4 require] the use of Kentucky-specific forms.

Section 1. Purpose, Scope, and Applicability. (1) The subject matter shall be governed by 40 C.F.R. 262.10(a) through (i), effective July 1, 2005.

(2) The citations to Section [Sections] 3008 in the federal regulation referenced in subsection (1) of this section shall be replaced with the compliance requirements and penalties prescribed in KRS Chapter 224.

Section 2. Hazardous Waste Determination. The subject matter shall be governed by 40 C.F.R. 262.11, effective July 1, 2005. [These administrative regulations establish standards for generators of hazardous waste.

(2) Section 5(3) and (4) of 401 KAR 31:010 shall be used to determine the applicability of provisions of this chapter that are dependent on calculations of the quality of hazardous waste generated per month.

(3) A generator who treats, stores, or disposes of hazardous waste on-site shall only comply with the following: Section 2 of the administrative regulation for determining whether or not he has a hazardous waste; Section 3 of this administrative regulation for obtaining an EPA identification number; Section 5 and 6 of 401 KAR 32:030 for accumulation of hazardous waste; Section 6 of 401 KAR 32:030 for on-site treatment of a hazardous waste; Section 1(3) and (4) of 401 KAR 32:040, for recordkeeping; Section 4 of 401 KAR 32:040 for additional reporting; and, if applicable, Section 10 of 401 KAR 32:050 for farmers.

(4) Any person who imports hazardous waste from outside the United States into Kentucky shall comply with the standards applicable to generators established in this chapter.

(5) A farmer who generates waste pesticides which are hazardous waste and who complies with all of the requirements of Section 10 of 401 KAR 32:050 is not required to comply with other standards in this chapter or 401 KAR Chapters 34, 35, 37, and 38 with respect to such pesticides.

(6) A person who generates a hazardous waste as defined by 401 KAR Chapter 31 is subject to the compliance requirements and penalties prescribed in KRS Chapter 224 if he does not comply with the requirements of this chapter.

(7) An owner or operator who initiates a shipment of hazardous waste from a treatment, storage, or disposal facility shall comply with the generator standards established in this chapter.

Section 2. Hazardous Waste Determination. A person who generates a waste, as defined in Section 2 of 401 KAR 31:010 shall determine if that waste is a hazardous waste using the following method:

(1) He shall first determine if the waste is excluded from administrative regulation under Section 4 of 401 KAR 31:010.

(2) If not, he shall then determine if the waste is listed as a hazardous waste in 401 KAR 31:040.

(3) For purposes of compliance with 401 KAR Chapter 37 or if the waste is not listed as a hazardous waste in 401 KAR 31:040 the generator shall then determine whether the waste is identified in 401 KAR 31:030, by either:

(a) Testing the waste according to the methods set forth in 401 KAR 31:030, or according to an equivalent method approved by the cabinet; or

(b) Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

(4) If the waste is determined to be hazardous, the generator shall refer to 401 KAR Chapters 31, 34, 35, 36, 37, 38, and 43 for possible exclusions or restrictions pertaining to management of his specific waste.]

Section 3. Registration and Identification Number. (1)(a) A generator shall not treat, store, dispose, transport, or offer for

transportation, hazardous waste without having:

1. Registered with the cabinet by submitting a complete registration form; and

2. [without having] Received an EPA identification number.

(b) Generators shall register initially by submitting a complete Notification of Hazardous Waste Activity Form, DEP 7037 [~~which is incorporated by reference in Section 4 of this administrative regulation. After October 26, 1998, generators shall submit an initial registration on a schedule determined by the cabinet.~~]

(c) Subsequent annual registrations shall be submitted to the cabinet on the Notification [Annual Registration] of Hazardous Waste Activity Form, DEP-7037 [DEP-7050], at least forty-five (45) days before the expiration date shown on the generator's registration. [~~This form is incorporated by reference in Section 4 of this administrative regulation.~~]

(d) Registration shall be filed within ninety (90) days after the effective date [promulgation or revision] of administrative regulations under 401 KAR Chapter 31 identifying by its characteristics or listing any substance as a hazardous waste.

(e) The registration shall include:

1. [(a)] Known or anticipated types, potential sources, general characteristics, and weights or volumes of hazardous wastes generated annually; and

2. [(b)] The place of generation and the name and address of a contact agent; and

(f) [(e)] If the waste is a special waste, generators shall, either individually or collectively as a categorical group, file a report within ninety (90) days after the effective date [promulgation or revision] of administrative regulations under 401 KAR Chapter 31 identifying by its characteristics or listing any substance as a hazardous waste. The report shall detail [~~file a report, according to procedures previously approved by the cabinet, which details,~~] by geographic area, the known or anticipated types, potential sources, general characteristics, and weights or volumes of special wastes generated annually [Net] More than one (1) registration shall not be required to be filed with respect to the same substance.

(2) A generator who has not received an EPA identification number may obtain one by registering with the cabinet as described in subsection (1) of this section, using the form, "Notification of Hazardous Waste Activity Form", DEP 7037 [~~forms provided by the cabinet. The Notification of Hazardous Waste Activity Form (July 1996), DEP 7037, and Annual Registration of Hazardous Waste Activity Form (July 1996), DEP 7050, are incorporated by reference in Section 4 of this administrative regulation.~~]. Upon receiving the request and reviewing the information, the cabinet shall assign an EPA identification number to the generator.

(3) A generator shall not offer his hazardous waste to transporters or to treatment, storage, or disposal facilities that have not received an EPA identification number.

(4)(a) Hazardous waste generation and on-site management of hazardous waste shall be consistent with the submitted registration

(b) [~~Hazardous waste generation and on-site management of hazardous waste shall be consistent with registration.] A modified "Notification of Hazardous Waste Activity Form", DEP 7037, shall be submitted if any information submitted on the original or existing notification form changes. These modifications may include any changes in waste streams, on-site management methods, the name of the contact person or any other information submitted on the "Notification of Hazardous Waste Activity Form". [Any changes in waste streams, on-site management methods, or other information submitted on the registration form requires the generator to submit a modified registration form. A modified Notification of Hazardous Waste Activity Form, DEP-7037, shall be submitted if a waste stream is added or the name of the contact person or registrant is changed.]~~

(c) The registrant shall timely file a modified registration form with the cabinet. A required modification shall be considered timely filed if it is received by the cabinet not later than thirty (30) days following the change requiring the submittal of the modification. [~~The Notification of Hazardous Waste Activity Form, DEP-7037, is incorporated by reference in Section 4 of this administrative regulation.~~]

(5) Hazardous waste generators that no longer generate haz-

ardous waste on site, close their facility, or go out of business shall notify the cabinet in writing within thirty (30) days after the generation of hazardous waste ceases. This notification shall be submitted on the [DEP Form 7086, entitled] Request to be Removed from the Hazardous Waste Handler List, DEP 7086 [(August 1994), which is incorporated by reference in Section 4 of this administrative regulation].

Section 4. Incorporation by Reference. (1) The following material is incorporated by reference [documents are hereby incorporated by reference into this administrative regulation]:

(a) Notification of Hazardous Waste Activity Form [(November 1990), DEP Form 7037[.] (July 2006); and (.]

(b) [Annual Registration of Hazardous Waste Activity Form (November 1990), DEP Form 7050; and

(c) Request to be Removed from the Hazardous Waste Handler List [(August 1994), DEP Form 7086[.] (August 1991)]

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at [~~These documents are available for inspection and copying, subject to copyright law, from~~] 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.], Monday through Friday, 8 a.m. until 4:30 p.m.

(3) These documents may also be obtained from the Division of Waste Management's Web page located at [~~]~~ www.waste.ky.gov.

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 32:020. Manifest system.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.46, 224.99, 40 C.F.R. 262 Subpart B

STATUTORY AUTHORITY: KRS 10-100, 224.46-510[~~40 C.F.R. 262 Subpart B]~~

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(1) requires the Environmental and Public Protection Cabinet to promulgate administrative regulations to establish requirements relating to generators of hazardous waste. This administrative regulation establishes procedures to implement provisions of KRS 224.46-510 and to establish general requirements and procedures involving the use of the manifest system by generators of hazardous waste.

Section 1. General Requirements. The subject matter shall be governed by 40 C.F.R. 262.20, effective September 9, 2005.

Section 2. Manifest tracking numbers, manifest printing, and obtaining manifests. The subject matter shall be governed by 40 C.F.R. 262.21, effective September 9, 2005.

Section 3. Number of Copies. The subject matter shall be governed by 40 C.F.R. 262.22, effective July 1, 2005.

Section 4. Use of the Manifest. The subject matter shall be governed by 40 C.F.R. 262.23, effective July 1, 2005.

Section 5. Waste Minimization Certification. The subject matter shall be governed by 40 C.F.R. 262.27, effective September 9, 2006. [(1) A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage, or disposal shall prepare a manifest, incorporated by reference in Section 2 of 401

KAR 32-100, and if necessary, the continuation sheet that is incorporated by reference in Section 4 of 401 KAR 32-100, according to the instructions included in 401 KAR 32-100.

(2) A generator shall designate on the manifest the facility which is permitted to handle the waste described on the manifest.

(3) A generator may also designate on the manifest one (1) alternate facility which is permitted to handle his waste in the event an emergency prevents delivery of the waste to the primary designated facility.

(4) If the transporter is unable to deliver the hazardous waste to the designated facility or the alternate facility, the generator shall either designate another facility or instruct the transporter to return the waste.

Section 2 – Acquisition of Manifests. (1) If the state to which the shipment is manifested (consignment state) supplies the manifest and requires its use, then the generator shall use that manifest and include all information required in 401 KAR 32-100.

(2) If the consignment state does not supply the manifest, but the state in which the generator is located (generator state) supplies the manifest and requires its use, then the generator shall use that state's manifest and include all information required in 401 KAR 32-100.

(3) If neither the generator state nor the consignment state supplies the manifest, then the manifest shall be filled out in accordance with the requirements of 401 KAR 32-100 and the generator may obtain the manifest from any source.

Section 3 – Number of Copies. The manifest consists of at least the number of copies which will provide the generator, each transporter, and the owner or operator of the designated facility with one (1) copy each for their records and another copy to be returned by the operator of the designated facility to the generator.

Section 4. Use of the Manifest. (1) The generator shall:
(a) Sign the manifest certification by hand, and
(b) Obtain the handwritten signature of the initial transporter and date of acceptance on the manifest; and
(c) Retain one (1) copy, in accordance with Section 1(1) of 401 KAR 32-040.

(2) The generator shall give the transporter the remaining copies of the manifest.

(3) For shipments of hazardous waste within the United States solely by water (bulk shipments only), the generator shall send three (3) copies of the manifest dated and signed in accordance with this section to the owner or operator of the designated facility or the last water (bulk shipment) transporter to handle the waste in the United States if exported by water. Copies of the manifest are not required for each transporter.

(4) For rail shipments of hazardous waste within the United States which originate at the site of generation in Kentucky, the generator shall send at least three (3) copies of the manifest dated and signed in accordance with this section to:

- (a) The next nonrail transporter, if any, or
- (b) The designated facility if transported solely by rail; or
- (c) The last rail transporter to handle the waste in the United States if exported by rail.

(5) For shipments of hazardous waste to a designated facility in an authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, the generator shall assure that the designated facility agrees to sign and return the manifest to the generator, and that any out-of-state transporter signs and forwards the manifest to the designated facility with the shipment.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 32:030. Pretransport requirements.

RELATES TO: KRS Subchapters [Chapters] 224.01, 224.10, 224.40, 224.46, 224.99, 40 C.F.R. 262 Subpart C

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-510[~~40 C.F.R. 262 Subpart C~~]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(1) requires the Environmental and Public Protection Cabinet to promulgate administrative regulations to establish requirements relating to generators of hazardous waste. This administrative regulation implements [To implement] provisions of KRS 224.46-510 and 40 C.F.R. 262 Subpart C by establishing [40 C.F.R. Subpart C and to establish] requirements for labeling, marking, placarding, and accumulation time. This administrative regulation differs from the corresponding federal regulation [statute] by requiring immediate notification [in the event] of a release of hazardous materials in Section 5 and by establishing in Section 6 [Kentucky has] application, approval and fee requirements for generators treating hazardous waste on-site.

Section 1 Packaging The subject matter shall be governed by 40 C.F.R. 262.30, effective July 1, 2005.

Section 2 Labeling The subject matter shall be governed by 40 C.F.R. 262.31, effective July 1, 2005.

Section 3. Marking The subject matter shall be governed by 40 C.F.R. 262.32, effective September 9, 2005.

Section 4 Placarding The subject matter shall be governed by 40 C.F.R. 262.33, effective September 9, 2005.

Section 5 Accumulation Time (1) The subject matter shall be governed by 40 C.F.R. 262.34(a) through (i), effective September 9, 2005.

(2) If there is [in the event of] a fire, explosion, or other release which could threaten human health outside the facility, or if [when] the generator has knowledge that a spill has reached surface water, the generator shall immediately notify the cabinet in accordance with KRS 224.01-400[(11) and (12)].

Section 6. On-site Treatment by Generators. (1) Hazardous waste may be treated on-site in tanks, containers, and dnp pads, if [provided]:

(a) 1. A generator or [and] small quantity generator complies with the hazardous waste accumulation provisions of Section 5 of this administrative regulator; or

2. A limited quantity generator complies with the provisions of 401 KAR 31:010, Section 5.

(b) The generator notifies the cabinet of the intent to treat hazardous waste as required by 401 KAR 32:010, Section 3; and

(c) The cabinet issues written approval to the generator. The cabinet shall not approve any treatment process that is not demonstrated to provide adequate protection to human health, safety, and the environment in a manner consistent with the purpose of the waste management administrative regulations and KRS Chapter 224.

(2) A generator shall not conduct the on-site treatment of hazardous waste unless all of the requirements of subsection (1) of this section have been met.

(3) If it is determined that the approved treatment is not protective of human health, safety, and the environment, the cabinet shall [may] revoke the approval and all treatment activities shall cease.

(4) The cabinet shall refund any fees paid in accordance with 401 KAR 39 110, Section 2(4), if it fails to provide a written determination within sixty (60) days of receipt of a generator's request to treat hazardous waste

[Section 1. Packaging. Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator shall package the waste in accordance with the applicable DOT U.S. Department of Transportation regulations on packaging under 40 C.F.R. Subpart C.

Section 2. Labeling. Before transporting or offering hazardous waste for transportation off-site, a generator shall label each package in accordance with the applicable DOT U.S. Department of Transportation regulations on hazardous materials, under 40 C.F.R. Subpart C.

Section 3. Marking. (1) Before transporting or offering hazardous waste for transportation off-site, a generator shall mark each package of hazardous waste in accordance with the applicable DOT U.S. Department of Transportation regulations on hazardous materials under 40 C.F.R. Subpart C.

(2) Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator shall mark each container of 110 gallons or less used in such transportation in accordance with the requirements of 40 C.F.R. Subpart C. The following words and information shall be displayed: "Hazardous Waste—Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency. Generator's Name and Address; Manifest Document Number;

Section 4. Placarding. Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator shall offer the initial transporter the appropriate placards according to DOT U.S. Department of Transportation regulations for hazardous materials under 40 C.F.R. Subpart C and Subpart F.

Section 5. Accumulation Time. (1) Except as provided in subsections (3), (4), (5), and (6) of this section and Section 6 of this administrative regulation, a generator may accumulate hazardous waste on-site for ninety (90) days or less without a permit or without having interim status if:

(a) The waste is placed:

1. In containers and the generator complies with 401 KAR 35-180, 35-275, 35-280, and 35-281; or

2. In tanks and the generator complies with 401 KAR 35-190 (except Sections 8(3) and 11 and forty-five (45) days prior to closing a tank, the generator notifies the cabinet in writing of the intent to begin closure), 35-275, 35-280, and 35-281; or

3. On drip pads and the generator complies with 401 KAR 35-285 and maintains the following records at the facility:

a. A description of procedures that will be followed to ensure that all wastes are removed from the drip pad and associated collection system at least once every ninety (90) days; and

b. Documentation of each waste removal, including the quantity of waste removed from the drip pad and the sump or collection system and the date and time of removal.

4. The waste is placed in containment buildings and the generator complies with 401 KAR 35-245, and placed its professional engineer certification that the building complies with the design standards specified in Section 2 of 401 KAR 35-245 in the facility's operating record no later than sixty (60) days after the date of initial operation of the unit. After February 18, 1993, professional engineer (PE) certification will be required prior to operation of the unit. The owner or operator shall maintain the following records at the facility:

a. A written description of procedures to ensure that each waste volume remains in the unit for no more than ninety (90) days, a written description of the waste generation and management practices for the facility showing that they are consistent with respecting the ninety (90) day limit, and documentation that the procedures are complied with; or

b. Documentation that the unit is emptied at least once every ninety (90) days.

(b) The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container;

(c) While being accumulated on-site, each container and tank

is labeled or marked clearly with the words "Hazardous Waste;" and

(d) The generator complies with the requirements for owners or operators in 401 KAR 35-030, and 401 KAR 35-040, with Section 7 of 401 KAR 35-020, and with Section 7(1)(d) of 401 KAR 37-010. In addition, the generator is exempt from all requirements in 401 KAR 35-070 and 35-130, except for Sections 2 and 5 of 401 KAR 35-070.

(2) A generator who accumulates hazardous waste for more than ninety (90) days is an operator of a storage facility and is subject to the requirements of 401 KAR Chapter 34, 401 KAR Chapter 35 and the permit requirements of 401 KAR Chapter 38, unless he has been granted an extension to the ninety (90) day period. Such extensions may be granted by the cabinet if hazardous wastes will remain on-site for longer than ninety (90) days due to unforeseen, temporary, and uncontrolled circumstances. An extension of up to thirty (30) days may be granted at the discretion of the cabinet on a case-by-case basis.

(3) Satellite accumulation

(a) A generator may accumulate as much as fifty-five (55) gallons of hazardous waste or one (1) quart of acutely hazardous waste listed in Section 4 of 401 KAR 31-040 in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or interim status and without complying with subsection (1) of this section provided that upon commencement of accumulation, he:

1. Complies with Sections 2, 3, and 4(1) of 401 KAR 35-180; and

2. Marks his containers with the words "Hazardous Waste."

(b) A generator who accumulates other hazardous waste or acutely hazardous waste listed in Section 4 of 401 KAR 31-040 in excess of the amounts listed in paragraph (a) of this subsection at or near any point of generation shall, with respect to that amount of excess waste, comply with subsection (1) of this section or other applicable provisions of this chapter and continue to comply with paragraph (a) 1 and 2 of this subsection. The generator must mark the container holding the excess accumulation of hazardous waste with the date the excess amount began accumulating. The date shall be placed on the container on the day that excess accumulation began.

(4) A generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month may accumulate hazardous waste on-site for 180 days or less without a permit or without having interim status provided that:

(a) The quantity of waste accumulated on-site never exceeds 6000 kilograms;

(b) The generator complies with the requirements of 401 KAR 35-180, except Sections 6 and 8;

(c) The generator complies with the requirements of 401 KAR 35-190, except Section 13;

(d) The generator complies with the requirements of subsection (1)(b) and (c) of this section, the requirements of 401 KAR 35-030, the requirements of Section 7(1)(d) of 401 KAR 37-010, and

(e) The generator complies with the following requirements:

1. At all times there shall be at least one (1) employee either on the premises or on call (that is, available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures specified in subparagraph 4 of this paragraph. This employee is the emergency coordinator.

2. The generator shall post the following information next to the telephone:

a. The name and telephone number of the emergency coordinator;

b. Location of fire extinguishers and spill control material, and, if present, fire alarm; and

c. The telephone number of the fire department, unless the facility has a direct alarm.

3. The generator shall ensure that all employees are thoroughly familiar with proper waste handling and emergency procedure, relevant to their responsibilities during normal facility operations and emergencies;

4. The emergency coordinator or his designee shall respond to any emergencies that arise. The applicable responses are as follows:

a. In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;

b. In the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil;

c. In the event of a fire, explosion, or other release which could threaten human health outside the facility or when the generator has knowledge that a spill has reached surface water, the generator shall immediately notify the cabinet in accordance with KRS 224.01-400(11) and (12).

(5) A generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month and who shall transport his waste, or offer his waste for transportation, over a distance of 200 miles or more for off-site treatment, storage or disposal may accumulate hazardous waste on-site for 270 days or less without a permit or without having interim status provided that he complies with the requirements of subsection (4) of this section.

(6) A generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month and who accumulates hazardous waste in quantities exceeding 6000 kilograms or accumulates hazardous waste for more than 180 days (or for more than 270 days if he transports his waste, or offers his waste for transportation, over a distance of 200 miles or more) is an operator of a storage facility and is subject to the requirements of 401 KAR Chapters 34 and 35 and the permit requirements of 401 KAR Chapter 38 unless he has been granted an extension to the 180-day (or 270-day if applicable) period. Such extension may be granted by the Cabinet if hazardous wastes remain on-site for longer than 180 days (or 270 days if applicable) due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to thirty (30) days may be granted at the discretion of the cabinet on a case-by-case basis.

Section 6. On-site Treatment by Generators. (1) A generator may treat his own hazardous waste on-site in tanks, containers, and drip pads, provided:

(a) 1. A generator complies with the hazardous waste accumulation provisions of Section 5 of this administrative regulation.

2. A small quantity generator complies with the hazardous waste accumulation provisions of Section 5 of this administrative regulation.

3. A limited quantity generator complies with the provisions of Section 5 of 401 KAR 31.010, and

(b) The generator notifies that cabinet of the intent to treat hazardous waste as required by Section 3 of 401 KAR 32.010; and

(c) The cabinet issues written approval to the generator. The cabinet shall not approve any treatment process that is not demonstrated to provide adequate protection to human health, safety, and the environment in a manner consistent with the purpose of the waste management regulations and KRS Chapter 224.

(2) A generator shall not conduct the on-site treatment of hazardous waste unless all of the requirements of subsection (1) of this section have been met.

(3) If it is determined that the approved treatment is not protective of human health, safety, and the environment, the cabinet may revoke the approval and all treatment activities shall cease.

(4) The cabinet shall refund any fees paid in accordance with Section 2(4) of 401 KAR 30.110 if it fails to provide a written determination within sixty (60) days of receipt of a generator's request to treat hazardous waste.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

CONTACT PERSON: R. Bruce Scott, P.E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, e-mail: Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 32:040. Recordkeeping and reporting.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.46, 224.99, 40 C.F.R. 262 Subpart D

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-510(1); 40 C.F.R. 262 Subpart D]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510 requires the cabinet to promulgate administrative regulations to establish standards for the generation of hazardous waste. [This chapter establishes standards applicable to generators of hazardous waste.] This administrative regulation establishes recordkeeping and reporting standards. This administrative regulation is equivalent to corresponding federal requirements except an annual report is required rather than a biennial report.

Section 1. Definition. [(1)] "Regional administrator" [in Section 3 of this administrative regulation,] means, as used in Section 3 of this administrative regulation, the Regional Administrator for the EPA region in which the facility is located, or his designee.

Section 2. Recordkeeping. The subject matter shall be governed by 40 C.F.R. 262.40, effective July 1, 2005.

Section 3. Reports. (1) A generator who ships any hazardous waste off-site to a treatment, storage, or disposal facility within the United States shall prepare and submit a "Hazardous Waste Annual Report," DEP Form 7072 [incorporated by reference in Section 7 of this administrative regulation]. The "Hazardous Waste Annual Report" shall be submitted to the cabinet no later than March 1 to report information for the preceding calendar year.

(2) Any generator who treats, stores, or disposes of hazardous waste on-site shall submit the Hazardous Waste Annual Report covering those wastes in accordance with provisions of 401 KAR Chapters 34, 35, 36, and 38. Reporting for exports of hazardous waste outside the United States shall not be included [is not required] on the annual report form but shall be accomplished by a separate annual report pursuant to 401 KAR 32.050.

(3) Generators shall provide a duplicate copy of the Hazardous Waste Annual Report to the county judge/executive of the county or chief executive officer of an urban county government within which the waste site or facility which will receive waste from the generator is located and to the county judge/executive of the county or chief executive officer of an urban county government within which the generator is located in order that the county judge/executive or chief executive officer may make the report available to the county law enforcement and emergency services for emergency planning purposes.

Section 4. Exception Reporting. (1) The subject matter shall be governed by 40 C.F.R. 262.42, effective July 1, 2005.

(2) The exceptions report referenced in 40 C.F.R. 262.42(a)(2) shall also be submitted to the cabinet.

(3) [The cabinet may require] Generators shall furnish the [to furnish] additional reports concerning the quantities and disposition of wastes identified or listed in Section 5 of this administrative regulation.

Section 5. Additional Reporting. The subject matter shall be governed by 40 C.F.R. 262.43, effective July 1, 2005.

Section 6. Special Requirements for Generators of Between 100 and 1000 kg/mo. The subject matter shall be governed by 40 C.F.R. 262.44, effective July 1, 2005.

Section 7. Incorporation by Reference. (1) "Hazardous Waste Annual Report", Form DEP 7072 [1] (July, 2006), is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Division of Waste Manage-

ment, 14 Reilly Road, Frankfort, Kentucky 40601, Monday through Friday 8 a.m. to 4:30 p.m.

(3) This document [These documents] may also be obtained from the Division of Waste Management's web page located at: www.waste.ky.gov. [Recordkeeping--(1) A generator shall keep a copy of each manifest signed in accordance with Section 4(1) of 401 KAR 32:020 in addition to the signed copy returned from the designated facility which received the waste. Both copies shall be retained on record for at least three (3) years from the date the waste was accepted by the initial transporter.

(2) A generator shall keep a copy of each annual report and exception report for a period of at least three (3) years from the due date of the report (March 1).

(3) A generator shall keep records of any test results, waste analyses, or other determinations made in accordance with Section 2 of 401 KAR 32:010 for at least three (3) years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal.

(4) A generator shall keep a log showing all facility and equipment inspections as required in Section 6 of 401 KAR 35:020.

(5) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the secretary.

Section 2. Annual Reporting. (1) A generator who ships any hazardous waste off-site to a treatment, storage or disposal facility within the United States shall prepare and submit a Hazardous Waste Annual Report, DEP Form 7072-01, incorporated by reference in Section 5 of this administrative regulation. The Hazardous Waste Annual Report shall be submitted to the cabinet no later than March 1 for the preceding calendar year.

(2) Any generator who treats, stores, or disposes of hazardous waste on-site shall submit the Hazardous Waste Annual Report covering these wastes in accordance with provisions of 401 KAR Chapters 34, 35, 36, and 38. Reporting for exports of hazardous waste outside the United States is not required on the annual report form but shall be accomplished by a separate annual report pursuant to 401 KAR 32:050.

(3) Generators shall provide a duplicate copy of the Hazardous Waste Annual Report to the county judge/executive of the county or chief executive officer of an urban county government within which the waste site or facility which will receive waste from the generator is located and to the county judge/executive of the county or chief executive officer of an urban county government within which the generator is located in order that the county judge/executive or chief executive officer may make the report available to the county law enforcement and emergency services for emergency planning purposes.

Section 3. Exception Reporting. (1) A generator who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within thirty-five (35) days of the date the waste was accepted by the initial transporter shall contact the transporter and/or the owner or operator of the designated facility to determine the status of the hazardous waste.

(2) A generator shall submit an exception report to the cabinet if he has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within forty-five (45) days of the date the waste was accepted by the initial transporter. The exception report shall include:

- (a) A legible copy of the manifest for which the generator does not have confirmation of delivery;
- (b) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the hazardous waste and the results of these efforts.

Section 4. Additional Reporting. The secretary may require generators to furnish additional reports concerning the quantities and disposition of wastes identified or listed in 401 KAR Chapter 34.

Section 5. Incorporation by Reference. (1) The following document is hereby incorporated by reference: "Hazardous Waste An-

nual Report", DEP Form 7072-01 (1994).

(2) The document referenced in subsection (1) of this section is available for inspection and copying, subject to copyright law, from the Hazardous Waste Branch of the Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-6716, from 8 a.m. to 4:30 p.m. eastern time, Monday through Friday, excluding state holidays.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 32:050. Special conditions.

RELATES TO. KRS Subchapters 224.01, 224.10, 224.40, 224.46, 224.99, 40 C.F.R. 260.2, 262 Subparts E, [F-G], 262.54(h), 262.58, 263 20(g)(4)

STATUTORY AUTHORITY: KRS 10-100, 224 46-510[~~49 C.F.R. 260.2, 262 Subparts E, F, 262.54(h), 262.58, 263 20(g)(4)~~]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(1) requires the Environmental and Public Protection Cabinet to promulgate administrative regulations to establish requirements relating to generators of hazardous waste. This administrative regulation establishes procedures to implement provisions of KRS 224.46-510 and to establish special conditions for generators who export or import hazardous waste. This administrative regulation is equivalent to corresponding federal requirements except an annual report is required rather than a biennial report [exempts farmers from certain requirements].

Section 1. Definitions. (1) "Administrator" is defined by 40 C.F.R. 260.10

(2) "Environmental Protection Agency" or "EPA" means:

(a) The Kentucky Division of Waste Management in Sections 2, 3, 6, 8, and 9 of this administrative regulation; or

(b) The federal Environmental Protection Agency in Sections 4, 5, 7, and 10 of this administrative regulation.

(3) "Federal Register" means the official daily publication for regulations [rules], proposed regulations [rules], and notices of federal agencies and organizations, as well as executive orders and other presidential documents.

(4) "Regional administrator" is defined by 40 C.F.R. 260.10.

(5) "United States" is defined by 40 C.F.R. 260.10.

Section 2. Applicability. The subject matter shall be governed by 40 C.F.R. 262.50, effective July 1, 2005.

Section 3. General Requirements. The subject matter shall be governed by 40 C.F.R. 262.52, effective July 1, 2005.

Section 4. Notification of Intent to Export. The subject matter shall be governed by 40 C.F.R. 262.53, effective July 1, 2005.

Section 5. Special Manifest Requirements. The subject matter shall be governed by 40 C.F.R. 262.54, effective September 9, 2005.

Section 6. Exception Reports. The subject matter shall be governed by 40 C.F.R. 262.55, effective July 1, 2005.

Section 7. Annual Reports. (1) Except as provided in subsection (2) of this section, the subject matter shall be governed by 40 C.F.R. 262.56, effective July 1, 2005 [with the modifications, exceptions, and additions set forth in this section].

(2) In addition to the requirements referenced in subsection (1) [1] of this section, the annual report shall also be sent to the cabinet.

Section 8 Recordkeeping The subject matter shall be governed by 40 C.F.R. 262.57, effective July 1, 2005.

Section 9. International Agreements The subject matter shall be governed by 40 C.F.R. 262.58, effective July 1, 2005.

Section 10 Imports of Hazardous Waste The subject matter shall be governed by 40 C.F.R. 262.60, effective September 9, 2005. [The definitions previously found in this section have been relocated to the definition regulation for this chapter, which is 401 KAR 32.005.

Section 2. Applicability This administrative regulation establishes requirements applicable to exports of hazardous waste. A primary exporter of hazardous waste shall comply with the special requirements of this administrative regulation and a transporter transporting hazardous waste for export shall comply with applicable requirements of 401 KAR Chapter 33. 40 C.F.R. 262.58 sets forth the requirements of international agreements between the United States and receiving countries which establish different notice, export, and enforcement procedures for the transportation, treatment, storage and disposal of hazardous waste for shipments between the United States and those countries.

Section 3 General Requirements Exports of hazardous waste are prohibited except in compliance with the applicable requirements of this administrative regulation and 401 KAR Chapter 33. Exports of hazardous waste are prohibited unless:

(1) Notification in accordance with Section 4 of this administrative regulation has been provided;

(2) The receiving country has consented to accept the hazardous waste;

(3) A copy of the EPA acknowledgment of consent to the shipment accompanies the hazardous waste shipment and, unless exported by rail, is attached to the manifest (or shipping paper for exports by water (bulk shipment)), and

(4) The hazardous waste shipment conforms to the terms of the receiving country's written consent as reflected in the EPA acknowledgment of consent.

Section 4. Notification of Intent to Export. (1) A primary exporter of hazardous waste shall notify EPA of an intended export before the waste is scheduled to leave the United States. A complete notification shall be submitted sixty (60) days before the initial shipment is intended to be shipped off site. This notification may cover export activities extending over a twelve (12) month or lesser period. The notification shall be in writing, signed by the primary exporter, and include the following information:

(a) Name, mailing address, telephone number and EPA ID number of the primary exporter;

(b) By consignee, for each hazardous waste type:

1. A description of the hazardous waste and the EPA hazardous waste number (from 401 KAR 31.030 and 31.040), U.S. DOT proper shipping name, hazard class and ID number (UN/NA) for each hazardous waste as identified in 49 C.F.R. Subpart C;

2. The estimated frequency or rate at which such waste is to be exported and the period of time over which such waste is to be exported;

3. The estimated total quantity of the hazardous waste in units as specified in the instructions to the Uniform Hazardous Waste Manifest Form (8700-22);

4. All points of entry to and departure from each foreign country through which the hazardous waste will pass;

5. A description of the means by which each shipment of the hazardous waste will be transported (for example, mode of transportation vehicle (air, highway, rail, or water) type(s) of container (drums, boxes, or tanks));

6. A description of the manner in which the hazardous waste will be treated, stored or disposed of in the receiving country (for example, land or ocean incineration, other land disposal, ocean dumping,

recycling);

7. The name and site address of the consignee and any alternate consignee, and

8. The name of any transit countries through which the hazardous waste will be sent and a description of the approximate length of time the hazardous waste will remain in such country and the nature of its handling while there.

(2) Notification shall be sent to the Office of Waste Programs Enforcement, RCRA Enforcement Division (OS-620), U.S. Environmental Protection Agency, 401 M Street SW, Washington, DC 20460 with "Attention: Notification to Export" prominently displayed on the front of the envelope.

(3) Except for changes to the telephone number in subsection (1)(a) of this section, changes to subsection (1)(b)5 of this section and decreases in the quantity indicated pursuant to subsection (1)(b)3, of this section when the conditions specified on the original notification change (including any exceedance of the estimate of the quantity of hazardous waste specified in the original notification), the primary exporter shall provide EPA with a written renotification of the change. The shipment cannot take place until consent of the receiving country to the changes (except for changes to subsection (1)(b)8 of this section and in the ports of entry to and departure from transit countries pursuant to subsection (1)(b)4 of this section) has been obtained and the primary exporter receives an EPA acknowledgment of consent reflecting the receiving country's consent to the changes.

(4) Upon request by EPA, a primary exporter shall furnish to EPA any additional information which a receiving country requests in order to respond to a notification.

(5) In conjunction with the department of state, EPA shall provide a complete notification to the receiving country and any transit countries. A notification is complete when EPA receives a notification which EPA determines satisfies the requirements of subsection (1) of this section. Where a claim of confidentiality is asserted with respect to any notification information required by subsection (1) of this section, EPA may find the notification not complete until any such claim is resolved in accordance with 40 C.F.R. 260.2.

(6) Where the receiving country consents to the receipt of the hazardous waste, EPA shall forward an EPA acknowledgment of consent to the primary exporter for purposes of 40 C.F.R. 262.54(h). Where the receiving country objects to receipt of the hazardous waste or withdraws a prior consent, EPA shall notify the primary exporter in writing. EPA shall also notify the primary exporter of any responses from transit countries.

Section 5 Special Manifest Requirements A primary exporter shall comply with the manifest requirements of Sections 1 to 4 of 401 KAR 32.020 except that:

(1) In lieu of the name, site address and EPA ID number of the designated permitted facility, the primary exporter shall enter the name and site address of the consignee;

(2) In lieu of the name, site address and EPA ID number of a permitted alternate facility, the primary exporter may enter the name and site address of any alternate consignee;

(3) In special handling instructions and additional information, the primary exporter shall identify the point of departure from the United States;

(4) The following statement shall be added to the end of the first sentence of the certification set forth in Item 16 of the Uniform Hazardous Waste Manifest Form. "and conforms to the terms of the attached EPA acknowledgment of consent."

(5) In lieu of the requirements of Section 2 of 401 KAR 32.020, the primary exporter shall obtain the manifest form from the primary exporter's state if that state supplies the manifest form and requires its use. If the primary exporter's state does not supply the manifest form, the primary exporter may obtain a manifest form from any source;

(6) The primary exporter shall require the consignee to confirm in writing the delivery of the hazardous waste to that facility and to describe any significant discrepancies (as defined in Section 3(1) of 401 KAR 34.050) between the manifest and the shipment. A copy of the manifest signed by the facility may be used to confirm delivery of the hazardous waste;

(7) In lieu of the requirements of Section 1(4) of 401 KAR

32:020, where a shipment cannot be delivered for any reason to the designated or alternate consignee, the primary exporter shall:

(a) Notify EPA of a change in the conditions of the original notification to allow shipment to a new consignee in accordance with Section 4(3) of this administrative regulation and obtain an EPA acknowledgment of consent prior to delivery; or

(b) Instruct the transporter to return the waste to the primary exporter in the United States or designate another facility within the United States; and

(c) Instruct the transporter to revise the manifest in accordance with the primary exporter's instructions.

(8) The primary exporter shall attach a copy of the EPA acknowledgment of consent to the shipment to the manifest which shall accompany the hazardous waste shipment. For exports by rail or water (bulk shipment), the primary exporter shall provide the transporter with an EPA acknowledgment of consent which shall accompany the hazardous waste but which need not be attached to the manifest except that for exports by water (bulk shipment) the primary exporter shall attach the copy of the EPA acknowledgment of consent to the shipping paper.

(9) The primary exporter shall provide the transporter with an additional copy of the manifest for delivery to the U.S. Customs official at the point the hazardous waste leaves the United States in accordance with 40 C.F.R. 263.20(g)(4).

Section 6—Exception Reports. In lieu of the requirements of Section 3 of 401 KAR 32:040, a primary exporter shall file an exception report with the cabinet if:

(1) He has not received a copy of the manifest signed by the transporter stating the date and place of departure from the United States within forty-five (45) days from the date it was accepted by the initial transporter;

(2) Within ninety (90) days from the date the waste was accepted by the initial transporter, the primary exporter has not received written confirmation from the consignee that the hazardous waste was received;

(3) The waste is returned to the United States.

Section 7—Annual Reports. (1) Primary exporters of hazardous waste shall file with the cabinet no later than March 1 of each year a report summarizing the types, quantities, frequency, and ultimate destination of all hazardous waste exported during the previous calendar year. The reports shall include the following:

(a) The EPA identification number, name, and mailing and site address of the exporter;

(b) The calendar year covered by the report;

(c) The name and site address of each consignee;

(d) By consignee, for each hazardous waste exported, a description of the hazardous waste, the EPA hazardous waste number (from 401 KAR 31.030 and 31.040), DOT hazard class, the name and EPA ID number (where applicable) for each transporter used, the total amount of waste shipped and number of shipments pursuant to each notification;

(e) Except for hazardous waste produced by exporters of greater than 100 kilograms but less than 1000 kilograms in a calendar month, unless provided pursuant to Section 2 of 401 KAR 32:040:

1. A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated; and

2. 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 years prior to 1984.

(f) A certification signed by the primary exporter which states:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this 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."

(2) Reports shall be sent to the cabinet and the Office of Waste Programs Enforcement, RCRA Enforcement Division (OS-620), U.S. Environmental Protection Agency, 401 M Street SW, Washington, DC 20460.

Section 8—Recordkeeping. (1) For all exports a primary exporter shall:

(a) Keep a copy of each notification of intent to export for a period of at least three (3) years from the date the hazardous waste was accepted by the initial transporter;

(b) Keep a copy of each EPA acknowledgment of consent for a period of at least three (3) years from the date the hazardous waste was accepted by the initial transporter;

(c) Keep a copy of each confirmation of delivery of the hazardous waste from the consignee for at least three (3) years from the date the hazardous waste was accepted by the initial transporter; and

(d) Keep a copy of each annual report for a period of at least three (3) years from the due date of the report.

(2) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the cabinet.

Section 9—Imports of Hazardous Waste. (1) Any person who imports hazardous waste from a foreign country into the United States shall comply with the requirements of this chapter and the special requirements of this section.

(2) When importing hazardous waste, a person shall meet all the requirements of Section 1(1) of 401 KAR 32:020 for the manifest except that:

(a) In place of the generator's name, address and EPA identification number, the name and address of the foreign generator and the importer's name, address and EPA identification number shall be used.

(b) In place of the generator's signature on the certification statement, the U.S. importer or his agent shall sign and date the certification and obtain the signature of the initial transporter.

(3) A person who imports hazardous waste shall obtain the manifest form from the consignment state if the state supplies the manifest and requires its use. If the consignment state does not supply the manifest form, then the manifest form may be obtained from any source.

Section 10—Farmers. A farmer disposing of waste pesticides from his own use which are hazardous wastes is not required to comply with the standards in this chapter or other standards in 401 KAR Chapters 34, 35, 37, or 38 for those wastes provided he triple rinses each emptied pesticide container in accordance with Section 7(2)(c) of 401 KAR 31.010, and disposes of the pesticide residues on his own farm in a manner consistent with the disposal instructions on the pesticide label.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 32:060. Farmers.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.46, 40 C.F.R. 262.70 [262-Subpart G]

STATUTORY AUTHORITY: KRS 224.10-100 [40-400], 224.46-510

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(1) requires the Environmental and Public Protection Cabinet to promulgate administrative regulations to establish requirements relating to generators of hazardous waste. This administrative regulation exempts farmers from certain requirements if [when] disposing of pesticides that are considered haz-

ardous waste.

Section 1. Farmers. The subject matter shall be governed by 40 C.F.R. 262.70, effective July 1, 2005.

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: November 28, 2006 at 10 a.m.
 CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 32:065. Transfrontier shipments of hazardous waste for recovery within the OECD.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.46, 224.99, 40 C.F.R. 262 Subpart H
 STATUTORY AUTHORITY: KRS 10-100, 224.46-510[,–40 C.F.R. 262-Subpart H]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510(1) requires the Environmental and Public Protection Cabinet to promulgate administrative regulations to establish requirements relating to generators of hazardous waste. This administrative regulation implements provisions of KRS 224.46-510 and establishes requirements for imports and exports of hazardous wastes for recovery within the Organization for Economic Cooperation and Development (OECD).

Section 1. Definitions. (1) The subject matter shall be governed by 40 C.F.R. 262.81, effective July 1, 2005. The following modifications, exceptions, and additions set forth in this section shall amend 40 C.F.R. 262.81.

(2) "Administrator" or "regional administrator" is defined by 40 C.F.R. 260.10.

(3) "Environmental Protection Agency" or "EPA" means the federal Environmental Protection Agency.

(4) "Federal Register" means the official daily publication for regulations [rules], proposed regulations [rules], and notices of federal agencies and organizations, as well as executive orders and other presidential documents.

(5) "United States" is defined by 40 C.F.R. 260.10.

Section 2 Applicability. The subject matter shall be governed by 40 C.F.R. 262.80, effective July 1, 2005.

Section 3. General Conditions. The subject matter shall be governed by 40 C.F.R. 262.82, effective July 1, 2005.

Section 4. Notification and Consent. The subject matter shall be governed by 40 C.F.R. 262.83, effective July 1, 2005.

Section 5. Tracking Document. The subject matter shall be governed by 40 C.F.R. 262.84, effective July 1, 2005

Section 6. Contracts. The subject matter shall be governed by 40 C.F.R. 262.85, effective July 1, 2005.

Section 7. Provisions Relating to Recognized Traders. The subject matter shall be governed by 40 C.F.R. 262.86, effective July 1, 2005.

Section 8. Reporting and Recordkeeping. The subject matter shall be governed by 40 C.F.R. 262.87, effective July 1, 2005.

Section 9. OECD Waste Lists. The subject matter shall be governed by 40 C.F.R. 262.89, effective July 1, 2005.

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: November 28, 2006 at 10 a.m.
 CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 32:100. Appendix on hazardous waste manifest and instructions.

RELATES TO: KRS Subchapters 224.10, 224.40, 224.46, 224.99, 49 C.F.R. Subtitle B Subchapter [Subpart] C
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-510[–40 C.F.R. Subtitle B Subchapter C]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510 requires the cabinet to promulgate administrative regulations to establish standards for the generation of hazardous wastes. ~~[This chapter establishes standards applicable to generators of hazardous waste.]~~ This administrative regulation establishes a uniform hazardous waste manifest and the Kentucky instructions for each form.

~~Section 1. Hazardous Waste Manifest and Instructions. The subject matter shall be governed by the Appendix to 40 C.F.R. 262, effective September 9, 2005. [Applicability. This administrative regulation prescribes the manifest forms and the instructions which are required by the cabinet in accordance with the provisions of 401 KAR 32:020 and 401 KAR 32:050. When a generator or a hazardous waste site or facility prints copies of these forms, the following two (2) sentences may be printed on the top of the first page:~~

~~THE INFORMATION IN THE SHADED AREAS – D, F, H, I, AND K – IS REQUIRED BY KENTUCKY LAW.
 IN THE EVENT OF A SPILL INSIDE KENTUCKY, CALL (502) 564-2380 WITHIN TWO (2) HOURS OF THE SPILL.~~

~~When a generator or a hazardous waste site or facility prints copies of these forms, the following sentence may be printed on the top of the continuation sheet(s):~~

~~THE INFORMATION IN THE SHADED AREAS – O, Q, R AND T – IS REQUIRED BY KENTUCKY LAW.~~

~~Section 2. Manifest Form. The "Uniform Hazardous Waste Manifest" EPA form 8700-22 dated September 1988, is hereby incorporated by reference. The form is available for copying and inspection, subject to copyright law, at the Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601. The normal business hours of the division are from 8 a.m. to 4:30 p.m., eastern time, Monday through Friday.~~

~~Section 3. Kentucky Instructions for First Page of the Manifest Form. Read all instructions before completing this form.~~

~~This form has been designed for use on a twelve (12) pitch (elite) typewriter; a firm point pen may also be used – press down hard.~~

~~KENTUCKY REGULATIONS REQUIRE GENERATORS AND TRANSPORTERS OF HAZARDOUS WASTE AND OWNERS OR OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES TO USE THIS FIRST PAGE OF THE FORM AND, IF NECESSARY, THE CONTINUATION SHEET.~~

~~KENTUCKY REGULATIONS ALSO REQUIRE GENERATORS AND TRANSPORTERS OF HAZARDOUS WASTE AND OWNERS OR OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES TO COMPLETE THE~~

FOLLOWING INFORMATION:

GENERATORS

Item 1. Generator's U.S. EPA ID Number – Manifest Document Number. Enter the generator's U.S. EPA twelve digit identification number and the unique serially increasing, five (5) digit number assigned to this Manifest (e.g., 00001) by the generator.

Item 2. Page 1 of _____. Enter the total number of pages used to complete this Manifest, i.e., the first page plus the number of Continuation Sheets, if any.

Item 3. Generator's Name and Mailing Address. Enter the name and mailing address of the generator. The address shall be the location that shall manage the returned Manifest forms.

Item 4. Generator's Phone Number. Enter a telephone number where an authorized agent of the generator may be reached in the event of an emergency.

Item 5. Transporter 1 Company Name. Enter the company name of the first transporter who shall transport the waste.

Item 6. U.S. EPA ID Number. Enter the U.S. EPA twelve (12) digit identification number of the first transporter identified in Item 5.

Item D. Transporter's Phone. Enter the telephone number of the transporter identified in Item 5.

Item 7. Transporter 2 Company Name. If applicable, enter the company name of the second transporter who shall transport the waste. If more than two transporters are used to transport the waste, use a Continuation Sheet (EPA form 8700-22A) and list the transporters in the order they shall be transporting the waste.

Item 8. U.S. EPA ID Number. If applicable, enter the U.S. EPA twelve (12) digit identification number of the second transporter identified in Item 7.

Item F. Transporter's Phone. Enter the telephone number of the transporter identified in Item 7.

NOTE: If more than two (2) transporters are used, enter each additional transporter's company name and U.S. EPA twelve (12) digit identification number in Items 24-27 on the Continuation Sheet. Each Continuation Sheet has space to record two (2) additional transporters. Every transporter used between the generator and the designated facility shall be listed.

Item 9. Designated Facility Name and Site Address. Enter the company name and site address of the facility designated to receive the waste listed on this Manifest. The address shall be the site address, which may differ from the company mailing address.

Item 10. U.S. EPA ID Number. Enter the U.S. EPA twelve (12) digit identification number of the designated facility identified in Item 9.

Item H. Facility's Phone. Enter the telephone number of the facility identified in Item 9.

Item 11. U.S. DOT Description Including Proper Shipping Name, Hazard Class, and ID Number (UN/NA). Enter the U.S. DOT Proper Shipping Name, Hazard Class, and ID Number (UN/NA) for each waste as identified in 49 C.F.R. Parts 171 through 177 (1990).

NOTE: If additional space is needed for waste descriptions, enter these additional descriptions in Item 28 on the Continuation Sheet.

Item 12. Containers (No. and Type). Enter the number of containers for each waste and the appropriate abbreviation from Table I (below) for the type of container.

DM	-Metal drums, barrels, kegs
DW	-Wooden drums, barrels, kegs
DF	-Fiberboard or plastic drums, barrels, kegs
TP	-Tank portable
TT	-Cargo tanks (tank trucks)
TC	-Tank cars
DT	-Dump truck
CY	-Cylinders
CM	-Metal boxes, cartons, cases (including roll off)
CW	-Wooden boxes, cartons, cases
CF	-Fiber or plastic boxes, cartons, cases
BA	-Burlap, cloth, paper or plastic bags

Item 13. Total Quantity. Enter the total quantity of waste described on each line.

Item 14. Unit (Wt./Vol.). Enter the appropriate abbreviation from Table II (below) for the unit of measure.

G	-Gallons (liquids only)
P	-Pounds
T	-Tons (2000 lbs)
Y	-Cubic yards
L	-Liters (liquids only)
K	-Kilograms
M	-Metric tons (1000 kg)
N	-Cubic meters

Item I. Waste Number. Enter the EPA hazardous waste number for each waste.

Item K. Handling Codes for Waste Listed Above. Enter the appropriate handling code for each waste listed in Item 11. Table III contains the handling codes.

Table III – Handling Codes for Treatment, Storage, and Disposal Methods

(Enter the handling code listed below that most closely represents the technique used at the facility to treat, store, or dispose of each quantity of hazardous waste received.)

1.	Metals Recovery for Reuse	
	M011	High temperature metals recovery
	M012	Retorting
	M013	Secondary smelting
	M014	Other metals recovery for reuse; for example, ion exchange, reverse osmosis, acid leaching (Specify in item J)
2.	Solvents Recovery	
	M021	Fractionation/distillation
	M022	Thin film evaporation
	M023	Solvent extraction
	M024	Other solvent recovery (Specify in item J)
3.	Other (Nonsolvent) Recovery	
	M031	Acid regeneration
	M032	Other recovery; for example, waste oil recovery, nonsolvent organics recovery (Specify in item J)
	M039	Other recovery – type unknown
4.	Incineration	
	M041	Incineration – liquids
	M042	Incineration – sludges
	M043	Incineration – solids
5.	Energy Recovery (Reuse as Fuel)	
	M051	Energy Recovery – liquids
	M052	Energy Recovery – sludges
	M053	Energy Recovery – solids
6.	Fuel Blending	
7.	Aqueous Inorganic Treatment	
	M071	Chromo-reduction followed by chemical precipitation
	M072	Cyanide destruction followed by chemical precipitation
	M073	Cyanide destruction only
	M074	Chemical oxidation followed by chemical precipitation
	M075	Chemical oxidation only
	M076	Wet air oxidation
	M077	Chemical precipitation
	M078	Other aqueous inorganic treatment; for example, ion exchange, reverse osmosis (Specify in item J)
8.	Aqueous Organic Treatment	
	M081	Biological treatment
	M082	Carbon adsorption

	M083	Air/stream stripping
	M084	Wet air oxidation
	M086	Other aqueous organic treatment (Specify in item J)
9-	Aqueous Organic and Inorganic Treatment	
	M091	Chemical precipitation combined with biological treatment
	M092	Chemical precipitation combined with carbon adsorption
	M093	Wet air oxidation
	M094	Other organic/inorganic treatment (Specify in item J)
10-	Sludge Treatment	
	M101	Sludge dewatering
	M102	Addition of excess lime
	M103	Absorption/adsorption
	M104	Solvent extraction
11-	Stabilization	
	M111	Stabilization/chemical fixation using cement and/or pozzolanic materials
	M112	Other stabilization (Specify in item J)
12-	Other Treatment	
	M121	Neutralization only
	M122	Evaporation only
	M123	Settling/clarification only
	M124	Phase separation (for example, emulsion breaking, filtration) only
	M126	Other treatment (Specify in item J)
13-	Disposal	
	M131	Land treatment/application/farming
	M132	Landfill
	M133	Surface impoundment to be closed as a landfill
	M134	Deepwell/underground injection well
	M135	Direct discharge to sewer/POTW (no prior treatment)
	M137	Other disposal (Specify in item J)
14-	Storage	
	M141	Storage only

Item 15 - Special Handling Instructions and Additional Information. Generators may use this space to indicate special transportation, treatment, storage, or disposal information or Bill of Lading information. New, additional, or different information shall not be provided in this space. For international shipments, generators shall enter in this space the point of departure (city and state) for these shipments destined for treatment, storage, or disposal outside the jurisdiction of the United States.

Item 16 - Generator's Certification. The generator shall read, sign (by hand), and date the certification statement. If a mode other than highway is used, the word "highway" shall be lined out and the appropriate mode (rail, water, or air) inserted in the space below. If another mode in addition to the highway mode is used, enter the appropriate additional mode (e.g., and rail) in the space below. In signing the waste minimization certification statement, those generators who have not been exempted by statute or administrative regulation from the duty to make a waste minimization certification under KRS Chapter 224 are also certifying that they have complied with the waste minimization requirements.

Generators may preprint the words, "On behalf of" in the signature block or may hand write this statement in the signature block prior to signing the generator certifications.

Primary exporters shipping hazardous wastes to a facility located outside of the United States shall add to the end of the first sentence of the certification the following words "and conforms to the terms of the EPA acknowledgment of consent to the shipment."

NOTE: All of the above information except the handwritten signature required in Item 16 may be preprinted.

TRANSPORTERS

Item 17 - Transporter 1 Acknowledgment of Receipt of Materials. Enter the name of the person accepting the waste on behalf of the first transporter. That person shall acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Item 18 - Transporter 2 Acknowledgment of Receipt of Materials. Enter, if applicable, the name of the person accepting the waste on behalf of the second transporter. That person shall acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

NOTE - International Shipments - Transporter Responsibilities.

Exports - Transporters shall sign and enter the date the waste left the United States in Item 15 on the first page of the manifest form.

Imports - Shipments of hazardous waste regulated by RCRA and transported into the United States from another country shall, upon entry, be accompanied by the U.S. EPA Uniform Hazardous Waste Manifest. Transporters who transport hazardous waste into the United States from another country are responsible for completing the Manifest (Section 1(3) of 401 KAR 32:010).

OWNERS AND OPERATORS OF TREATMENT, STORAGE, OR DISPOSAL FACILITIES

Item 19 - Discrepancy Indication Space. The authorized representative of the designated (or alternate) facility's owner or operator shall note in this space any significant discrepancy between the waste described on the Manifest and waste actually received at the facility.

Owners and operators of facilities located in Kentucky who cannot resolve significant discrepancies within fifteen (15) days of receiving the waste shall submit to the Cabinet (Division of Waste Management, 18 Reilly Road, Frankfort, Ky. 40601) a letter with a copy of the Manifest at issue describing the discrepancy and attempts to reconcile it (Section 3 of 401 KAR 34:050 and Section 3 of 401 KAR 35:050).

Item 20 - Facility Owner or Operator Certification of Receipt of Hazardous Materials Covered by This Manifest Except as Noted in Item 19. Print or type the name of the person accepting the waste on behalf of the owner or operator of the facility. That person shall acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

SHADED AREAS

Kentucky requires generators to complete Items D, F, H, I and K as part of Kentucky's manifest reporting requirements.

Section 4 - Continuation Sheet. When all the required information cannot be entered on the first page of the manifest form, the generator shall use one (1) or more continuation sheet. The Uniform Hazardous Waste Manifest Continuation Sheet, EPA form 8700-22A dated September 1988, is hereby incorporated by reference. The form is available for copying and inspection, subject to copyright law, at the Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601. The normal business hours of the division are from 8 a.m. to 4:30 p.m., eastern time, Monday through Friday.

Section 5 - Instructions for the Continuation Sheet. Read all instructions before completing this form.

This form has been designed for use on a twelve (12) pitch (elite) typewriter; a firm point pen may also be used - press down hard.

The form shall be used as a continuation sheet to the first page of the manifest if:

-More than two (2) transporters are to be used to transport the waste;

-More space is required for the U.S. DOT description and related information in Item 11 of the first page of the manifest form.

GENERATORS

Item 21 - Generator's U.S. EPA ID Number - Manifest Document Number. Enter the generator's U.S. EPA twelve (12) digit identification number and the unique five (5) digit number assigned to this Manifest (e.g., 00001) as it appears in Item 1 on the first page of the Manifest.

Item 22 - Page _____. Enter the page number of this Continuation Sheet.

Item 23 - Generator's Name. Enter the generator's name as it appears in Item 3 on the first page of the Manifest.

Item 24 - Transporter _____ Company Name. If additional transporters are used to transport the waste described on

this Manifest, enter the company name of each additional transporter in the order in which they shall transport the waste. Enter after the word "Transporter" the order of the transporter. For example, Transporter 3 Company Name. Each Continuation Sheet shall record the names of two (2) additional transporters.

Item 25. U.S. EPA ID Number. Enter the U.S. EPA twelve (12) digit identification number of the transporter described in Item 24.

Item O. Transporter's Phone. Enter the telephone number of the transporter identified in Item 24.

Item 26. Transporter _____ Company Name. If additional transporters are used to transport the waste described on this Manifest, enter the company name of each additional transporter in the order in which they shall transport the waste. Enter after the word "Transporter" the order of the transporter. For example, Transporter 4 Company Name. Each Continuation Sheet shall record the names of two (2) additional transporters.

Item 27. U.S. EPA ID Number. Enter the U.S. EPA twelve (12) digit identification number of the transporter described in Item 26.

Item Q. Transporter's Phone. Enter the telephone number of the transporter identified in Item 26.

Item 28. U.S. DOT Description Including Proper Shipping Name, Hazard Class, and ID Number (UN/NA). Refer to Item 11.

Item 29. Containers (No. and Type). Refer to Item 12.

Item 30. Total Quantity. Refer to Item 13.

Item 31. Unit (Wt./Vol.). Refer to Item 14.

Item R. Waste Number. Enter the EPA hazardous waste number for each waste.

Item T. Handling Codes for Waste Listed Above. Enter the appropriate handling code for the wastes listed in Item 28. Table III under Item K contains the handling codes.

Item 32. Special Handling Instructions. Generators may use this space to indicate special transportation, treatment, storage, or disposal information or Bill of Lading information. Additional, new, or different information shall not be provided in this space.

TRANSPORTERS

Item 33. Transporter _____ Acknowledgment of Receipt of Materials. Enter the same number of the Transporter as identified in Item 24. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in Item 24. That person shall acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Item 34. Transporter _____ Acknowledgment of Receipt of Materials. Enter the same number as identified in Item 26. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in Item 26. That person shall acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

OWNERS AND OPERATORS OF TREATMENT, STORAGE, OR DISPOSAL FACILITIES

Item 35. Discrepancy Indication Space. Refer to Item 19.

SHADED AREAS

Kentucky does not require generators to complete Items O, Q, R, and T as part of Kentucky's manifest reporting requirements.]

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: November 28, 2006 at 10 a.m.
 CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 33:005. Definitions for [related-to] 401 KAR Chapter 33.

RELATES TO: KRS Subchapters [Chapters] 224.01, 224.10, 224.46, 40 C.F.R. 260.10
 STATUTORY AUTHORITY: KRS 224.10-100, 40 C.F.R.

260.10

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510 requires the cabinet to promulgate administrative regulations establishing standards applicable to transporters of hazardous waste regarding recordkeeping and compliance with a manifest system. [The chapter establishes standards for transporters of hazardous waste.] This administrative regulation defines essential terms that are used in **401 KAR Chapter 33** [this chapter]. [The majority of terms defined in this administrative regulation are equivalent to federal terms contained in 40 C.F.R. Parts 260 through 299.] Some federal terms have been modified [clarified to eliminate federal ambiguities and] to conform to Kentucky statutory mandates. Definitions contained in KRS Chapter 224 have been referenced to the appropriate statutory citation. Some terms do not have a federal counterpart and [these terms] have been added to clarify requirements and provisions of KRS Chapter 224 and **401 KAR Chapter 33** [this chapter].

Section 1 Definitions Except as provided in this section, the definitions established in 40 C.F.R. 260.10, effective September 9, 2005, shall apply. [The subject matter shall be governed by 40 C.F.R. 260.10, effective September 9, 2005. The following modifications, exceptions, and additions set forth in this section shall amend 40 C.F.R. 260.10.]

- (1) "Administrator", "agency", "assistant administrator", "regional administrator", "director", or "regional director" means cabinet as defined in KRS 224.01-010(9).
- (2) "Cabinet" is defined by KRS 224.01-010(9).
- (3) "Disposal" is defined by KRS 224.01-010(10).
- (4) "Environmental Protection Agency" or "EPA" means the Kentucky Department for Environmental Protection except if [when] used in the phrases "EPA hazardous waste number", "EPA identification number", "EPA Region", "EPA Acknowledgment of Consent", "EPA Test Methods", and "EPA publications".
- (5) "Federal Register" means the "Administrative Register of Kentucky" as described in KRS 13A.050.
- (6) "Generator" is defined by KRS 224.01-010(13).
- (7) "Hazardous waste" is defined by KRS 224.01-010(31)(b).
- (8) "Manifest" is defined by KRS 224.01-010(37).
- (9) "Person" is defined by KRS 224.01-010(17).
- (10) "Publicly owned treatment works" is defined by KRS 224.01-010(19).
- (11) "Secretary" is defined by KRS 224.01-010(24).
- (12) "Solid waste" is [means "waste" as] defined in KRS 224.01-010(31)(a).
- (13) "Storage" is defined by KRS 224.01-010(28) [224.01-10(28)].
- (14) "Transfer facility" is defined by KRS 224.01-010(48) [224.01-10(48)].
- (15) "Transportation" is defined by KRS 224.01-010(29).
- (16) "Treatment" is defined by KRS 224.01-010(30).
- (17) "United States" means the Commonwealth of Kentucky.
- (18) "Used oil" is defined by KRS 224.50-545(2)(a).
- (19) "Water" is defined by KRS 224.01-010(33) [224.01-10(33)].

Section 2. Substitution of Federal References. (1) The following federal parts and subparts, which are cited by federal regulations referenced in 401 KAR Chapter 33, shall be substituted with the state administrative regulations listed below.

Federal Regulation	State Regulation
40 C.F.R. Part 260	401 KAR Chapter 30
40 C.F.R. 260 Subpart A	401 KAR 30:020
40 C.F.R. 260 Subpart B	401 KAR 30:005, 401 KAR 31:005, 401 KAR 32:005, 401 KAR 33:005, 401 KAR 34:005, 401 KAR 35:005, 401 KAR 36:005, 401 KAR 37:005, 401 KAR 38:005, 401 KAR 43:005, 401 KAR 44:005, and 401 KAR 30:020
40 C.F.R. 260 Subpart C	401 KAR 30:035
40 C.F.R. Part 261	401 KAR Chapter 31
40 C.F.R. 261 Subpart A	401 KAR 31:010

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40 C.F.R. 261 Subpart B	401 KAR 31-020
40 C.F.R. 261 Subpart C	401 KAR 31-030
40 C.F.R. 261 Subpart D	401 KAR 31-040
40 C.F.R. Part 262	401 KAR Chapter 32
40 C.F.R. 262 Subpart A	401 KAR 32-010
40 C.F.R. 262 Subpart B	401 KAR 32-020
40 C.F.R. 262 Subpart C	401 KAR 32-030
40 C.F.R. 262 Subpart D	401 KAR 32-040
40 C.F.R. 262 Subpart E	401 KAR 32-050, Sections 1-9
40 C.F.R. 262 Subpart F	401 KAR 32-050, Section 10
40 C.F.R. 262 Subpart G	401 KAR 32-060
40 C.F.R. 262 Subpart H	401 KAR 32-065
40 C.F.R. Part 263	401 KAR Chapter 33
40 C.F.R. 263 Subpart A	401 KAR 33-010
40 C.F.R. 263 Subpart B	401 KAR 33-020
40 C.F.R. 263 Subpart C	401 KAR 33-030
40 C.F.R. Part 264	401 KAR Chapter 34
40 C.F.R. 264 Subpart A	401 KAR 34-010
40 C.F.R. 264 Subpart B	401 KAR 34-020
40 C.F.R. 264 Subpart C	401 KAR 34-030
40 C.F.R. 264 Subpart D	401 KAR 34-040
40 C.F.R. 264 Subpart E	401 KAR 34-050
40 C.F.R. 264 Subpart F	401 KAR 34-060
40 C.F.R. 264 Subpart G	401 KAR 34-070
40 C.F.R. 264 Subpart H	401 KAR 34-080, 401 KAR 34-090, 401 KAR 34-100, 401 KAR 34-110, 401 KAR 34-120, 401 KAR 34-130
40 C.F.R. 264 Subpart I	401 KAR 34-180
40 C.F.R. 264 Subpart J	401 KAR 34-190
40 C.F.R. 264 Subpart K	401 KAR 34-200
40 C.F.R. 264 Subpart L	401 KAR 34-210
40 C.F.R. 264 Subpart M	401 KAR 34-220
40 C.F.R. 264 Subpart N	401 KAR 34-230
40 C.F.R. 264 Subpart O	401 KAR 34-240
40 C.F.R. 264 Subpart S	401 KAR 34-287
40 C.F.R. 264 Subpart W	401 KAR 34-285
40 C.F.R. 264 Subpart X	401 KAR 34-250
40 C.F.R. 264 Subpart AA	401 KAR 34-275
40 C.F.R. 264 Subpart BB	401 KAR 34-280
40 C.F.R. 264 Subpart CC	401 KAR 34-281
40 C.F.R. 264 Subpart DD	401 KAR 34-245
40 C.F.R. 264 Subpart EE	401 KAR 34-370
40 C.F.R. Part 265	401 KAR Chapter 35
40 C.F.R. 265 Subpart A	401 KAR 35-010
40 C.F.R. 265 Subpart B	401 KAR 35-020
40 C.F.R. 265 Subpart C	401 KAR 35-030
40 C.F.R. 265 Subpart D	401 KAR 35-040
40 C.F.R. 265 Subpart E	401 KAR 35-050
40 C.F.R. 265 Subpart F	401 KAR 35-060
40 C.F.R. 265 Subpart G	401 KAR 35-070
40 C.F.R. 265 Subpart H	401 KAR 35-080, 401 KAR 35-090, 401 KAR 35-100, 401 KAR 35-110, 401 KAR 35-120, 401 KAR 35-130
40 C.F.R. 265 Subpart I	401 KAR 35-180
40 C.F.R. 265 Subpart J	401 KAR 35-190
40 C.F.R. 265 Subpart K	401 KAR 35-200
40 C.F.R. 265 Subpart L	401 KAR 35-210
40 C.F.R. 265 Subpart M	401 KAR 35-220
40 C.F.R. 265 Subpart N	401 KAR 35-230
40 C.F.R. 265 Subpart O	401 KAR 35-240
40 C.F.R. 265 Subpart P	401 KAR 35-250
40 C.F.R. 265 Subpart Q	401 KAR 35-260
40 C.F.R. 265 Subpart R	401 KAR 35-270
40 C.F.R. 265 Subpart W	401 KAR 35-285
40 C.F.R. 265 Subpart	401 KAR 35-275

AA	
40 C.F.R. 265 Subpart BB	401 KAR 35-280
40 C.F.R. 265 Subpart CC	401 KAR 35-281
40 C.F.R. 265 Subpart DD	401 KAR 35-245
40 C.F.R. 265 Subpart EE	401 KAR 35-350
40 C.F.R. Part 266	401 KAR Chapter 36
40 C.F.R. 266 Subpart C	401 KAR 36-030
40 C.F.R. 266 Subpart F	401 KAR 36-060
40 C.F.R. 266 Subpart G	401 KAR 36-070
40 C.F.R. 266 Subpart H	401 KAR 36-020
40 C.F.R. 266 Subpart M	401 KAR 36-080
40 C.F.R. 266 Subpart N	401 KAR 36-090
40 C.F.R. Part 268	401 KAR Chapter 37
40 C.F.R. 268 Subpart A	401 KAR 37-010
40 C.F.R. 268 Subpart B	401 KAR 37-020
40 C.F.R. 268 Subpart C	401 KAR 37-030
40 C.F.R. 268 Subpart D	401 KAR 37-040
40 C.F.R. 268 Subpart E	401 KAR 37-050
40 C.F.R. Part 270	401 KAR Chapter 38
40 C.F.R. 270 Subpart A	401 KAR 38-010
40 C.F.R. 270 Subpart B	401 KAR 38-070, 401 KAR 38-080, 401 KAR 38-090, 401 KAR 38-150 through 401 KAR 38-310
40 C.F.R. 270 Subpart C	401 KAR 38-030
40 C.F.R. 270 Subpart D	401 KAR 38-040, Sections 1 through 4, 7
40 C.F.R. 270 Subpart E	401 KAR 38-040, Sections 5 and 6
40 C.F.R. 270 Subpart F	401 KAR 38-060
40 C.F.R. 270 Subpart G	401 KAR 38-020
40 C.F.R. 270 Subpart H	401 KAR 38-320
40 C.F.R. 270 Subpart I	401 KAR 38-330
[40 C.F.R. 270 Subpart J]	[401 KAR 38-340]
40 C.F.R. Part 124	401 KAR 38-050
40 C.F.R. Part 273	401 KAR Chapter 43
40 C.F.R. 273 Subpart A	401 KAR 43-010
40 C.F.R. 273 Subpart B	401 KAR 43-020
40 C.F.R. 273 Subpart C	401 KAR 43-030
40 C.F.R. 273 Subpart D	401 KAR 43-040
40 C.F.R. 273 Subpart E	401 KAR 43-050
40 C.F.R. 273 Subpart F	401 KAR 43-060 [43-070]
40 C.F.R. 273 Subpart G	401 KAR 43-070 [43-080]
40 C.F.R. Part 279	401 KAR Chapter 44
40 C.F.R. 279 Subpart A	401 KAR 44-005
40 C.F.R. 279 Subpart B	401 KAR 44-010
40 C.F.R. 279 Subpart C	401 KAR 44-020
40 C.F.R. 279 Subpart D	401 KAR 44-030
40 C.F.R. 279 Subpart E	401 KAR 44-040
40 C.F.R. 279 Subpart F	401 KAR 44-050
40 C.F.R. 279 Subpart G	401 KAR 44-060
40 C.F.R. 279 Subpart H	401 KAR 44-070
40 C.F.R. 279 Subpart I	401 KAR 44-080

(2) The requirements of the following federal regulations, which are referenced in 401 KAR Chapter 33, shall also include the modifications, exceptions, and additions that are specific to the Commonwealth of Kentucky set forth in the following state administrative regulations referenced [identified] in the table below

Federal Regulation	State Regulation
40 C.F.R. 260.10	401 KAR 30-005, 401 KAR 31-005, 401 KAR 32-005, 401 KAR 33-005, 401 KAR 34-005, 401 KAR 35-005, 401 KAR 36-005, 401 KAR 37-005, 401 KAR 38-005, 401 KAR 43-005, 401 KAR 44-005, and 401 KAR 30-020
40 C.F.R. 260.22	401 KAR 30-035, Section 3(2) and (3)

40 C.F.R. 261.4	401 KAR 31.010, Section 4
40 C.F.R. 264.301	401 KAR 34.230, Section 2
40 C.F.R. 264.1082	401 KAR 34.261, Section 2
40 C.F.R. 266.202	401 KAR 36.080, Section 3
40 C.F.R. 266.205	401 KAR 36.080, Section 6
40 C.F.R. 270.1	401 KAR 38.010, Section 1

(3) The following federal regulations, which are cited by the federal regulations referenced in 401 KAR Chapter 33, shall be replaced with the state administrative regulations as identified in the table below.

Federal Regulation	State Regulation
40 C.F.R. Part 60 Appendix A	401 KAR 59.020
[40 C.F.R. Part 124]	[401 KAR 38.050]
40 C.F.R. Part 257	401 KAR Chapter 47
40 C.F.R. Part 258	401 KAR Chapter 48
40 C.F.R. 264.140	401 KAR 34.080, Section 2
40 C.F.R. 264.141	401 KAR 34.080, Section 1[3]
40 C.F.R. 264.142	401 KAR 34.090, Section 1
40 C.F.R. 264.143	401 KAR 34.090, Sections 2 through 12
40 C.F.R. 264.144	401 KAR 34.100, Section 1
40 C.F.R. 264.145	401 KAR 34.100, Sections 2 through 12
40 C.F.R. 264.146	401 KAR 34.110
40 C.F.R. 264.147	401 KAR 34.120
40 C.F.R. 264.148	401 KAR 34.130
40 C.F.R. 265.140	401 KAR 35.080, Section 2
40 C.F.R. 265.141	401 KAR 35.080, Section 1
40 C.F.R. 265.142	401 KAR 35.090, Section 1
40 C.F.R. 265.143	401 KAR 35.090, Sections 2[3] through 11
40 C.F.R. 265.144	401 KAR 35.100, Section 1
40 C.F.R. 265.145	401 KAR 35.100, Sections 2 through 11
40 C.F.R. 265.146	401 KAR 35.110
40 C.F.R. 265.147	401 KAR 35.120
40 C.F.R. 265.148	401 KAR 35.130
40 C.F.R. 266 Appendix I, Table I-D	401 KAR 36.025, Section 1(2)(a)
40 C.F.R. 266 Appendix I, Table I-E	401 KAR 36.025, Section 1(2)(b)
40 C.F.R. 270.51	401 KAR 38.040, Section 6
40 C.F.R. Part 280	401 KAR Chapter 42

[Section 1. Definitions. Unless otherwise specifically defined in KRS Chapter 224 or otherwise specifically indicated by context, terms in 401 KAR Chapter 33 shall have the meanings given in this Section.

(1) "100-year floodplain" means any land area which is subject to a one (1) percent or greater chance of flooding in any given year from any source.

(2) "100-year flood" means a flood that has a one (1) percent chance of being equaled or exceeded in any given year.

(3) "Aboveground tank" means a device meeting the definition of "tank" and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

(4) "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.

(5) "Accumulated speculatively" means that a material is accumulated before being recycled.

(a) A material is not accumulated speculatively, if the person accumulating it can show:

1. That the material is potentially recyclable and has a feasible means of being recycled; and

2. That during the calendar year (commencing on January 1) - the amount of material that is recycled, or transferred to a differ-

ent site for recycling, equals at least seventy-five (75) percent by weight or volume of the amount of that material accumulated at the beginning of the calendar year (including any material accumulated from previous years).

(b) In calculating the percentage of turnover, the seventy-five (75) percent requirement is to be applied to each material of the same type that is recycled in the same way. Materials accumulating in units that would be exempt from administrative regulation under Section 4(3) of 401 KAR 31.010 are not to be included in making the calculation. (Materials that are already defined as wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling.

(6) "Active fault" means a land area which, according to the weight of geological evidence, has a reasonable probability of being affected by movement along a fault to the extent that a waste site or facility would be damaged and thereby pose a threat to human health and the environment.

(7) "Active life" of a facility means the period from the initial receipt of waste at a waste site or facility until the cabinet receives certification of final closure.

(8) "Active portion" means any area of a facility where treatment, storage, or disposal operations are being or have been conducted and which have not been closed. It includes the treated area of a landfarm and the active face of a landfill. Covered, closed, or inactive portions of landfill, building roofs, and roads are excluded unless designated as "active portions" by the cabinet.

(9) "Admixed liner" means a liner made from a mixture of any of a multitude of materials, often asphalt or cement, with widely varying physical and chemical properties. Admixed liners shall be demonstrated to be structurally sound and chemically resistant to the waste placed in it so as to be capable of supporting the waste without cracking or disintegrating or allowing waste or leachate to escape.

(10) "Agricultural waste" means any nonhazardous waste resulting from the production and processing of on-the-farm agricultural products, including manures, prunings and crop residues.

(11) "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.

(12) "Ampule" means a small sealed glass container for one (1) dose of sterile medicine.

(13) "Ancillary 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 from its point of generation to hazardous waste management units including tanks between hazardous waste storage and treatment tanks to a point of disposal on site, or to a point of shipment for disposal off site.

(14) "Application" means the form approved by the cabinet for applying for a permit, including any additions, revisions or modifications and any narrative and drawings required by 401 KAR Chapters 30 to 48. The form includes: Part A of the application (Part A); Part B of the application (Part B); notice of intent; administration application; special waste application; or technical application.

(15) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs.

(16) "As received waste" refers to the waste as received in the shipment from the generator or sample collector.

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

(18) "Attenuation" means any decrease in the maximum concentration or total quantity of an applied chemical or biological constituent in a fixed time or distance traveled resulting from a physical, chemical, or biological reaction or transformation occurring in the zone of aeration or zone of saturation.

(19) "Authorized representative" means the person responsible for the overall operation of a facility or an operational unit or part of a facility, such as the plant manager, superintendent, or person of equivalent responsibility.

(20) "Average volatile organic concentration" or "average VO concentration" means the mass-weighted average volatile organic concentration of a hazardous waste as determined in accordance with the requirements of Section 4 of 401 KAR 35:281.

(21) "Base flood" means a flood that has a one (1) percent or greater chance of recurring in any year, or a flood of a magnitude equalled or exceeded once in 100 years on the average over a significantly long period.

(22) "Battery" means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

(23) "Board" shall have the meaning specified in KRS 224.46-810.

(24) "Bodily injury" shall have the meaning given by applicable Kentucky statutes. Bodily injury does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for bodily injury.

(25) "Boiler" means an enclosed device using control flame combustion and having the following characteristics:

(a) The unit shall have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

2. The unit's combustion chamber and primary energy recovery section(s) shall be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section (such as water walls and superheaters) shall be physically formed into one (1) manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters (units that transfer energy directly to a process stream) and fluidized bed combustion units; and

3. While in operation, the unit shall maintain a thermal energy recovery efficiency of at least sixty (60) percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

4. The unit shall export and utilize at least seventy-five (75) percent of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps); or

(b) The unit is one (1) which the cabinet has determined, on a case by case basis, to be a boiler, after considering the standards in 401 KAR 30.080.

(26) "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.

(27) "Burn" means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient.

(28) "By-product" is a material that is not one (1) of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a coproduct that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

(29) "Cabinet" shall have the meaning specified in KRS 224.01-010.

(30) "Carbon regeneration unit" means any enclosed thermal treatment device used to regenerate spent activated carbon.

(31) "Cation exchange capacity" means the sum of exchangeable cations a soil can absorb expressed in milliequivalents per 100 grams of soil as determined by sampling the soil to the depth of cultivation or solid waste placement, whichever is greater, and analyzing by the summation method for distinctly acid soils or the

sodium acetate method for neutral, calcareous, or saline soils.

(32) "Certificate" shall have the meaning specified in KRS 224.46-810.

(33) "Certification" means a statement of professional opinion based upon knowledge and belief.

(34) "Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements.

(35) "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.

(36) "Closure plan" means the plan for closure prepared in accordance with the requirements of Section 3 of 401 KAR 34.070 or Section 3 of 401 KAR 35.070.

(37) "Closure" shall have the meaning specified in KRS 224.01-010.

(38) "Component" means either the tank or ancillary equipment of a tank system.

(39) "Condenser" means a heat transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

(40) "Conditionally exempt small quantity generator" means:

(a) A generator who generates no more than 100 kilograms of hazardous waste in a calendar month; or

(b) A generator who generates acutely hazardous waste listed in Sections 2, 3, and 4(5) of 401 KAR 31.040 in a calendar month in quantities no greater than one (1) kilogram. All quantities of that acutely hazardous waste are subject to administrative regulation under 401 KAR Chapters 32 through 39, and the notification and permitting requirements of KRS 224.01-400, 224.40-310, 224.46-510, 224.46-580, and 224.50-130 to 224.50-413.

(41) "Confined aquifer" means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined groundwater.

(42) "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.

(43) "Consignee" means the ultimate treatment, storage or disposal facility in a receiving country to which the hazardous waste is sent.

(44) "Constituent" shall have the same meaning as "hazardous waste constituent."

(45) "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.

(46) "Containment building" means a hazardous waste management unit that is used to store or treat hazardous waste under the provisions of 401 KAR 34.245 or 35.245.

(47) "Contaminate" means introduce a substance that would cause:

(a) The concentration of that substance in the groundwater to exceed the maximum contaminant level specified in 401 KAR 30.031, Sections 5 and 6 of 401 KAR 47.030, or Section 8 of 401 KAR 34.060;

(b) An increase in the concentration of that substance in the groundwater where the existing concentration of that substance exceeds the maximum contaminant level specified in 401 KAR 30.031, 401 KAR 47.030, or Section 8 of 401 KAR 34.060; or

(c) A significant increase above established background levels, for substances that do not have an established maximum contamination level.

(48) "Contamination" means the degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.

(49) "Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in the event of a fire, explosion, or release of waste or waste constituents into the environment which has the potential for endangering human health and the environment. Financial planning

to identify resources for initiation of such action is a part of contingency plan development.

(50) "Continuous recorder" means a data recording device recording an instantaneous data value at least once every 15 minutes.

(51) "Control device shutdown" means the cessation of operation of a control device for any purpose.

(52) "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.

(53) "Corrective action management unit" or "CAMU" means an area within a facility that is designated by the cabinet under 401 KAR 34.287, for the purpose of implementing corrective action requirements under Section 12 of 401 KAR 34.060 and KRS 224.46-520. A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility.

(54) "Cover" means a device or system which is placed on or over a hazardous waste such that the entire hazardous waste surface area is enclosed and sealed to reduce air emissions to the atmosphere. A cover may have openings such as access hatches, sampling ports, and gauge wells that are necessary for operation, inspection, maintenance, or repair of the unit on which the cover is installed provided that each opening is closed and sealed when not in use. Examples of covers include a fixed roof installed on a tank, a floating membrane cover installed on a surface impoundment, a lid installed on a drum, and an enclosure in which an open container is placed during waste treatment.

(55) "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.

(56) "Current closure cost estimates" means the most recent of the estimates prepared in accordance with Section 1(1), (2) and (3) of 401 KAR 34.090 or Section 1(1), (2) and (3) of 401 KAR 35.090.

(57) "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.

(58) "Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with 40 C.F.R. 144.62(a), (b), and (c).

(59) "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 or Section 1(1), (2) and (3) of 401 KAR 35.100.

(60) "Debris" means solid material exceeding a 60mm particle size that is intended for disposal and that is: a manufactured object; plant or animal matter; or natural geologic material. However, the following materials are not debris: Any material for which a specific treatment standard is provided in 401 KAR 37.040, namely lead-acid batteries, cadmium batteries, and radioactive lead solids; Process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least seventy-five (75) percent of their original volume. A mixture of debris that has not been treated to the standards provided by Section 6 of 401 KAR 37.040 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection.

(61) "Designated facility" means a hazardous waste treatment, storage, or disposal facility which:

(a) Has received a hazardous waste site or facility permit (or a facility with interim status) in accordance with the requirements of 401 KAR Chapter 38;

(b) Has received a permit from a state authorized in accordance with 40 C.F.R. Part 271, and EPA permit (or a facility with interim status) in accordance with 40 C.F.R. Parts 270 and 124; or

(c) Is regulated under Section 6(3)(b) of 401 KAR 31.010 or 401 KAR Chapter 36, 40 C.F.R. 261.6(c)(2) or 40 C.F.R. Part 266; and

(d) That has been designated on the manifest by the generator

pursuant to Section 1 of 401 KAR 32.020. If a waste is destined to a hazardous waste site or facility in an authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, then the designated facility shall be a facility allowed by the receiving state to accept that waste.

(62) "Destination facility" means a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in Section 4(1) and (3) of 401 KAR 43.020 and Section 4(1) and (3) of 401 KAR 43.030. A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

(63) "Destruction or adverse modification" means an alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.

(64) "Dike" means an embankment or ridge of either natural or manmade materials used to prevent the movement of liquids, sludges, solids, or other materials.

(65) "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.

(66) "Disposal" shall have the meaning specified in KRS 224.01-010.

(67) "Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed.

(68) "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.

(69) "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.

(70) "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(71) "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.

(72) "Draft permit" shall have the same meaning as "proposed permit".

(73) "Drip pad" means an engineered structure consisting of a curb, free draining base, constructed of nonearthen materials and designed to convey preservative kick-back or drippage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants.

(74) "Effluent Limitations" shall have the same meaning as KRS 224.01-010.

(75) "Elementary neutralization unit" means a device which:

(a) Is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in Section 3 of 401 KAR 31.030, or they are listed in 401 KAR 31.040 only for this reason; and

(b) Meets the definition of tank, tank system, container, transport vehicle, or vessel in this section.

(76) "Emergency permit" means a permit issued by the cabinet to temporarily store, treat or dispose of hazardous waste in accordance with the provisions of Section 2 of 401 KAR 38.060, to temporarily manage, process, or dispose of a solid waste in accordance with the provisions of Section 2 of 401 KAR 47.150 or to temporarily store, treat, or dispose of special waste in accordance with the provisions of Section 4 of 401 KAR 45.136.

(77) "Endangered or threatened species" means any species listed as such pursuant to Section 4 of the Endangered Species Act, as amended, 16 U.S.C. 1536.

(78) "Engineer" shall have the meaning specified in KRS

322.010. An independent, professional engineer shall be registered in Kentucky pursuant to KRS 322.040 and shall be qualified to engage in waste management engineering practices.

(70) "EPA acknowledgment of consent" means the cable sent to EPA from the U.S. Embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment.

(80) "EPA hazardous waste number" means the number assigned by EPA and the cabinet to each hazardous waste listed in 401 KAR 31.040, and to each characteristic identified in 401 KAR 31.030.

(81) "EPA identification number" means the number assigned by EPA or the cabinet to each generator, transporter, or treatment, storage, or disposal facility.

(82) "Ephemeral stream" means a stream which flows only in direct response to precipitation in the immediate watershed or in response to the melting of a cover of snow and ice and which has a channel bottom that is always above the local water table.

(83) "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 401 KAR 34.275.

(84) "Equivalent method" means any testing or analytical method, approved jointly by the administrator and the secretary under 401 KAR Chapter 31, or methods in 401 KAR Chapters 47 and 48, approved by the secretary of the cabinet.

(85) "Existing" 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.

(86) "Existing component" shall have the same meaning as "existing tank system."

(87) "Existing facility" shall have the same meaning as "existing hazardous waste site or facility".

(88) "Existing hazardous waste site or facility" means a hazardous waste facility which was in operation, or for which continuous construction had commenced, on or before November 19, 1980. A facility has commenced construction if:

(a) The owner or operator had obtained the federal, state and local approvals or permits necessary to begin physical construction; and

(b) Either:

1. A continuous on-site, physical construction program has begun; or

2. 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.

(89) "Existing portion" means that land surface area of an existing hazardous waste management unit, included in the original Part A permit application, on which wastes have been placed prior to the issuance of a permit.

(90) "Existing tank system" means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation commenced on or prior to July 14, 1986. Installation will be considered to have commenced if the owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either:

(a) A continuous on-site physical construction or installation 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 site or installation of the tank system to be completed within a reasonable time.

(91) "External floating roof" means a pontoon or double-deck type floating roof that rests on the surface of a hazardous waste being managed in a tank that has no fixed roof.

(92) "Face amount" means the total amount the insurer is obligated to pay under the policy.

(93) "Facility" means:

(a) All contiguous land, and structures, other appurtenances,

and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one (1) or more landfills, surface impoundments, or combinations of them).

(b) For the purpose of implementing corrective action under Section 12 of 401 KAR 34.060, all contiguous property under the control of the owner or operator seeking a hazardous waste permit. This definition also applies to facilities implementing corrective action under KRS 224.46-620.

(94) "Facility mailing list" means the mailing list for a facility maintained in accordance with Section 7(3)(a)4c of 401 KAR 38.050.

(95) "Federal agency" means any department, agency, or other instrumentality of the federal government, any independent agency or establishment of the federal government including any government corporation, and the United States Government Printing Office.

(96) "Federal, state, and local approvals or permits necessary to begin physical construction" means permits and approvals required under federal, state, or local hazardous waste control statutes, administrative regulations, or ordinances.

(97) "Final closure" of a hazardous waste site or facility means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under 401 KAR Chapters 34 and 35 are no longer conducted at the facility unless subject to the provisions in Section 5 of 401 KAR 32.030.

(98) "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.

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

(100) "Fixed roof" means a rigid cover that is installed in a stationary position so that it does not move with fluctuations in the level of the hazardous waste placed in a tank.

(101) "Flame zone" means the portion of the combustion chamber in a boiler occupied by the flame envelope.

(102) "Floating membrane cover" means a cover consisting of a synthetic flexible membrane material that rests upon and is supported by the hazardous waste being managed in a surface impoundment.

(103) "Floating roof" means a pontoon-type or double-deck type cover that rests upon and is supported by the hazardous waste being managed in a tank, and is equipped with a closure seal or seals to close the space between the cover edge and the tank wall.

(104) "Flood plain" means areas adjoining inland waters which are inundated by the base flood, unless otherwise specified in 401 KAR 30.031 or 401 KAR 47.030, and includes: 100-year floodplain and floodway.

(105) "Floodway" means the channel of the waterway, stream or river and that portion of the adjoining floodplain which provides for passage of the 100-year flood flow without increasing the floodwater depth across the 100-year floodplain by more than one (1) foot.

(106) "Flow Indicator" means a device that indicates whether gas flow is present in a vent stream.

(107) "Food chain crops" means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

(108) "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.

(109) "Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

(110) "Freeboard" means the vertical distance between the top of a tank or surface impoundment dike and the surface of the waste contained therein.

(111) "Generator" shall have the meaning specified in KRS 224.01-010.

(112) "Governing body" shall have the same meaning as KRS 224.01-010.

(113) "Groundwater" means the subsurface water occurring in the zone of saturation beneath the water table, and perched water zones below the B soil horizon, including water circulating through fractures, bedding planes, and solution conduits.

(114) "Groundwater table" means the upper boundary of the saturated zone in which the hydrostatic pressure of the groundwater is equal to the atmospheric pressure.

(115) "Halogenated organic compounds" or "HOCs" means those compounds having a carbon-halogen bond that are listed under 401 KAR 37:110.

(116) "Hazardous constituent" shall have the meaning specified in KRS 224.01-010.

(117) "Hazardous debris" means debris that contains a hazardous waste listed in 401 KAR 31:040 or that exhibits a characteristic of hazardous waste identified in 401 KAR 31:030.

(118) "Hazardous waste" shall have the meaning specified in KRS 224.01-010.

(119) "Hazardous waste constituent" means a constituent which caused the cabinet to list the hazardous waste in 401 KAR 31:040, or a constituent listed in Section 5(3) of 401 KAR 31:030.

(120) "Hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

(121) "Hazardous waste management unit" is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed. Hazardous waste management units include aboveground tank; component; existing tank system or existing component; in-ground tank; new tank system or new tank component; on-ground tank; tank system; underground tank; or unfit for use tank system.

(122) "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.

(123) "Hazardous waste site or facility" means any place at which hazardous waste is treated, stored, or disposed of by landfilling, incineration, or any other method. Hazardous waste site or facility includes: boiler; disposal facility; elementary neutralization unit; incinerator; industrial furnace; hazardous waste transfer facility; injection well; landfill; land treatment facility; miscellaneous unit; pile or waste pile; replacement unit; storage facility; sludge dryer; surface impoundment; tank; thermal treatment facility; totally enclosed treatment facility; treatment facility; or wastewater treatment unit.

(124) "Hazardous waste transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

(125) "Holocene" means the most recent epoch of the quaternary period, extending from the end of the pleistocene to the present.

(126) "Hot well" means a container for collecting condensate as in a steam condenser serving a vacuum jet or steam jet ejector.

(127) "Household waste" means any waste material (including garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

(128) "In existence" shall have the same meaning as "existing."

(129) "In gas service" means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous

state at operating conditions.

(130) "In heavy liquid service" means that the piece of equipment is not in gas service or in vapor service or in light liquid service.

(131) "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.

(132) "In operation" refers to a facility which is treating, storing, or disposing of hazardous waste.

(133) "In situ sampling systems" means nonextractive samplers or in-line samplers.

(134) "In vacuum service" means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

(135) "In vapor service" shall have the same meaning as "in gas service."

(136) "In-ground tank" means a device meeting the definition of "tank" in this section whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

(137) "Inactive portion" means that portion of a hazardous waste site or facility which was not operated after November 19, 1980.

(138) "Incinerator" means any enclosed device that:

(a) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or

(b) Meets the definition of infrared incinerator or plasma arc incinerator.

(139) "Incompatible waste" means a hazardous waste which is unsuitable for placement in a particular device or facility because it may cause corrosion or decay of containment materials, or unsuitable for commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

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

(141) "Individual generation site" means the contiguous site at or on which one (1) or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one (1) or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

(142) "Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use thermal treatment to accomplish recovery of materials or energy:

(a) Cement kilns;

(b) Lime kilns;

(c) Aggregate kilns;

(d) Phosphate kilns;

(e) Coke ovens;

(f) Blast furnaces;

(g) Smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, reactors, and foundry furnaces);

(h) Titanium dioxide chloride process oxidation reactors;

(i) Methane reforming furnaces;

(j) Pulping liquor recovery furnaces;

(k) Combustion devices used in the recovery of sulfur values from spent sulfuric acid;

(l) Halogen acid furnaces (HAFs) for the production of acid from halogenated hazardous waste generated by chemical production facilities where the furnace is located on the site of a chemical production facility, the acid product has a halogen acid content of at least three (3) percent, the acid product is used in a manufacturing process, and, except for hazardous waste burned as fuel, haz-

ardous waste fed to the furnace has a minimum halogen content of twenty (20) percent as generated; or

(m) Other devices as the cabinet may, after notice and comment, add to this list on the basis of criteria and Section 5 of 401 KAR 30.080.

(143) "Infrared incinerator" means any enclosed device that uses electric powered resistance heaters as a source of radiant heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

(144) "Injection well" means a well into which fluids are injected to achieve subsurface emplacement.

(145) "Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained hazardous waste or reagents used to treat the hazardous waste.

(146) "Installation inspector" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of a hazardous waste management unit including tank systems.

(147) "Interim status" means the designation of a hazardous waste site or facility which was in existence on November 19, 1980, and has submitted a Part A application under 401 KAR Chapter 38 or under 40 C.F.R. Part 270 and is treated as having a permit until final administrative disposition of the application is made.

(148) "Intermittent stream" means a stream or reach of stream that drains a watershed of one (1) square mile or more but does not flow continuously during the calendar year.

(149) "International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

(150) "Internal floating roof" means a floating roof that rests or floats on the surface (but not necessarily in complete contact with it) of a hazardous waste being managed in a tank that has a fixed roof.

(151) "Karst terrain" means a type of topography where limestone, dolomite or gypsum is present and is characterized by naturally occurring closed topographic depressions or sinkholes, caves, disrupted surface drainage, and well-developed underground solution channels formed by dissolution of these rocks by water moving underground.

(152) "Key personnel" shall have the meaning specified in KRS 224.01-010.

(153) "Lab pack" means any large container equal to or smaller than fifty-five (55) gallons that holds many smaller containers of various content tightly secured with packing material.

(154) "Lamp" means the bulb or tube portion of a lighting device specifically designed to produce radiant energy, most often in the ultraviolet (UV), visible, and infrared (IR) regions of the electromagnetic spectrum. Examples of common lamps include, but is not limited to, incandescent, fluorescent, high pressure sodium, mercury vapor, metal halide, high intensity discharge, and neon lamps.

(155) "Land disposal" shall have the meaning specified in KRS 224.01-010.

(156) "Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface. These facilities are disposal facilities if the waste will remain after closure.

(157) "Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, or an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit.

(158) "Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

(159) "Large quantity handler of universal waste" means a universal waste handler who accumulates 5,000 kilograms or more total universal waste (batteries, lamps, pesticides, or thermocats, calculated collectively) at any time. This designation as a large quantity handler of universal waste is retained through the end of

the calendar year in which 5,000 kilograms or more total of universal waste is accumulated.

(160) "Leachate" means any liquid including any suspended components in the liquid, that has percolated through or drained from waste.

(161) "Leak detection system" means a system capable of detecting the failure of either the primary or secondary containment system or the presence of a release of hazardous waste, hazardous waste constituents or accumulated liquid in the secondary containment system. Such a system shall employ operational controls (daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment system or the presence of a release of hazardous waste constituents or accumulated liquids into the secondary containment system.

(162) "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.

(163) "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.

(164) "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.

(165) "Liquid mounted seal" means a foam or liquid-filled primary seal mounted in contact with the hazardous waste between the tank wall and the floating roof continuously around the circumference of the tank.

(166) "Local government" means the fiscal court of the county, urban county government, or governing body of an incorporated municipality wherein a hazardous waste landfill or other site or facility for the land disposal of hazardous waste is proposed.

(167) "Major modification" means for hazardous waste sites or facilities, a change in ownership where the cabinet determines that other changes in the permit are necessary as a result of the change in ownership or operational control, area occupied, disposal method, or other significant change in the operation of a waste site or facility (Note: Minor modifications are described in Section 3 of 401 KAR 38:040).

(168) "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.

(169) "Manifest" shall have the meaning specified in KRS 224.01-010.

(170) "Manifest document number" means the EPA twelve (12) digit identification number assigned to the generator plus a unique, serially-increasing, five (5) digit document number assigned to the manifest by the generator for recordkeeping and reporting purposes.

(171) "Maximum organic vapor pressure" means the equilibrium partial pressure exerted by the hazardous waste contained in a tank determined at the temperature equal to either:

(a) The local maximum monthly average temperature as reported by the National Weather Service when the hazardous waste is stored or treated at ambient temperature, or

(b) The highest calendar month average temperature of the hazardous waste when the hazardous waste is stored at temperatures above the ambient temperature or when the hazardous waste is stored or treated at temperatures below the ambient temperature.

(172) "Mining overburden returned to the mine site" means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

(173) "Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of, and that is not a container, tank, surface impoundment,

pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 C.F.R. Part 146, containment building, corrective action management unit, or unit eligible for a research, development, and demonstration permit under Section 6 of 401 KAR 38:060.

(174) "Monitoring" means the act of systematically inspecting and collecting data on operational parameters or on the quality of the air, soil, groundwater, or surface water.

(175) "Monitoring well" means a well used to obtain water samples for water quality and quantity analysis and groundwater levels.

(176) "Movement" means that hazardous waste transported to a facility in an individual vehicle.

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

(178) "Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

(179) "New facility" means any hazardous waste site or facility that commenced construction after November 10, 1980.

(180) "New tank component" shall have the same meaning as "new tank system."

(181) "New tank system" means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation commenced after July 14, 1986, however, for purposes of Section 4(7)(b) of 401 KAR 34:190 and Section 4(7)(b) of 401 KAR 35:190, a new tank system is one for which construction commenced after July 14, 1986.

(182) "No detectable organic emissions" means no escape of organics from a device or system to the atmosphere as determined by an instrument reading less than 500 parts per million by volume (ppmv) above the background level at each joint, fitting, and seal when measured in accordance with the requirements of Method 21 in 40 C.F.R., Part 60, Appendix A, and by no visible openings or defects in the device or system such as rips, tears, or gaps.

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

(184) "Nonwastewaters" means wastes that do not meet the criteria for wastewaters found in the definition for wastewaters.

(185) "Not detected" means at or below the lower method calibration limit (MCL) in SW-846, Method 8290, Table 1.

(186) "Off-site" means properties noncontiguous to the site.

(187) "On-site" means on the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing, as opposed to going along the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access is also considered on-site property.

(188) "Onground tank" means a device meeting the definition of tank that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

(189) "Open burning" means the combustion of any material or solid waste without:

(a) Control of combustion air to maintain adequate temperature for efficient combustion;

(b) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(c) Control of emission of the gaseous combustion products.

(190) "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.

(191) "Operational plan" means the approved plan of operations filed with the cabinet which describes the method of operation that the permittee will use in the treatment, storage, or disposal of wastes.

(192) "Operator" means any person responsible for overall operation of an on-site or off-site waste facility, including any private contractor conducting operational activities at a federal facility.

(193) "Other site or facility for the land disposal of hazardous waste" means a disposal facility but shall not include a storage facility or a treatment facility.

(194) "Owner" means any person who owns an on-site or off-site waste facility, or any part of a facility.

(195) "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.

(196) "Part A of the application" or "Part A" means the standard forms or format for applying for a hazardous waste site or facility permit as required in 401 KAR 38:080.

(197) "Part B of the application" or "Part B" means the standard format for applying for a hazardous waste site or facility permit as required in 401 KAR 38:090 to 401 KAR 38:210.

(198) "Partial closure" means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of 401 KAR Chapters 34 and 35 at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

(199) "Perennial stream" means a stream or that part of a stream that flows continuously during all of the calendar year as a result of groundwater discharge or surface run-off. The term does not include "intermittent stream" or "ephemeral stream".

(200) "Permit" means the authorization or other control document issued by the cabinet to implement the requirements of the waste management administrative regulations. The term permit includes permit by rule, registered permit by rule, research, development, and demonstration permit, and emergency permit. However, the term permit does not include draft permit or proposed permit.

(201) "Permit by rule" means authorization allowing certain classes of sites or facilities to manage waste consistent with 401 KAR Chapters 30 to 40, without submission of a registration or permit application to the cabinet. Examples of hazardous waste sites or facilities which are permitted by rule include facilities operating under an interim status permit and facilities identified in Section 1 of 401 KAR 38:060.

(202) "Permittee" means any person holding a valid permit issued by the cabinet to manage, treat, store, or dispose of waste.

(203) "Person" shall have the meaning specified in KRS 224.01-010.

(204) "Personnel" or "facility personnel" means all persons who work at or oversee the operations of a waste facility, and whose actions or failure to act may result in noncompliance with the requirements of the waste management administrative regulations.

(205) "Pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, other than any article that:

(a) Is a new animal drug under FFDC section 201(w), or

(b) Is an animal drug that has been determined by regulation of the Secretary of Health and Human Services not to be a new animal drug, or

(c) Is an animal feed under FFDC section 201(x) that bears or contains any substances described by paragraph (a) or (b) of this subsection.

(206) "Pile" or "waste pile" means any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage and that is not a containment building.

(207) "Plasma arc incinerator" means any enclosed device using a high intensity electrical discharge or arc as a source of heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

(208) "Point of compliance" means for hazardous waste site and facilities, groundwater monitoring wells located within 250 feet of the waste boundary as approved by the cabinet.

(209) "Point of waste origination" means as follows:

(a) When the facility owner or operator is the generator of the hazardous waste, the point of waste origination means the point

where a solid waste produced by a system, process, or waste management unit is determined to be a hazardous waste as identified in 401 KAR Chapter 34.

(b) When the facility owner and operator are not the generator of the hazardous waste, point of waste origination means the point where the owner or operator accepts delivery or takes possession of the hazardous waste.

(210) "Point of waste treatment" means the point where a hazardous waste exits a waste management unit used to destroy, degrade, or remove organics in the hazardous waste.

(211) "Point source" means any discernible, confined, and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

(212) "Pollutant" shall have the same meaning as KRS 224.01-010.

(213) "Polychlorinated biphenyls" or "PCB" means halogenated organic compounds defined in accordance with 40 C.F.R. 761.2 as of July 1989.

(214) "Postclosure care" means the manner in which a facility shall be maintained when it no longer accepts waste for disposal.

(215) "Postclosure monitoring and maintenance" shall have the meaning specified in KRS 224.01-010.

(216) "Postclosure plan" means the plan for postclosure care prepared in accordance with the requirements of Sections 8 to 11 of 401 KAR 34.070 or Sections 8 to 11 of 401 KAR 35.070.

(217) "Pressure release" means the omission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

(218) "Primary exporter" means any person who is required to originate the manifest for a shipment of hazardous waste in accordance with Section 1 of 401 KAR 32.020 which specifies a treatment, storage, or disposal facility in a receiving country as the facility to which the hazardous waste will be sent and any intermediary arranging for the export.

(219) "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.

(220) "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.

(221) "Property damage" shall have the meaning given by applicable Kentucky statutes. Property damage does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for property damage.

(222) "Proposed permit" means a document prepared by the cabinet indicating the cabinet's tentative decision to issue or deny, modify, revoke or terminate a permit.

(223) "Publicly owned treatment works" or "POTW" shall have the meaning specified in KRS 224.01-010.

(224) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the based on pump activation level, pump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

(225) "Qualified groundwater scientist" means a geologist registered in Kentucky who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and has sufficient training and experience in groundwater hydrology and related fields to enable that individual to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport.

(226) "Receiving country" means a foreign country to which a hazardous waste is sent for the purpose of treatment, storage or disposal (except short-term storage incidental to transportation).

(227) "Recharge zone" means an area supplying the water which enters an underground drinking water source.

(228) "Reclaimed" means a material that is processed to re-

cover a usable product, or that is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(229) "Recovered material" shall have the meaning specified in KRS 224.01-010.

(230) "Recyclable materials" means hazardous wastes that are recycled.

(231) "Recycled" means a material that is used, reused, or reclaimed.

(232) "Recycling" shall have the meaning specified in KRS 224.01-010.

(233) "Regional integrated waste treatment and disposal demonstration facility" shall have the meaning specified in KRS 224.01-010.

(234) "Regulated unit" means hazardous waste land disposal sites or facilities, or portions of existing hazardous waste land disposal sites or facilities that continued to receive waste after January 26, 1983.

(235) "Remediation waste" means all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements under Section 12 of 401 KAR 34.060 and KRS 224.46-520. For a given facility, remediation wastes may originate only from within the facility boundary, but may include waste managed in implementing KRS 224.46-520 for releases beyond the facility boundary.

(236) "Repaired" means that equipment is adjusted, or otherwise altered, to eliminate a leak.

(237) "Replacement unit" means a landfill, surface impoundment, or waste pile unit from which all or substantially all of the waste is removed, and that is subsequently reused to treat, store, or dispose of hazardous waste. "Replacement unit" does not apply to a unit from which waste is removed during closure, if the subsequent reuse solely involves the disposal of waste from that unit and other closing units or corrective action areas at the facility, in accordance with an approved closure plan or approved corrective action.

(238) "Representative sample" means a sample of a universe or whole (for example, waste pile, lagoon, or groundwater) which can be expected to exhibit the average properties of the universe or whole.

(239) "Research, development, and demonstration permit" means a permit issued by the cabinet for a hazardous waste treatment facility that utilizes 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 through 36.

(240) "Resource recovery" means the recovery of material or energy from waste.

(241) "Run-off" means any rainwater, leachate, or other liquid that drains overland from any part of a facility.

(242) "Run-on" means any rainwater, leachate, or other liquid that drains overland onto any part of a facility.

(243) "Saturated zone" shall have the same meaning as "zone of saturation".

(244) "Schedule of compliance" means a schedule of remedial measures included in a permit or cabinet order, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with KRS Chapter 224 and 401 KAR Chapters 30 to 49.

(245) "Scrap metal" is bits and pieces of metal parts (for example, bars, turnings, rods, sheets, or wire) or metal pieces that may be combined together with bolts or soldering (for example, radiators, scrap automobiles, or railroad boxcars), which when worn or superfluous can be recycled.

(246) "Secretary" shall have the meaning specified in KRS 224.01-010.

(247) "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.

(248) "Separator tank" means a device used for separation of

two immiscible liquids.

(249) "Sewage system" shall have the meaning specified in KRS 224.01-010.

(250) "Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the waste facility or activity.

(251) "Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant or any other waste having similar characteristics and effects.

(252) "Sludge dryer" means any enclosed thermal treatment device that is used to dehydrate sludge and that has a maximum total thermal input, excluding the heating value of the sludge itself, of 2,500 BTU per pound of sludge treated on a wet-weight basis.

(253) "Small quantity generator" means a generator who generates more than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month.

(254) "Small quantity handler of universal waste" means a universal waste handler who does not accumulate more than 5,000 kilograms of universal waste (batteries, lamps, pesticides, or thermostats, calculated collectively) at any time.

(255) "Solid waste management unit" shall mean any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

(256) "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.

(257) "Sorb" means to either adsorb, absorb, or both.

(258) "Sorbent" means a material that is used to soak up free liquids by either adsorption or absorption, or both.

(259) "Spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

(260) "Spill" means any accidental spilling, leaking, pumping, pouring, emitting, or dumping of hazardous wastes or materials which, when spilled, become hazardous wastes into or on any land or water.

(261) "Start up" means the setting in operation of a hazardous waste management unit or control device for any purpose.

(262) "State" means any of the fifty (50) states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Northern Mariana Islands or Guam but does not include any foreign country.

(263) "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.

(264) "Storage" shall have the meaning specified in KRS 224.01-010.

(265) "Storage facility" means a facility or part of a facility at which hazardous waste is held for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere. A generator who accumulates his own hazardous wastes in an approved manner for less than ninety (90) days for subsequent transport on site or off site is not operating or maintaining a storage facility.

(266) "Storage of hazardous waste" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed, or stored elsewhere.

(267) "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.

(268) "Sudden accidental occurrence" means an occurrence

which is not continuous or repeated in nature.

(269) "Sump" means any pit or reservoir that meets the definition of tank, and those troughs and trenches connected to it, that serve to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities; except that as used in the landfill, surface impoundment, and waste pile administrative regulations, "sump" means any lined pit or reservoir that serves to collect liquids drained from a leachate collection and removal system or leak detection system for subsequent removal from the system.

(270) "Surface impoundment" means a facility or part of a facility which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

(271) "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.

(272) "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.

(273) "Tank" means a stationary device designed to contain an accumulation of hazardous waste that is constructed primarily of noncarbon materials (for example, wood, concrete, steel, or plastic) which provide structural support and which does not meet the definition of any other unit.

(274) "Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

(275) "Termination" shall have the meaning specified in KRS 224.01-010.

(276) "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, 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.

(277) "Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge (see also "incinerator" and "open burning").

(278) "Thermal treatment facility" means a facility or part of a facility which uses elevated temperatures as the primary means to change the chemical, physical or biological character or composition of hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge.

(279) "Thermocast" means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of Section 4(3)(b) of 401 KAR 43-020 or Section 4(3)(b) of 401 KAR 43-030.

(280) "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.

(281) "Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which acid is neutralized.

(282) "Transit country" means any foreign country, other than a receiving country, through which a hazardous waste is transported.

(283) "Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo

carrying body is a separate transport vehicle.

(284) "Transportation" shall have the meaning specified in KRS 224.01-010.

(285) "Transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, highway or water.

(286) "Treatability study" means:

(a) A study in which a hazardous waste is subjected to a treatment process to determine:

1. Whether the waste is amenable to the treatment process;
2. What pretreatment, if any, is required;
3. The optimal process conditions needed to achieve the desired treatment;
4. The efficiency of a treatment process for a specific waste or wastes; or
5. The characteristics and volumes of residuals from a particular treatment process.

(b) For the purpose of 401 KAR 31-010, Section 4(5) and (6), exemptions are liner compatibility, corrosion, and other material compatibility studies and toxicological and health effects studies.

(c) A "treatability study" is not a means to commercially treat or dispose of hazardous waste.

(287) "Treatment" shall have the meaning specified in KRS 224.01-010.

(288) "Treatment facility" means a facility or part of a facility using any method, technique or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous or less hazardous; safer to transport, store, or dispose of, or amenable for recovery, amenable for storage, or reduced in volume.

(289) "Treatment zone" means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

(290) "Underground drinking water source" means:

- (a) An aquifer supplying drinking water for human consumption; or
- (b) An aquifer in which the groundwater contains less than 10,000 mg/l total dissolved solids.

(291) "UIC well" means an underground injection control well as provided in 40 C.F.R. Part 144.

(292) "Underground injection" means the subsurface emplacement of fluids through a bored, drilled, or driven well, or through a dug well, where the depth of the dug well is greater than the largest surface dimension. (See also "injection well".)

(293) "Underground tank" means a device meeting the definition of "tank" in this section whose entire surface area is totally below the surface of and covered by the ground.

(294) "Underlying hazardous constituent" means any constituent listed in Section 1 of 401 KAR 37.040, Table Treatment Standards for Hazardous Wastes, except vanadium and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent specific treatment standards.

(295) "Unfit for use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

(296) "Universal waste" means any of the following hazardous wastes that are subject to the universal waste requirements of 401 KAR Chapter 43:

- (a) Batteries as described in Section 2 of 401 KAR 43-010;
 - (b) Pesticides as described in Section 3 of 401 KAR 43-010;
 - (c) Thermostats as described in Section 4 of 401 KAR 43-010;
- and
- (d) Spent lamps as described in Section 5 of 401 KAR 43-010.

(297) "Universal waste handler":

- (a) Means:
 1. A generator of universal waste; or
 2. The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a

foreign destination.

(b) Does not mean:

1. A person who treats (except under the provisions of Sections 4(1) or (3) of 401 KAR 43-020 or Sections 4(1) or (3) of 401 KAR 43-030), disposes of, or recycles universal waste; or

2. A person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

(298) "Universal waste transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of universal waste are held during the normal course of transportation for ten days or less.

(299) "Universal waste transporter" means a person engaged in the off-site transportation of universal waste by air, rail, highway, or water.

(300) "Uncaturated zone" shall have the same meaning as "Zone of aeration".

(301) "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

(302) "Used oil" shall have the same meaning as KRS 224.50-545.

(303) "Used or reused" means a material that is either:

(a) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one (1) process used as feedstock in another process). However, a material shall not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or

(b) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

(304) "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.

(305) "Vapor recovery system" means that equipment, device, or apparatus capable of collecting vapors and gases discharged from a storage tank, and a vapor processing system capable of affecting such vapors and gases so as to prevent their emission into the atmosphere.

(306) "Vapor-mounted seal" means a foam-filled primary seal mounted continuously around the circumference of the tank so that there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the hazardous waste surface, and the floating roof.

(307) "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.

(308) "Vessel" means any watercraft used or capable of being used as a means of transportation on the water.

(309) "Volatile organic concentration" or "VO concentration" means the fraction by weight of organic compounds in a hazardous waste expressed in terms of parts per million (ppmw) as determined by direct measurement using Method 25D or by knowledge of the waste in accordance with the requirements of Section 4 of 401 KAR 35-281.

(310) "Washout" means the carrying away of waste by waters as a result of flooding.

(311) "Waste" shall have the meaning specified in KRS 224.01-010.

(312) "Waste boundary" means the outermost perimeter of the waste (projected in the horizontal plane) as it would exist at completion of the disposal activity.

(313) "Waste determination" means performing all applicable procedures in accordance with the requirements of Section 4 of

401 KAR 35-281 to determine whether a hazardous waste meets standards specified in 401 KAR Chapter 35. Examples of a waste determination include performing the procedures in accordance with the requirements of Section 4 of 401 KAR 35-281 to determine the average VO concentration of a hazardous waste at the point of waste origination, the average VO concentration of a hazardous waste at the point of waste treatment and comparing the results to the exit concentration limit specified for the process used to treat the hazardous waste; determining the organic reduction efficiency and the organic biodegradation efficiency for a biological process used to treat a hazardous waste and comparing the results to the applicable standards; or the maximum volatile organic vapor pressure for a hazardous waste in a tank and comparing the results to the applicable standards.

(314) "Waste pile" shall have the same meaning as "pile".

(315) "Waste stabilization process" means any physical or chemical process used to either reduce the mobility of hazardous constituents in a hazardous waste or eliminate free liquids as determined by Test Method 9005 (Paint Filter Liquide Test) in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, (incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30:010). A waste stabilization process includes mixing the hazardous waste with binders or other materials, and curing the resulting hazardous waste and binder mixture. Other synonymous terms used to refer to this process are "waste fixation" or "waste solidification."

(316) "Wastewaters" means 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:

(a) 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 1 of 401 KAR 37:040 in Table Treatment Standards for Hazardous Waste;

(b) K011, K013, K014 wastewaters contain less than five (5) percent by weight TOC and less than one (1) percent by weight TSS, as generated, and

(c) K103 and K104 wastewaters contain less than four (4) percent by weight TOC and less than one (1) percent by weight TSS.

(317) "Wastewater treatment unit" means a device that:

(a) is part of a wastewater treatment facility that is subject to administrative regulation under either section 402 or 307(b) of the CWA,

(b) receives and treats or stores an influent wastewater which is a hazardous waste as defined in 401 KAR 31:010, Section 3; or generates and accumulates a wastewater treatment sludge that is a hazardous waste as defined in 401 KAR 31:010, Section 3; or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in Section 3 of 401 KAR 31:010, and

(c) meets the definition of tank or tank system in this administrative regulation.

(318) "Water" or "waters of the Commonwealth" shall have the meaning specified in KRS 224.01-010.

(319) "Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

(320) "Well" means any shaft or pit dug or bored into the earth, generally of cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

(321) "Wetlands" means land that has a predominance of hydro soils and is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

(322) "Zone of aeration" means that region of the soil or rock between the land surface and the nearest saturated zone in which the interstices are occupied partially by air.

(323) "Zone of engineering control" means an area under the control of the owner or operator that upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to waters of the Commonwealth.

(324) "Zone of saturation" means that part of the earth's crust

containing groundwater in which all voids, large and small, are filled with liquid.

Section 2. Aeronyms and Abbreviations. Unless otherwise specifically indicated by context, aeronyms and abbreviations used in 401 KAR Chapter 31 shall have the meaning as identified in Table 1 of this administrative regulation.

Table 1. Aeronyms and Abbreviations.	
Am.	Amended
C	Corrosive waste
CAA	Clean Air Act, as amended
C.F.R.	Code of Federal Regulations
cm	Centimeter
cm ²	Centimeter squared
CO	Carbon monoxide
CO ₂	Carbon dioxide
CWA	Clean Water Act, as amended
GERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
DOT	United States Department of Transportation
DRE	Destruction and removal efficiency
E	Explosive waste
eff.	Effective
EPA	United States Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIA	Federal Insurance Administration
FR	Federal Register
H	Acutely hazardous waste
ha	Hectare
HTMR	High temperature metals recovery
HSWA	Hazardous and Solid Waste Amendments of 1994
I	Ignitable waste
KAR	Kentucky Administrative Regulation
kg	Kilogram
KPDES	Kentucky Pollution Discharge Elimination System
KRS	Kentucky Revised Statute
Ky R.	Administrative Register of Kentucky
l	Liter
LC	Lethal concentration
LD	Lethal dose
ml	Milliliter
mm	Millimeter
N	Normal
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NPDES	National Pollutant and Discharge Elimination System
PCB	Polychlorinated biphenyl
pCi/l	Picocuries per liter
PHC	Principal hazardous constituent
Permit	Permitted principal organic hazardous constituent
PM	Particulate matter
POHC	Principal organic hazardous constituent
ppm	parts per million
Trial	Trial burn principal organic hazardous constituent
POHC	Principal organic hazardous constituent
POTW	Publicly owned treatment works
PSD	Prevention of significant deterioration
psi	Pounds per square inch
psig	Pounds per square inch gauge
R	Reactive waste
RCRA	Resource Conservation and Recovery Act, as amended
SDWA	Safe Drinking Water Act, as amended
SEC	Securities and Exchange Commission
SIC	Standard Industrial Classification Code

SPCC	Spill Prevention, Control, and Countermeasures Plan
T	Toxic waste
UIC	Underground Injection Control
UICP	Underground Injection Control Program
U.S.C.	United States Code
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
USPS	United States Postal Service

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: January 3, 2007 at 2 p.m.
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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 33:010. General provisions for transporters.

RELATES TO: KRS Subchapters [Chapters] 224.01, 224.10, 224.40, 224.46, 224.99, 40 C.F.R. 263 Subpart A
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-510 [40 C.F.R. 263 Subpart A]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-510 requires the Environmental and Public Protection Cabinet to promulgate administrative regulations establishing standards applicable to transporters of hazardous waste regarding record-keeping and compliance with the manifest system. [This chapter establishes standards for transporters of hazardous waste.] This administrative regulation establishes [sets forth] the general provisions applicable to these transporters.

Section 1. Scope. The subject matter shall be governed by 40 C.F.R. 263.10, effective July 1, 2005.

Section 2. EPA Identification Number. (1) A transporter shall [must] not transport hazardous wastes within the Commonwealth of Kentucky without having received an EPA identification number from the cabinet or from the federal EPA.

(2) A transporter who has not received an EPA identification number may obtain one (1) by applying to the cabinet using the "Notification of Hazardous Waste Activity Form", DEP Form 7037, incorporated by reference in 401 KAR 32:010, Section 4 [a notification form approved by the cabinet].

(3) A transporter who transports or intends to transport hazardous waste within the Commonwealth of Kentucky shall [must] register with the cabinet. A transporter [transporters] shall initially register with the cabinet by submitting a completed "Notification of Hazardous Waste Transportation Activities", DEP Form 7053.

Section 3. Hazardous Waste Transfer Facility Requirements. The subject matter shall be governed by 40 C.F.R. 263.12, effective July 1, 2005.

[Section 1. Scope (1) This chapter establishes standards which apply to persons transporting hazardous waste within the Commonwealth of Kentucky if the transportation requires a manifest under 401 KAR Chapter 32.

(2) This chapter does not apply to on-site transportation of hazardous waste by generators or by owners or operators of permitted hazardous waste management facilities.

(3) A transporter of hazardous waste must also comply with the manifest requirements in 401 KAR Chapter 32 if he:

(a) Transports hazardous waste into Kentucky from a foreign country; or

(b) Mixes hazardous wastes of different DOT shipping descriptions by placing them into a single container.

Section 2. EPA Identification Number. (1) A transporter must not transport hazardous wastes within the Commonwealth of Kentucky without having received an EPA identification number from the cabinet.

(2) A transporter who has not received an EPA identification number may obtain one (1) by applying to the cabinet using a notification form approved by the cabinet.

(3) A transporter who transports or intends to transport hazardous waste within the Commonwealth of Kentucky must register with the cabinet. The application for registration shall include but not be limited to:

(a) The name, legal structure and permanent address of the organization;

(b) The EPA identification number.

Section 3. Hazardous Waste Transfer Facility Requirements. A transporter who stores manifested shipments of hazardous waste in containers meeting the requirements of Section 1 of 401 KAR 32.030 at a hazardous waste transfer facility for a period of ten (10) days or less is not subject to regulation under 401 KAR Chapters 34, 35, 37, and 38 with respect to storage of these wastes.]

Section 4. Incorporation by Reference. (1) [The following document is hereby incorporated by reference.] "Notification of Hazardous Waste Transportation Activities", DEP Form 7053 (December 1989), is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, Monday through Friday, 8:00 a.m. to 4:30 p.m.

(3) This document may also be obtained from the Division of Waste Management's Web page located at www.waste.ky.gov. [The document referenced in subsection (1) of this section is available for inspection and copying, subject to copyright law, at the Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-6716, from 8 a.m. to 4:30 p.m. eastern time, Monday through Friday, excluding state holidays.]

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: January 3, 2007 at 2 p.m.
 CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 33:020. Compliance with the manifest system and recordkeeping.

RELATES TO: KRS Subchapters [Chapters] 224.10, 224.40, 224.46, 40 C.F.R. 263 Subpart B
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-560 [40 C.F.R. 263 Subpart B]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-560 requires the Environmental and Public Protection Cabinet to promulgate administrative regulations establishing standards applicable to transporters of hazardous waste regarding record-keeping and compliance with the manifest system. [This chapter establishes standards for transporters of hazardous waste.] This administrative regulation establishes [sets forth] the standards for compliance with the manifest system and recordkeeping.

Section 1. The Manifest System. The subject matter shall be governed by 40 C.F.R. 263.20, effective July 1, 2005.

Section 2. Compliance with the Manifest. The subject matter shall be governed by 40 C.F.R. 263.21, effective July 1, 2005.

Section 3. Recordkeeping. The subject matter shall be governed by 40 C.F.R. 263.22, effective July 1, 2005.

[Section 1. Compliance with the Manifest System. (1) A transporter may not accept hazardous waste from a generator unless it is accompanied by a manifest signed in accordance with the provisions of Section 1 of 401 KAR 32.020. In the case of exports, a transporter may not accept such waste from a primary exporter or other person:

(a) If he knows the shipment does not conform to the EPA acknowledgment of consent; and

(b) Unless, in addition to a manifest signed in accordance with the provisions of Section 1 of 401 KAR 32.020, such waste is also accompanied by an EPA acknowledgment of consent which, except for shipment by rail, is attached to the manifest (or shipping paper for exports by water (bulk shipment)).

(2) Before transporting the hazardous waste, the transporter must sign and date the manifest acknowledging acceptance of the hazardous waste from the generator. The transporter must return a signed copy to the generator before leaving the generator's property.

(3) The transporter must ensure that the manifest accompanies the hazardous waste. In the case of exports, the transporter must ensure that a copy of the EPA acknowledgment of consent also accompanies the hazardous waste.

(4) A transporter who delivers a hazardous waste to another transporter or to the designated facility must:

(a) Obtain the date of delivery and the handwritten signature of that transporter or of the owner/operator of the designated facility on the manifest; and

(b) Retain one (1) copy of the manifest in accordance with Section 2 of this administrative regulation; and

(c) Give the remaining copies of the manifest to the accepting transporter or designated facility.

(5) The requirements of subsections (3), (4), and (6) of this section do not apply to water (bulk shipment) transporters if:

(a) The hazardous waste is delivered by water (bulk shipment) to the designated facility; and

(b) A shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports, an EPA acknowledgment of consent accompanies the hazardous waste; and

(c) The delivering transporter obtains the date of delivery and handwritten signature of the owner/operator of the designated facility on either the manifest or the shipping paper; and

(d) The person delivering the hazardous waste to the initial water (bulk shipment) transporter obtains the date of delivery and signature of the water (bulk shipment) transporter on the manifest and forwards it to the designated facility; and

(e) A copy of the shipping paper or manifest is retained by each water (bulk shipment) transporter in accordance with Section 2 of this administrative regulation.

(6) For shipments involving only rail transportation, the requirements of subsections (3), (4) and (5) of this section do not apply and the following requirements do apply:

(a) When accepting hazardous waste from a nonrail transporter, the initial rail transporter must:

1. Sign and date the manifest acknowledging acceptance of the hazardous waste;

2. Return a signed copy of the manifest to the nonrail transporter;

3. Forward at least three (3) copies of the manifest to:
a. The next nonrail transporter, if any; or
b. The designated facility, if the shipment is delivered to that facility by rail; or

c. The last rail transporter designated to handle the waste in the United States;

4. Retain one (1) copy of the manifest and rail shipping paper in accordance with Section 2 of this administrative regulation.

(b) Rail transporters must ensure that a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports an EPA acknowledgment of consent accompanies the hazardous waste at all times. (Note: Intermediate rail trans-

porters are not required to sign either the manifest or shipping paper.)

(e) When delivering hazardous waste to the designated facility, a rail transporter must:

1. Obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility); and

2. Retain a copy of the manifest or signed shipping paper in accordance with Section 2 of this administrative regulation.

(d) When delivering hazardous waste to a nonrail transporter, a rail transporter must:

1. Obtain the date of delivery and the handwritten signature of the next nonrail transporter on the manifest; and

2. Retain a copy of the manifest in accordance with Section 2 of this administrative regulation.

(e) Before accepting hazardous waste from a rail transporter, a nonrail transporter must sign and date the manifest and provide a copy to the rail transporter.

(7) Transporters who transport hazardous waste out of the United States must:

(a) Indicate on the manifest the date the hazardous waste left the United States; and

(b) Sign the manifest and retain one (1) copy in accordance with Section 2(3) of this administrative regulation; and

(c) Return a signed copy of the manifest to the generator; and

(d) Give a copy of the manifest to a U.S. customs official at the point of departure from the United States.

(8) The transporter must deliver the entire quantity of hazardous waste which he has accepted from a generator or a transporter to:

(a) The designated facility listed on the manifest; or

(b) The alternate designated facility; or

(c) The next designated transporter; or

(d) The place outside the United States designated by the generator.

(9) If the hazardous waste cannot be delivered in accordance with subsection (8) of this section, the transporter must contact the generator for further directions and must revise the manifest and transport the waste according to the generator's lawful instructions.

Section 2. Recordkeeping (1) A transporter of hazardous waste must keep a copy of the manifest signed by the generator, himself, and the next designated transporter or the owner/operator of the designated facility for a period of three (3) years from the date the hazardous waste was accepted by the initial transporter.

(2) For shipments delivered to the designated facility by rail or water (bulk shipment), each rail or water (bulk shipment) transporter must retain a copy of a shipping paper containing all the information required in Section 1(6)(b) of this administrative regulation for a period of three (3) years from the date the hazardous waste was accepted by the initial transporter.

(3) For shipments of hazardous waste by rail within Kentucky:

(a) The initial rail transporter must keep a copy of the manifest and shipping paper with all the information required in Section 1(6)(b) of this administrative regulation for a period of three (3) years from the date the hazardous waste was accepted by the initial transporter; and

(b) The final rail transporter must keep a copy of the signed manifest (or the shipping paper if signed by the designated facility in lieu of the manifest) for a period of three (3) years from the date the hazardous waste was accepted by the initial transporter.

(4) A transporter who transports hazardous waste out of the United States must keep a copy of the manifest indicating that the hazardous waste left the United States, for a period of three (3) years from the date the hazardous waste was accepted by the initial transporter.

(5) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the EPA Administrator or the Secretary of the Natural Resources and Environmental Protection Cabinet.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006
FILED WITH LRC: January 3, 2007 at 2 p.m.
CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 33:030. Hazardous waste discharges during transportation.

RELATES TO: KRS Subchapters [Chapters] 224.10, 224.40, 224.46, 40 C.F.R. 263 Subpart C
STATUTORY AUTHORITY: KRS 224.10-100, 224.46-560[40 C.F.R. 263 Subpart C]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.46-560 requires the Environmental and Public Protection Cabinet to promulgate administrative regulations establishing standards applicable to transporters of hazardous waste regarding record-keeping and compliance with the manifest system. [This chapter establishes standards for transporters of hazardous waste.] This administrative regulation establishes [sets forth] the standards which are applicable for [in the event of] a discharge of hazardous waste during transportation.

Section 1. Immediate Action. The subject matter shall be governed by 40 C.F.R. 263.30(a), effective July 1, 2005.

Section 2. Removal of Hazardous Discharge. The subject matter shall be governed by 40 C.F.R. 263.30(b), effective July 1, 2005.

Section 3. Steps for Reporting Discharges. (1) Except as provided in subsection (2) of this section the subject matter shall be governed by 40 C.F.R. 263.30(c), effective July 1, 2005.

(2) In addition to the requirements in 40 C.F.R. 263.30(c), an air, rail, highway, or water transporter who has any knowledge of a release or threatened release of a pollutant or contaminant to the environment in a quantity which may present an imminent or substantial danger to human health or the environment[,] shall immediately notify the cabinet's twenty-four (24) hour emergency response line as required by KRS 224.01-400(7) and[,] if required by the cabinet[,] provide a written report of the incident or accident within seven (7) days of the release, if required by the cabinet pursuant to KRS 224.01-400(8).

Section 4. Bulk Shipment Transporters. The subject matter shall be governed by 40 C.F.R. 263.30(d), effective July 1, 2005.

Section 5. Discharge Clean Up. The subject matter shall be governed by 40 C.F.R. 263.31, effective July 1, 2005.

~~[Section 1. Appropriate Immediate Action. In the event of a discharge of hazardous waste during transportation, the transporter must take appropriate immediate action to protect human health and the environment (e.g., notify local authorities, dike the discharge area).~~

~~Section 2. Removal of Hazardous Discharge. If a discharge of hazardous waste occurs during transportation and an official (state or local government or a federal agency) acting within the scope of his official responsibilities determines that immediate removal of the waste is necessary to protect human health or the environment, that official may authorize the removal of the waste by transporters who do not have EPA identification numbers and without the preparation of a manifest.~~

~~Section 3. Steps for Reporting Discharges. An air, rail, highway, or water transporter who has discharged hazardous waste must:~~

~~(1) Give notice, if required by 49 C.F.R. 171.16, to the National Response Center (800-424-8802 or 202-426-2676); and~~

~~(2) Report in writing as required by 49 C.F.R. 171.16 to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, DC 20590.~~

~~(3) Report to the Kentucky Natural Resources and Environmental Protection Cabinet any incident or accident within two (2) hours of the time of occurrence which results in or could result in the discharge of hazardous waste, and provide the cabinet, if required, with a written report of the incident or accident within ten (10) days.~~

~~Section 4. Bulk Shipment Transporters. A water (bulk shipment) transporter who has discharged hazardous waste must give the same notice as required by 33 C.F.R. 153.203 for oil and hazardous substances.~~

~~Section 5. Responsibility for Clean Up. A transporter must clean up any hazardous waste discharge that occurs during transportation or take such action as may be required or approved by federal, state or local officials so that the hazardous waste discharge no longer presents a hazard to human health or the environment.]~~

TERESA J. HILL, Secretary
APPROVED BY AGENCY: November 13, 2006
FILED WITH LRC: January 3, 2007 at 2 p.m.
CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 34:005. Definitions for [related to] 401 KAR Chapter 34.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.46, 40 C.F.R. 260.10, 264.141, 264.1031, 264.1051, 264.1081, 40 C.F.R. 260.10

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530, 40 C.F.R. 260.10

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10(30) authorizes the Environmental and Public Protection Cabinet to promulgate administrative regulations. [This chapter establishes standards for new hazardous waste sites or facilities, as required by KRS 224.46-520 and 224.46-530.] This administrative regulation defines essential terms that are used in 401 KAR Chapter 34 [this chapter]. [The majority of terms defined in this administrative regulation are equivalent to federal terms contained in 40 C.F.R. Parts 260 through 299.] Some federal terms have been modified [clarified to eliminate federal ambiguities and] to conform to Kentucky statutory mandates. Definitions contained in KRS Chapter 224 have been referenced to the appropriate statutory citation. Some terms do not have a federal counterpart and [These terms] have been added to clarify requirements and provisions of KRS Chapter 224 and 401 KAR Chapter 34 [this chapter].

Section 1. Definitions. Except as provided in this section, the definitions established in 40 C.F.R. 260.10, effective September 9, 2005, shall apply. [The subject matter shall be governed by 40 C.F.R. 260.10, effective September 9, 2005. The following modifications, exceptions, and additions set forth in this section shall amend 40 C.F.R. 260.10.]

(1) "100-year flood" means a flood that has a one (1) percent chance of being equaled or exceeded in any given year.

(2) "100-year floodplain" means any land area which is subject to a one (1) percent or greater chance of flooding in any given year from any source.

[(2) "100-year flood" means a flood that has a one (1) percent

~~chance of being equaled or exceeded in any given year.]~~

(3) **"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.

(4) **"Administrator," "agency," "assistant administrator," "regional administrator," "director," or "regional director"** means cabinet as defined in KRS 224 01-010(9).

~~(4) "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.]~~

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

~~(6) "Bodily injury" is defined by 40 C.F.R. 264.141(g) [shall have the meaning given by applicable KRS. Bodily injury does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for bodily injury].~~

(7) **"Cabinet"** is defined by KRS 224 01-010(9).

(8) **"Certificate"** is defined by KRS 224 46-810(2).

(9) **"Closure"** is defined by KRS 224 01-010(4).

(10) **"Closure plan"** means the plan for closure prepared in accordance with the requirements of 401 KAR 34-070, Section 3, or 401 KAR 35-070, Section 3.

(11) **"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.

(12) **"Contamination"** means the degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.

(13) **"Contingency plan"** means a document setting out an organized, planned, and coordinated course of action to be followed if [in the event of] a fire, explosion, or release of waste or waste constituents into the environment [which] has the potential for endangering human health and the environment and includes financial planning to identify resources for initiation of the course of action [such action is a part of contingency plan development].

(14) **"Corrective action management units" or "CAMU"** means an area within a facility that:

(a) is designated by the cabinet under 401 KAR 34:287, for the purpose of implementing corrective action requirements under 401 KAR 34:060, Section 12, and KRS 224 46-520; and

(b) [A CAMU] shall only be used for the management of remediation wastes pursuant to implementing the [such] corrective action requirements at the facility.

(15) **"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.

(16) **"Current closure cost estimates"** means the most recent of the estimates prepared in accordance with 401 KAR 34-090, Section 1(1), (2) and (3), or 401 KAR 35:090, Section 1(1), (2) or [and] (3).

~~(17) "Current liabilities" is defined by 40 C.F.R. 264.141(f) [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].~~

(18) **"Current plugging and abandonment cost estimate"** means the most recent of the estimates prepared in accordance with 40 C.F.R. 144.62(a), (b), and (c).

(19) **"Current postclosure cost estimate"** means the most recent of the estimates prepared in accordance with 401 KAR 34-100, Section 1(1), (2) and (3) or 401 KAR 35 100, Section 1(1), (2) or [and] (3).

(20) **"Disposal"** is defined by KRS 224 01-010(10).

(21) **"Environmental Protection Agency" or "EPA"** means the Kentucky Department for Environmental Protection except if [when] used in the phrases "EPA hazardous waste number", "EPA identification number", "EPA Region", "EPA Acknowledgment of Consent", "EPA Test Methods", and "EPA publications".

~~(22) "Existing" means [indicates] a boiler or industrial furnace that on or before August 21, 1991 was [e]ither 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.~~

~~(23) "Federal Register" means the "Kentucky Administrative Register" as described in KRS 13A 050[. for those areas applicable and delegable to the state].~~

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

(25) **"Generator"** is defined by KRS 224 01-010(13).

(26) **"Hazardous constituent"** is defined by KRS 224 01.010(42).

(27) **"Hazardous waste"** is defined by KRS 224.01-010(31)(b).

(28) **"Hazardous waste site or facility"** means any place at which hazardous waste is treated, stored, or disposed of by landfilling, incineration, or any other method and [Hazardous waste site or facility] includes [boiler, [disposal facility, [elementary neutralization unit, [incinerator, [industrial furnace, [hazardous waste transfer facility, [injection well, [landfill, [land treatment facility, [miscellaneous unit, [pile or waste pile, [replacement unit, [storage facility, [sludge dryer, [surface impoundment, [tank, [thermal treatment facility, [totally enclosed treatment facility, [treatment facility, [] or wastewater treatment unit.

~~(29) "Independently audited" means [refers to] an audit was performed by an independent certified public accountant in accordance with generally accepted auditing standards.~~

(30) **"Industrial solid waste"** is defined by KRS 224 01-010(31)(a)(3).

(31) **"Interim status"** means the designation of a hazardous waste site or facility which was in existence on November 19, 1980, and has submitted a Part A application under 401 KAR Chapter 38 and is treated as having a permit until final administrative disposition of the application is made.

(32) **"Land disposal"** is defined by KRS 224 01-010(43).

(33) **"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.

(34) **"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.

(35) **"Manifest"** is defined by KRS 224 01-010(37).

(36) **"Monitoring"** means the act of systematically inspecting and collecting data on operational parameters or on the quality of the air, soil, groundwater, or surface water.

(37) **"Monitoring well"** means a well used to obtain water samples for water quality and quantity analysis and groundwater levels.

(38) **"Municipal solid waste"** is defined by KRS 224 01-010(31)(a)(4).

(39) **"Net working capital"** means current assets minus current liabilities.

(40) **"Net worth"** means total assets minus total liabilities and is equivalent to owner's equity.

(41) **"New facility"** means any hazardous waste site or facility that commenced construction after November 19, 1980.

(42) **"Nonsudden accidental occurrence"** means an occurrence that takes place over time and involves continuous or repeated exposure.

(43) **"Off-site"** means properties noncontiguous to the site.

(44) **"Operator"** means any person responsible for overall operation of an on-site or off-site waste facility, including any private contractor conducting operational activities at a federal facility.

(45) **"Owner"** means any person who owns an on-site or off-site waste facility, or any part of a facility.

(46) **"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.

(47) **"Permit"** means the authorization or other control document that:

(a) is issued by the cabinet to implement the requirements of the waste management administrative regulations;

(b) [The term permit] includes permit-by-rule, registered per-

mit-by-rule, research, development, and demonstration permit, and emergency permit; and

(c) ~~However, the term permit~~ Does not include draft permit or proposed permit.

(48) "Person" is defined by KRS 224.01-010(17).

(49) "Point of compliance" means for hazardous waste sites and facilities, groundwater monitoring wells located within 250 feet of the waste boundary as approved by the cabinet.

(50) "Polychlorinated biphenyl" or "PCB" means halogenated organic compounds defined in accordance with 40 C.F.R. 761.3 effective June 24, 1999.

(51) "Postclosure care" means the manner in which a facility shall be maintained if [when] it no longer accepts waste for disposal.

(52) "Postclosure monitoring and maintenance" is defined by KRS 224.01-010(18).

(53) ~~(246)~~ "Postclosure plan" means the plan for postclosure care prepared in accordance with the requirements of 401 KAR 34:070, Sections 8 to 11 or 401 KAR 35.070, Sections 8 to 11.

(63) "Publicly owned treatment works" or POTW is defined by KRS 224.01-010(10).

(54) "Professional engineer" is defined by KRS 322.010(3).

(55) "Professional land surveyor" is defined by KRS 322.010(9).

(56) "Property damage" is defined by 40 C.F.R. 264.141(g) ~~[shall have the meaning given by applicable KRS. Property damage does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for property damage].~~

(57) "Publicly owned treatment works" or "POTW" is defined by KRS 224.01-010(19).

(58) "Regulated unit" means hazardous waste land disposal sites or facilities, or portions of existing hazardous waste land disposal sites or facilities that continued to receive waste after January 26, 1983.

(59) "Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the waste facility or activity.

(60) "Solid waste" is ~~means "waste" as~~ defined in KRS 224.01-010(31)(a).

(61) "Solid waste management unit" means ~~[shall mean]~~ any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste and ~~includes~~. ~~Such units include~~ any area at a facility at which solid wastes have been routinely and systematically released.

(62) "State" means the Commonwealth of Kentucky.

(63) "Storage" is defined by KRS 224.01-010(28).

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

(65) "Tangible net worth" means the tangible assets that:

(a) Remain after deducting liabilities; and

(b) ~~Do~~ ~~these assets would~~ not include intangibles such as goodwill and rights to patents or royalties.

(66) "Termination" is defined by KRS 224.01-010(26).

(67) "The full amount of liability coverage to be provided" means the amount of coverage for sudden and nonsudden occurrences required to be provided by the owner or operator, 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.

(68) "Transfer Facility" is defined by KRS 224.01-010(48).

(69) "Transportation" is defined by KRS 224.01-010(29).

(70) "Treatment" is defined by KRS 224.01-010(30).

(71) "United States" means the Commonwealth of Kentucky.

(72) "Used oil" is defined by KRS 224.50-545(2)(a).

(73) "Waste boundary" means the outermost perimeter of the waste (projected in the horizontal plane) as it would exist at completion of the disposal activity.

(74) "Waste pile" or "pile" means any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage and that is not a containment building.

(75) "Water" ~~["Waters"]~~ or "waters of the Commonwealth" is defined by KRS 224.01-010(33).

Section 2. Substitution of Federal References. (1) The following federal parts and subparts, which are cited by federal regulations referenced in 401 KAR Chapter 34, shall be substituted with the state administrative regulations listed below.

Federal Regulation	State Regulation
40 C.F.R. Part 260	401 KAR Chapter 30
40 C.F.R. 260 Subpart A	401 KAR 30:020
40 C.F.R. 260 Subpart B	401 KAR 30:005, 401 KAR 31:005, 401 KAR 32:005, 401 KAR 33:005, 401 KAR 34:005, 401 KAR 35:005, 401 KAR 36:005, 401 KAR 37:005, 401 KAR 38:005, 401 KAR 43:005, 401 KAR 44:005, and 401 KAR 30:020
40 C.F.R. 260 Subpart C	401 KAR 30:035
40 C.F.R. Part 261	401 KAR Chapter 31
40 C.F.R. 261 Subpart A	401 KAR 31:010
40 C.F.R. 261 Subpart B	401 KAR 31:020
40 C.F.R. 261 Subpart C	401 KAR 31:030
40 C.F.R. 261 Subpart D	401 KAR 31:040
40 C.F.R. Part 262	401 KAR Chapter 32
40 C.F.R. 262 Subpart A	401 KAR 32:010
40 C.F.R. 262 Subpart B	401 KAR 32:020
40 C.F.R. 262 Subpart C	401 KAR 32:030
40 C.F.R. 262 Subpart D	401 KAR 32:040
40 C.F.R. 262 Subpart E	401 KAR 32:050, Sections 1-9
40 C.F.R. 262 Subpart F	401 KAR 32:050, Section 10
40 C.F.R. 262 Subpart G	401 KAR 32:060
40 C.F.R. 262 Subpart H	401 KAR 32:065
40 C.F.R. Part 263	401 KAR Chapter 33
40 C.F.R. 263 Subpart A	401 KAR 33:010
40 C.F.R. 263 Subpart B	401 KAR 33:020
40 C.F.R. 263 Subpart C	401 KAR 33:030
40 C.F.R. Part 264	401 KAR Chapter 34
40 C.F.R. 264 Subpart A	401 KAR 34:010
40 C.F.R. 264 Subpart B	401 KAR 34:020
40 C.F.R. 264 Subpart C	401 KAR 34:030
40 C.F.R. 264 Subpart D	401 KAR 34:040
40 C.F.R. 264 Subpart E	401 KAR 34:050
40 C.F.R. 264 Subpart F	401 KAR 34:060
40 C.F.R. 264 Subpart G	401 KAR 34:070
40 C.F.R. 264 Subpart H	401 KAR 34:080, 401 KAR 34:090, 401 KAR 34:100, 401 KAR 34:110, 401 KAR 34:120, 401 KAR 34:130
40 C.F.R. 264 Subpart I	401 KAR 34:180
40 C.F.R. 264 Subpart J	401 KAR 34:190
40 C.F.R. 264 Subpart K	401 KAR 34:200
40 C.F.R. 264 Subpart L	401 KAR 34:210
40 C.F.R. 264 Subpart M	401 KAR 34:220
40 C.F.R. 264 Subpart N	401 KAR 34:230
40 C.F.R. 264 Subpart O	401 KAR 34:240
40 C.F.R. 264 Subpart S	401 KAR 34:287
40 C.F.R. 264 Subpart W	401 KAR 34:285
40 C.F.R. 264 Subpart X	401 KAR 34:250
40 C.F.R. 264 Subpart AA	401 KAR 34:275
40 C.F.R. 264 Subpart BB	401 KAR 34:280
40 C.F.R. 264 Subpart CC	401 KAR 34:281
40 C.F.R. 264 Subpart DD	401 KAR 34:245
40 C.F.R. 264 Subpart EE	401 KAR 34:370
40 C.F.R. Part 265	401 KAR Chapter 35
40 C.F.R. 265 Subpart A	401 KAR 35:010
40 C.F.R. 265 Subpart B	401 KAR 35:020
40 C.F.R. 265 Subpart C	401 KAR 35:030
40 C.F.R. 265 Subpart D	401 KAR 35:040
40 C.F.R. 265 Subpart E	401 KAR 35:050

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40 C.F.R. 265 Subpart E	401 KAR 35 060
40 C.F.R. 265 Subpart G	401 KAR 35 070
40 C.F.R. 265 Subpart H	401 KAR 35.080, 401 KAR 35 090, 401 KAR 35:100, 401 KAR 35:110, 401 KAR 35:120, 401 KAR 35:130
40 C.F.R. 265 Subpart I	401 KAR 35:180
40 C.F.R. 265 Subpart J	401 KAR 35:190
40 C.F.R. 265 Subpart K	401 KAR 35 200
40 C.F.R. 265 Subpart L	401 KAR 35 210
40 C.F.R. 265 Subpart M	401 KAR 35:220
40 C.F.R. 265 Subpart N	401 KAR 35:230
40 C.F.R. 265 Subpart O	401 KAR 35:240
40 C.F.R. 265 Subpart P	401 KAR 35:250
40 C.F.R. 265 Subpart Q	401 KAR 35:260
40 C.F.R. 265 Subpart R	401 KAR 35:270
40 C.F.R. 265 Subpart W	401 KAR 35:285
40 C.F.R. 265 Subpart AA	401 KAR 35:275
40 C.F.R. 265 Subpart BB	401 KAR 35 280
40 C.F.R. 265 Subpart CC	401 KAR 35:281
40 C.F.R. 265 Subpart DD	401 KAR 35:245
40 C.F.R. 265 Subpart EE	401 KAR 35 350
40 C.F.R. Part 266	401 KAR Chapter 36
40 C.F.R. 266 Subpart C	401 KAR 36 030
40 C.F.R. 266 Subpart F	401 KAR 36 060
40 C.F.R. 266 Subpart G	401 KAR 36:070
40 C.F.R. 266 Subpart H	401 KAR 36:020
40 C.F.R. 266 Subpart M	401 KAR 36:080
40 C.F.R. 266 Subpart N	401 KAR 36:090
40 C.F.R. Part 268	401 KAR Chapter 37
40 C.F.R. 268 Subpart A	401 KAR 37 010
40 C.F.R. 268 Subpart B	401 KAR 37:020
40 C.F.R. 268 Subpart C	401 KAR 37 030
40 C.F.R. 268 Subpart D	401 KAR 37:040
40 C.F.R. 268 Subpart E	401 KAR 37 050
40 C.F.R. Part 270	401 KAR Chapter 38
40 C.F.R. 270 Subpart A	401 KAR 38:010
40 C.F.R. 270 Subpart B	401 KAR 38:070, 401 KAR 38 080, 401 KAR 38:090, 401 KAR 38 150 through 401 KAR 38:310
40 C.F.R. 270 Subpart C	401 KAR 38 030
40 C.F.R. 270 Subpart D	401 KAR 38:040, Sections 1 through 4, 7
40 C.F.R. 270 Subpart E	401 KAR 38 040, Sections 5 and 6
40 C.F.R. 270 Subpart F	401 KAR 38:060
40 C.F.R. 270 Subpart G	401 KAR 38:020
40 C.F.R. 270 Subpart H	401 KAR 38:320
40 C.F.R. 270 Subpart I	401 KAR 38:330
[40 C.F.R. 270 Subpart J]	[401 KAR 38:340]
40 C.F.R. Part 124	401 KAR 38 050
40 C.F.R. Part 273	401 KAR Chapter 43
40 C.F.R. 273 Subpart A	401 KAR 43:010
40 C.F.R. 273 Subpart B	401 KAR 43:020
40 C.F.R. 273 Subpart C	401 KAR 43:030
40 C.F.R. 273 Subpart D	401 KAR 43 040
40 C.F.R. 273 Subpart E	401 KAR 43:050
40 C.F.R. 273 Subpart F	401 KAR 43:060 [43-070]
40 C.F.R. 273 Subpart G	401 KAR 43:070 [43-090]
40 C.F.R. Part 279	401 KAR Chapter 44
40 C.F.R. 279 Subpart A	401 KAR 44:005
40 C.F.R. 279 Subpart B	401 KAR 44 010
40 C.F.R. 279 Subpart C	401 KAR 44 020
40 C.F.R. 279 Subpart D	401 KAR 44 030
40 C.F.R. 279 Subpart E	401 KAR 44:040
40 C.F.R. 279 Subpart F	401 KAR 44 050
40 C.F.R. 279 Subpart G	401 KAR 44 060

40 C.F.R. 279 Subpart H	401 KAR 44:070
40 C.F.R. 279 Subpart I	401 KAR 44:080

(2) The requirements of the following federal regulations, which are referenced in 401 KAR Chapter 34, shall include the modifications, exceptions, and additions that are specific to the Commonwealth of Kentucky set forth in the following state administrative regulations referenced in the table below

Federal Regulation	State Regulation
40 C.F.R. 260 10	401 KAR 30 005, 401 KAR 31:005, 401 KAR 32:005, 401 KAR 33 005, 401 KAR 34 005, 401 KAR 35 005, 401 KAR 36:005, 401 KAR 37:005, 401 KAR 38:005, 401 KAR 43:005, 401 KAR 44:005, and 401 KAR 30 020
40 C.F.R. 261 3	401 KAR 31:010, Section 3
40 C.F.R. 261 6	401 KAR 31 010, Section 6
40 C.F.R. 264 97	401 KAR 34:060, Section 8
40 C.F.R. 264 221	401 KAR 34 200, Section 2
40 C.F.R. 264 251	401 KAR 34 210, Section 2
40 C.F.R. 264 143	401 KAR 34:080
40 C.F.R. 264 145	401 KAR 34:080
40 C.F.R. 264 301	401 KAR 34:230, Section 2
40 C.F.R. 264 1082	401 KAR 34:281, Section 2
40 C.F.R. 266 202	401 KAR 36:080, Section 3
40 C.F.R. 266 205	401 KAR 36:080, Section 6
40 C.F.R. 270 1	401 KAR 38:010, Section 1
40 C.F.R. 270.4	401 KAR 38 010, Section 3
40 C.F.R. 270 50	401 KAR 38 040, Section 5
40 C.F.R. 270 61	401 KAR 38 060, Section 2
40 C.F.R. 270 62	401 KAR 38 060, Section 3
40 C.F.R. 270 63	401 KAR 38:060, Section 4

(3) The following federal regulations, which are cited by the federal regulations referenced in 401 KAR Chapter 34, shall be replaced with the state administrative regulations as identified in the table below

Federal Regulation	State Regulation
40 C.F.R. Part 60, Appendix A	401 KAR 59 020
[40 C.F.R. Part 124]	[401 KAR 38 060]
40 C.F.R. Part 257	401 KAR Chapter 47
40 C.F.R. Part 258	401 KAR Chapter 48
40 C.F.R. 262 12	401 KAR 32 010, Section 3 and 4
40 C.F.R. 264 1	401 KAR 34:010, Section 1
40 C.F.R. 264 18	401 KAR 34:020, Section 9
40 C.F.R. 264 75	401 KAR 34:050, Section 6
40 C.F.R. 264 77	401 KAR 34:050, Section 8
40 C.F.R. 264 94	401 KAR 34 060, Section 5
40 C.F.R. 264 101	401 KAR 34 060, Section 12
40 C.F.R. 264 140	401 KAR 34 080, Section 2
40 C.F.R. 264.141	401 KAR 34 080, Section 1 [3]
40 C.F.R. 264 142	401 KAR 34 090, Section 1
40 C.F.R. 264.143	401 KAR 34:090, Sections 2 through 12
40 C.F.R. 264 144	401 KAR 34:100, Section 1
40 C.F.R. 264 145	401 KAR 34:100, Sections 2 through 12
40 C.F.R. 264.146	401 KAR 34:110
40 C.F.R. 264 147	401 KAR 34:120
40 C.F.R. 264.148	401 KAR 34:130
40 C.F.R. 265 140	401 KAR 35 080, Section 2
40 C.F.R. 265.141	401 KAR 35 080, Section 1
40 C.F.R. 265 142	401 KAR 35:090, Section 1
40 C.F.R. 265.143	401 KAR 35:090, Sections 2 through 11
40 C.F.R. 265 144	401 KAR 35 100, Section 1
40 C.F.R. 265.145	401 KAR 35:100, Sections 2 through 11
40 C.F.R. 265 146	401 KAR 35:110

40 C.F.R. 265.147	401 KAR 35-120
40 C.F.R. 265.148	401 KAR 35-130
40 C.F.R. 264.1031	401 KAR 34-005
40 C.F.R. 266 Appendix I Table I-D	401 KAR 36-025, Section 1(2)(a)
40 C.F.R. 266 Appendix I Table I-E	401 KAR 36-025, Section 1(2)(b)
40 C.F.R. 270.14(b)	401 KAR 38-090, Section 2
40 C.F.R. 270.30	401 KAR 38-030, Section 1
40 C.F.R. 270.51	401 KAR 38-040, Section 6
40 C.F.R. Part 280	401 KAR Chapter 42

[Section 1. Definitions. Unless otherwise specifically defined in KRS Chapter 224 or otherwise specifically indicated by context, terms in 401 KAR Chapter 34 shall have the meanings given in this Section.

(1) "100-year floodplain" means any land area which is subject to a one (1) percent or greater chance of flooding in any given year from any source.

(2) "100-year flood" means a flood that has a one (1) percent chance of being equaled or exceeded in any given year.

(3) "Aboveground tank" means a device meeting the definition of "tank" and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

(4) "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.

(5) "Accumulated speculatively" means that a material is accumulated before being recycled.

(a) A material is not accumulated speculatively, if the person accumulating it can show:

1. That the material is potentially recyclable and has a feasible means of being recycled; and

2. That during the calendar year (commencing on January 1) the amount of material that is recycled, or transferred to a different site for recycling, equals at least seventy-five (75) percent by weight or volume of the amount of that material accumulated at the beginning of the calendar year (including any material accumulated from previous years).

(b) In calculating the percentage of turnover, the seventy-five (75) percent requirement is to be applied to each material of the same type that is recycled in the same way. Materials accumulating in units that would be exempt from administrative regulation under Section 4(2) of 401 KAR 31:010 are not to be included in making the calculation. (Materials that are already defined as wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling.

(6) "Active fault" means a land area which, according to the weight of geological evidence, has a reasonable probability of being affected by movement along a fault to the extent that a waste site or facility would be damaged and thereby pose a threat to human health and the environment.

(7) "Active life" of a facility means the period from the initial receipt of waste at a waste site or facility until the cabinet receives certification of final closure.

(8) "Active portion" means any area of a facility where treatment, storage, or disposal operations are being or have been conducted and which have not been closed. It includes the treated area of a landfill and the active face of a landfill. Covered, closed, or inactive portions of landfills, building roofs, and roads are excluded unless designated as "active portions" by the cabinet.

(9) "Admixed liner" means a liner made from a mixture of any of a multitude of materials, often asphalt or cement, with widely varying physical and chemical properties. Admixed liners shall be demonstrated to be structurally sound and chemically resistant to the waste placed in it so as to be capable of supporting the waste without cracking or disintegrating or allowing waste or leachate to escape.

(10) "Agricultural waste" means any nonhazardous waste re-

sulting from the production and processing of on-the-farm agricultural products, including manures, prunings and crop residues.

(11) "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.

(12) "Ampule" means a small sealed glass container for one (1) dose of sterile medicine.

(13) "Ancillary 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 from its point of generation to hazardous waste management units including tanks between hazardous waste storage and treatment tanks to a point of disposal on site, or to a point of shipment for disposal off site.

(14) "Application" means the form approved by the cabinet for applying for a permit, including any additions, revisions or modifications and any narrative and drawings required by 401 KAR Chapters 30 to 48. The term includes Part A of the application (Part A); Part B of the application (Part B); notice of intent, administration application, special waste application, or technical application.

(15) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs.

(16) "As received waste" refers to the waste as received in the shipment from the generator or sample collector.

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

(18) "Attenuation" means any decrease in the maximum concentration or total quantity of an applied chemical or biological constituent in a fixed time or distance traveled resulting from a physical, chemical, or biological reaction or transformation occurring in the zone of aeration or zone of saturation.

(19) "Authorized representative" means the person responsible for the overall operation of a facility or an operational unit or part of a facility, such as the plant manager, superintendent, or person of equivalent responsibility.

(20) "Average volatile organic concentration" or "average VO concentration" means the mass-weighted average volatile organic concentration of a hazardous waste as determined in accordance with the requirements of Section 4 of 401 KAR 35-281.

(21) "Base flood" means a flood that has a one (1) percent or greater chance of recurring in any year, or a flood of a magnitude equaled or exceeded once in 100 years on the average over a significantly long period.

(22) "Battery" means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

(23) "Board" shall have the meaning specified in KRS 224.46-810.

(24) "Bodily injury" shall have the meaning given by applicable Kentucky statutes. Bodily injury does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for bodily injury.

(25) "Boiler" means an enclosed device using control flame combustion and having the following characteristics:

(a)1. The unit shall have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

2. The unit's combustion chamber and primary energy recovery section(s) shall be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section (such as water walls and superheaters) shall be physically formed into one (1) manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment

(such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters (units that transfer energy directly to a process stream) and fluidized bed combustion units; and

3. While in operation, the unit shall maintain a thermal energy recovery efficiency of at least sixty (60) percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

4. The unit shall export and utilize at least seventy-five (75) percent of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps); or

(b) The unit is one (1) which the cabinet has determined, on a case-by-case basis, to be a boiler, after considering the standards in 401 KAR 30.080.

(26) "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.

(27) "Burn" means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient.

(28) "By-product" is a material that is not one (1) of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a coproduct that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

(29) "Cabinet" shall have the meaning specified in KRS 224.01-010.

(30) "Carbon regeneration unit" means any enclosed thermal treatment device used to regenerate spent activated carbon.

(31) "Cation exchange capacity" means the sum of exchangeable cations a soil can absorb expressed in milliequivalents per 100 grams of soil as determined by sampling the soil to the depth of cultivation or solid waste placement, whichever is greater, and analyzing by the summation method for distinctly acid soils or the sodium acetate method for neutral, calcareous, or saline soils.

(32) "Certificate" shall have the meaning specified in KRS 224.46-810.

(33) "Certification" means a statement of professional opinion based upon knowledge and belief.

(34) "Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements.

(35) "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.

(36) "Closure plan" means the plan for closure prepared in accordance with the requirements of Section 3 of 401 KAR 34.070 or Section 3 of 401 KAR 35.070.

(37) "Closure" shall have the meaning specified in KRS 224.01-010.

(38) "Component" means either the tank or ancillary equipment of a tank system.

(39) "Condenser" means a heat transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

(40) "Conditionally exempt small quantity generator" means:

(a) A generator who generates no more than 100 kilograms of hazardous waste in a calendar month; or

(b) A generator who generates acutely hazardous waste listed in Sections 2, 3, and 4(5) of 401 KAR 31.040 in a calendar month in quantities no greater than one (1) kilogram. All quantities of that acutely hazardous waste are subject to administrative regulation under 401 KAR Chapters 32 through 39, and the notification and permitting requirements of KRS 224.01-400, 224.40-310, 224.46-510, 224.46-580, and 224.50-130 to 224.50-413.

(41) "Confined aquifer" means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself, an aquifer containing confined groundwater.

(42) "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 purpose of reporting and recordkeeping, connector means flanged fittings that are not covered by insulation or other materials that prevent location of the fittings.

(43) "Consignee" means the ultimate treatment, storage or disposal facility in a receiving country to which the hazardous waste is sent.

(44) "Constituent" shall have the same meaning as "hazardous waste constituent."

(45) "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.

(46) "Containment building" means a hazardous waste management unit that is used to store or treat hazardous waste under the provisions of 401 KAR 34.245 or 35.245.

(47) "Contaminate" means introduce a substance that would cause:

(a) The concentration of that substance in the groundwater to exceed the maximum contaminant level specified in 401 KAR 30.031, Sections 5 and 6 of 401 KAR 47.030, or Section 8 of 401 KAR 34.060;

(b) An increase in the concentration of that substance in the groundwater where the existing concentration of that substance exceeds the maximum contaminant level specified in 401 KAR 30.031, 401 KAR 47.030, or Section 8 of 401 KAR 34.060, or

(c) A significant increase above established background levels, for substances that do not have an established maximum contamination level.

(48) "Contamination" means the degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.

(49) "Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in the event of a fire, explosion, or release of waste or waste constituents into the environment which has the potential for endangering human health and the environment. Financial planning to identify resources for initiation of such action is a part of contingency plan development.

(50) "Continuous recorder" means a data recording device recording an instantaneous data value at least once every 15 minutes.

(51) "Control device shutdown" means the cessation of operation of a control device for any purpose.

(52) "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.

(53) "Corrective action management unit" or "CAMU" means an area within a facility that is designated by the cabinet under 401 KAR 34.287, for the purpose of implementing corrective action requirements under Section 12 of 401 KAR 34.060 and KRS 224.46-520. A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility.

(54) "Cover" means a device or system which is placed on or over a hazardous waste such that the entire hazardous waste surface area is enclosed and sealed to reduce air emissions to the atmosphere. A cover may have openings such as access hatches, sampling ports, and gauge wells that are necessary for operation, inspection, maintenance, or repair of the unit on which the cover is installed provided that each opening is closed and sealed when not in use. Examples of covers include a fixed roof installed on a tank, a floating membrane cover installed on a surface impoundment, a lid installed on a drum, and an enclosure in which an open container is placed during waste treatment.

(55) "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.

(56) "Current closure cost estimates" means the most recent of

the estimates prepared in accordance with Section 1(1), (2) and (3) of 401 KAR 34.090 or Section 1(1), (2) and (3) of 401 KAR 35.090.

(57) "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.

(58) "Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with 40 C.F.R. 144.62(a), (b), and (c).

(59) "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 or Section 1(1), (2) and (3) of 401 KAR 35.100.

(60) "Debris" means solid material exceeding a 60mm particle size that is intended for disposal and that is a manufactured object, plant or animal matter, or natural geologic material. However, the following materials are not debris: Any material for which a specific treatment standard is provided in 401 KAR 37.040, namely lead-acid batteries, cadmium batteries, and radioactive lead solids; Process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by Section 6 of 401 KAR 37.040 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection.

(61) "Designated facility" means a hazardous waste treatment, storage, or disposal facility which:

(a) Has received a hazardous waste site or facility permit (or a facility with interim status) in accordance with the requirements of 401 KAR Chapter 38;

(b) Has received a permit from a state authorized in accordance with 40 C.F.R. Part 271, and EPA permit (or a facility with interim status) in accordance with 40 C.F.R. Parts 270 and 124; or

(c) Is regulated under Section 6(3)(b) of 401 KAR 31.010 or 401 KAR Chapter 36, 40 C.F.R. 261.6(c)(2) or 40 C.F.R. Part 266; and

(d) That has been designated on the manifest by the generator pursuant to Section 1 of 401 KAR 32.020. If a waste is declined to a hazardous waste site or facility in an authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, then the designated facility shall be a facility allowed by the receiving state to accept that waste.

(62) "Destination facility" means a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in Section 4(1) and (3) of 401 KAR 43.020 and Section 4(1) and (3) of 401 KAR 43.030. A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

(63) "Destruction or adverse modification" means an alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.

(64) "Dike" means an embankment or ridge of either natural or manmade materials used to prevent the movement of liquids, sludges, solids, or other materials.

(65) "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.

(66) "Disposal" shall have the meaning specified in KRS 224.01-010.

(67) "Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed.

(68) "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.

(69) "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.

(70) "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(71) "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.

(72) "Draft permit" shall have the same meaning as "proposed permit".

(73) "Drip pad" means an engineered structure consisting of a curbed, free-draining base, constructed of nonearthen materials and designed to convey preservative kick-back or drippage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants.

(74) "Effluent Limitations" shall have the same meaning as KRS 224.01-010.

(75) "Elementary neutralization unit" means a device which:

(a) Is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in Section 3 of 401 KAR 31.030, or they are listed in 401 KAR 31.040 only for this reason; and

(b) Meets the definition of tank, tank system, container, transport vehicle, or vessel in this section.

(76) "Emergency permit" means a permit issued by the cabinet to temporarily store, treat or dispose of hazardous waste in accordance with the provisions of Section 2 of 401 KAR 38.060, to temporarily manage, process, or dispose of a solid waste in accordance with the provisions of Section 2 of 401 KAR 47.150 or to temporarily store, treat, or dispose of special waste in accordance with the provisions of Section 1 of 401 KAR 45.135.

(77) "Endangered or threatened species" means any species listed as such pursuant to Section 4 of the Endangered Species Act, as amended, 16 U.S.C. 1536.

(78) "Engineer" shall have the meaning specified in KRS 322.010. An independent, professional engineer shall be registered in Kentucky pursuant to KRS 322.040 and shall be qualified to engage in waste management engineering practices.

(79) "EPA acknowledgment of consent" means the cable sent to EPA from the U.S. Embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment.

(80) "EPA hazardous waste number" means the number assigned by EPA and the cabinet to each hazardous waste listed in 401 KAR 31.040, and to each characteristic identified in 401 KAR 31.030.

(81) "EPA identification number" means the number assigned by EPA or the cabinet to each generator, transporter, or treatment, storage, or disposal facility.

(82) "Ephemeral stream" means a stream which flows only in direct response to precipitation in the immediate watershed or in response to the melting of a cover of snow and ice and which has a channel bottom that is always above the local water table.

(83) "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 401 KAR 34.275.

(84) "Equivalent method" means any testing or analytical method, approved jointly by the administrator and the secretary under 401 KAR Chapter 31, or methods in 401 KAR Chapters 47 and 48, approved by the secretary of the cabinet.

(85) "Existing" 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.

(86) "Existing component" shall have the same meaning as "existing tank system."

(87) "Existing facility" shall have the same meaning as "existing

hazardous waste site or facility”.

(88) “Existing hazardous waste site or facility” means a hazardous waste facility which was in operation, or for which continuous construction had commenced, on or before November 10, 1980. A facility has commenced construction if:

(a) The owner or operator had obtained the federal, state and local approvals or permits necessary to begin physical construction; and

(b) Either:

1. A continuous on-site, physical construction program has begun; or

2. 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.

(89) “Existing portion” means that land surface area of an existing hazardous waste management unit, included in the original Part A permit application, on which wastes have been placed prior to the issuance of a permit.

(90) “Existing tank system” means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation commenced on or prior to July 14, 1986. Installation will be considered to have commenced if the owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either:

(a) A continuous on-site physical construction or installation 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 site or installation of the tank system to be completed within a reasonable time.

(91) “External floating roof” means a pontoon or double-deck type floating roof that rests on the surface of a hazardous waste being managed in a tank that has no fixed roof.

(92) “Face amount” means the total amount the incinerator is obligated to pay under the policy.

(93) “Facility” means:

(a) All contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one (1) or more landfills, surface impoundments, or combinations of them).

(b) For the purpose of implementing corrective action under Section 12 of 401 KAR 34.060, all contiguous property under the control of the owner or operator seeking a hazardous waste permit. This definition also applies to facilities implementing corrective action under KRS 224.46-520.

(94) “Facility mailing list” means the mailing list for a facility maintained in accordance with Section 7(3)(a)4c of 401 KAR 38.050.

(95) “Federal agency” means any department, agency, or other instrumentality of the federal government, any independent agency or establishment of the federal government including any government corporation, and the United States Government Printing Office.

(96) “Federal, state, and local approvals or permits necessary to begin physical construction” means permits and approvals required under federal, state, or local hazardous waste control statutes, administrative regulations, or ordinances.

(97) “Final closure” of a hazardous waste site or facility means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under 401 KAR Chapters 34 and 35 are no longer conducted at the facility unless subject to the provisions in Section 5 of 401 KAR 32.030.

(98) “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.

(99) “Fiscal year” means a twelve (12) month period for accounting and other financial purposes.

(100) “Fixed roof” means a rigid cover that is installed in a stationary position so that it does not move with fluctuations in the level of the hazardous waste placed in a tank.

(101) “Flame zone” means the portion of the combustion chamber in a boiler occupied by the flame envelope.

(102) “Floating membrane cover” means a cover consisting of a synthetic flexible membrane material that rests upon and is supported by the hazardous waste being managed in a surface impoundment.

(103) “Floating roof” means a pontoon-type or double-deck type cover that rests upon and is supported by the hazardous waste being managed in a tank, and is equipped with a closure seal or seals to close the space between the cover edge and the tank wall.

(104) “Flood plain” means areas adjoining inland waters which are inundated by the base flood, unless otherwise specified in 401 KAR 30.031 or 401 KAR 47.030, and includes: 100-year floodplain and floodway.

(105) “Floodway” means the channel of the waterway, stream or river and that portion of the adjoining floodplain which provides for passage of the 100-year flood flow without increasing the floodwater depth across the 100-year floodplain by more than one (1) foot.

(106) “Flow indicator” means a device that indicates whether gas flow is present in a vent stream.

(107) “Food chain crops” means tobacco, crops grown for human consumption, and crops grown for food for animals whose products are consumed by humans.

(108) “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.

(109) “Free liquids” means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

(110) “Freeboard” means the vertical distance between the top of a tank or surface impoundment dike and the surface of the waste contained therein.

(111) “Generator” shall have the meaning specified in KRS 224.01-010.

(112) “Governing body” shall have the same meaning as KRS 224.01-010.

(113) “Groundwater” means the subsurface water occurring in the zone of saturation beneath the water table, and perched water zones below the B soil horizon, including water circulating through fractures, bedding planes, and solution conduits.

(114) “Groundwater table” means the upper boundary of the saturated zone in which the hydrostatic pressure of the groundwater is equal to the atmospheric pressure.

(115) “Halogenated organic compounds” or “HOCs” means those compounds having a carbon-halogen bond that are listed under 401 KAR 37.110.

(116) “Hazardous constituent” shall have the meaning specified in KRS 224.01-010.

(117) “Hazardous debris” means debris that contains a hazardous waste listed in 401 KAR 31.040 or that exhibits a characteristic of hazardous waste identified in 401 KAR 31.030.

(118) “Hazardous waste” shall have the meaning specified in KRS 224.01-010.

(119) “Hazardous waste constituent” means a constituent which caused the cabinet to list the hazardous waste in 401 KAR 31.040, or a constituent listed in Section 5(3) of 401 KAR 31.030.

(120) “Hazardous waste management” means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

(121) “Hazardous waste management unit” is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit, the unit includes containers and the land or pad upon which they are placed. Hazardous waste management units include aboveground tank; component; existing tank system or existing component; in-ground tank; new tank system or new tank compo-

nent; on-ground tank; tank system; underground tank, or unfit for use tank system.

(122) "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.

(123) "Hazardous waste site or facility" means any place at which hazardous waste is treated, stored, or disposed of by landfilling, incineration, or any other method. Hazardous waste site or facility includes: boiler; disposal facility; elementary neutralization unit; incinerator; industrial furnace; hazardous waste transfer facility; injection well; landfill; land treatment facility; miscellaneous unit; pile or waste pile; replacement unit; storage facility; sludge dryer; surface impoundment; tank; thermal treatment facility; totally enclosed treatment facility; treatment facility; or wastewater treatment unit.

(124) "Hazardous waste transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

(125) "Holocene" means the most recent epoch of the quaternary period, extending from the end of the Pleistocene to the present.

(126) "Hot well" means a container for collecting condensate as in a steam condenser serving a vacuum jet or steam jet ejector.

(127) "Household waste" means any waste material (including garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

(128) "In existence" shall have the same meaning as "existing."

(129) "In gas service" means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

(130) "In heavy liquid service" means that the piece of equipment is not in gas service or in vapor service or in light liquid service.

(131) "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.

(132) "In operation" refers to a facility which is treating, storing, or disposing of hazardous waste.

(133) "In situ sampling systems" means nonextractive samplers or in-line samplers.

(134) "In vacuum service" means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

(135) "In vapor service" shall have the same meaning as "in gas service."

(136) "In-ground tank" means a device meeting the definition of "tank" in this section whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

(137) "Inactive portion" means that portion of a hazardous waste site or facility which was not operated after November 19, 1980.

(138) "Incinerator" means any enclosed device that:

(a) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or

(b) Meets the definition of infrared incinerator or plasma arc incinerator.

(139) "Incompatible waste" means a hazardous waste which is

uncuitable for placement in a particular device or facility because it may cause corrosion or decay of containment materials, or unsuitable for commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

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

(141) "Individual generation site" means the contiguous site at or on which one (1) or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one (1) or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

(142) "Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use thermal treatment to accomplish recovery of materials or energy:

(a) Cement kilns;

(b) Lime kilns;

(c) Aggregate kilns;

(d) Phosphate kilns;

(e) Coke ovens;

(f) Blast furnaces;

(g) Smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, roasters, and foundry furnaces);

(h) Titanium dioxide chloride process oxidation reactors;

(i) Methane reforming furnaces;

(j) Pulp liquor recovery furnaces;

(k) Combustion devices used in the recovery of sulfur values from spent sulfuric acid;

(l) Halogen acid furnaces (HAFs) for the production of acid from halogenated hazardous waste generated by chemical production facilities where the furnace is located on the site of a chemical production facility, the acid product has a halogen acid content of at least three (3) percent, the acid product is used in a manufacturing process, and, except for hazardous waste burned as fuel, hazardous waste fed to the furnace has a minimum halogen content of twenty (20) percent as generated; or

(m) Other devices as the cabinet may, after notice and comment, add to this list on the basis of criteria and Section 5 of 401 KAR 30:080.

(143) "Infrared incinerator" means any enclosed device that uses electric powered resistance heaters as a source of radiant heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

(144) "Injection well" means a well into which fluids are injected to achieve subsurface emplacement.

(145) "Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained hazardous waste or reagents used to treat the hazardous waste.

(146) "Installation inspector" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of a hazardous waste management unit including tank systems.

(147) "Interim status" means the designation of a hazardous waste site or facility which was in existence on November 19, 1980, and has submitted a Part A application under 401 KAR Chapter 38 or under 40 C.F.R. Part 270 and is treated as having a permit until final administrative disposition of the application is made.

(148) "Intermittent stream" means a stream or reach of stream that drains a watershed of one (1) square mile or more but does not flow continuously during the calendar year.

(149) "International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

(150) "Internal floating roof" means a floating roof that rests or floats on the surface (but not necessarily in complete contact with it) of a hazardous waste being managed in a tank that has a fixed roof.

(151) "Karst terrain" means a type of topography where limestone, dolomite or gypsum is present and is characterized by naturally occurring closed topographic depressions or sinkholes, caves, disrupted surface drainage, and well-developed underground solution channels formed by dissolution of these rocks by water moving underground.

(152) "Key personnel" shall have the meaning specified in KRS 224.01-010.

(153) "Lab pack" means any large container equal to or smaller than fifty-five (55) gallons that holds many smaller containers of various content tightly secured with packing material.

(154) "Lamp" means the bulb or tube portion of a lighting device specifically designed to produce radiant energy, most often in the ultraviolet (UV), visible, and infrared (IR) regions of the electromagnetic spectrum. Examples of common lamps include, but is not limited to, incandescent, fluorescent, high pressure sodium, mercury vapor, metal halide, high intensity discharge, and neon lamps.

(155) "Land disposal" shall have the meaning specified in KRS 224.01-010.

(156) "Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface. These facilities are disposal facilities if the waste will remain after closure.

(157) "Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, or an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit.

(158) "Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

(159) "Large quantity handler of universal waste" means a universal waste handler who accumulates 5,000 kilograms or more total universal waste (batteries, lamps, pesticides, or thermocates, calculated collectively) at any time. This designation as a large quantity handler of universal waste is retained through the end of the calendar year in which 5,000 kilograms or more total of universal waste is accumulated.

(160) "Leachate" means any liquid including any suspended components in the liquid, that has percolated through or drained from waste.

(161) "Leak detection system" means a system capable of detecting the failure of either the primary or secondary containment system or the presence of a release of hazardous waste, hazardous waste constituents or accumulated liquid in the secondary containment system. Such a system shall employ operational controls (daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment system or the presence of a release of hazardous waste constituents or accumulated liquids into the secondary containment system.

(162) "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.

(163) "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.

(164) "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.

(165) "Liquid mounted seal" means a foam or liquid-filled primary seal mounted in contact with the hazardous waste between the tank wall and the floating roof continuously around the circumference of the tank.

(166) "Local government" means the fiscal court of the county,

urban county government, or governing body of an incorporated municipality wherein a hazardous waste landfill or other site or facility for the land disposal of hazardous waste is proposed.

(167) "Major modification" means for hazardous waste sites or facilities, a change in ownership where the cabinet determines that other changes in the permit are necessary as a result of the change in ownership or operational control, area occupied, disposal method, or other significant change in the operation of a waste site or facility (Note: Minor modifications are described in Section 3 of 401 KAR 38-040).

(168) "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.

(169) "Manifest" shall have the meaning specified in KRS 224.01-010.

(170) "Manifest document number" means the EPA twelve (12) digit identification number assigned to the generator plus a unique, serially increasing, five (5) digit document number assigned to the manifest by the generator for recordkeeping and reporting purposes.

(171) "Maximum organic vapor pressure" means the equilibrium partial pressure exerted by the hazardous waste contained in a tank determined at the temperature equal to either:

(a) The local maximum monthly average temperature as reported by the National Weather Service when the hazardous waste is stored or treated at ambient temperature, or

(b) The highest calendar month average temperature of the hazardous waste when the hazardous waste is stored at temperatures above the ambient temperature or when the hazardous waste is stored or treated at temperatures below the ambient temperature.

(172) "Mining overburden returned to the mine site" means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

(173) "Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of, and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 C.F.R. Part 146, containment building, corrective action management unit, or unit eligible for a research, development, and demonstration permit under Section 6 of 401 KAR 38-060.

(174) "Monitoring" means the act of systematically inspecting and collecting data on operational parameters or on the quality of the air, soil, groundwater, or surface water.

(175) "Monitoring well" means a well used to obtain water samples for water quality and quantity analysis and groundwater levels.

(176) "Movement" means that hazardous waste transported to a facility in an individual vehicle.

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

(178) "Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

(179) "New facility" means any hazardous waste site or facility that commenced construction after November 10, 1980.

(180) "New tank component" shall have the same meaning as "new tank system."

(181) "New tank system" means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation commenced after July 14, 1986, however, for purposes of Section 4(7)(b) of 401 KAR 34:190 and Section 4(7)(b) of 401 KAR 35:190, a new tank system is one for which construction commenced after July 14, 1986.

(182) "No detectable organic emissions" means no escape of organics from a device or system to the atmosphere as determined by an instrument reading less than 500 parts per million by volume (ppmv) above the background level at each joint, fitting, and seal when measured in accordance with the requirements of Method 21 in 40 C.F.R. Part 60, Appendix A, and by no visible openings or defects in the device or system such as nps, tears, or gaps.

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

(184) "Nonwastewaters" means wastes that do not meet the criteria for wastewaters found in the definition for wastewaters.

(185) "Not detected" means at or below the lower method calibration limit (MCL) in SW 846, Method 8290, Table 1.

(186) "Off-site" means properties noncontiguous to the site.

(187) "On-site" means on the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing, as opposed to going along the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access is also considered on-site property.

(188) "Onground tank" means a device meeting the definition of tank that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

(189) "Open burning" means the combustion of any material or solid waste without:

(a) Control of combustion air to maintain adequate temperature for efficient combustion;

(b) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; and

(c) Control of emission of the gaseous combustion products.

(190) "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.

(191) "Operational plan" means the approved plan of operations filed with the cabinet which describes the method of operation that the permittee will use in the treatment, storage, or disposal of wastes.

(192) "Operator" means any person responsible for overall operation of an on-site or off-site waste facility, including any private contractor conducting operational activities at a federal facility.

(193) "Other site or facility for the land disposal of hazardous waste" means a disposal facility but shall not include a storage facility or a treatment facility.

(194) "Owner" means any person who owns an on-site or off-site waste facility, or any part of a facility.

(195) "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.

(196) "Part A of the application" or "Part A" means the standard form or format for applying for a hazardous waste site or facility permit as required in 401 KAR 38.090.

(197) "Part B of the application" or "Part B" means the standard format for applying for a hazardous waste site or facility permit as required in 401 KAR 38.090 to 401 KAR 38.210.

(198) "Partial closure" means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of 401 KAR Chapters 34 and 35 at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

(199) "Perennial stream" means a stream or that part of a stream that flows continuously during all of the calendar year as a result of groundwater discharge or surface run-off. The term does not include "intermittent stream" or "ephemeral stream".

(200) "Permit" means the authorization or other control document issued by the cabinet to implement the requirements of the waste management administrative regulations. The term permit includes permit by rule, registered permit by rule, research, development, and demonstration permit, and emergency permit. However, the term permit does not include draft permit or proposed permit.

(201) "Permit by rule" means authorization allowing certain classes of sites or facilities to manage waste consistent with 401 KAR Chapters 30 to 49, without submission of a registration or permit application to the cabinet. Examples of hazardous waste sites or facilities which are permitted by rule include facilities operating under an interim status permit and facilities identified in Section 1 of 401 KAR 38.060.

(202) "Permittee" means any person holding a valid permit issued by the cabinet to manage, treat, store, or dispose of waste.

(203) "Person" shall have the meaning specified in KRS 224.01-010.

(204) "Personnel" or "facility personnel" means all persons who work at or oversee the operations of a waste facility, and whose actions or failure to act may result in noncompliance with the requirements of the waste management administrative regulations.

(205) "Pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, other than any article that:

(a) is a new animal drug under FFDC section 201(w), or

(b) is an animal drug that has been determined by regulation of the Secretary of Health and Human Services not to be a new animal drug, or

(c) is an animal feed under FFDC section 201(x) that bears or contains any substances described by paragraph (a) or (b) of this subsection.

(206) "Pile" or "waste pile" means any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage and that is not a containment building.

(207) "Plasma arc incinerator" means any enclosed device using a high intensity electrical discharge or arc as a source of heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

(208) "Point of compliance" means for hazardous waste site and facilities, groundwater monitoring wells located within 250 feet of the waste boundary as approved by the cabinet.

(209) "Point of waste origination" means as follows:

(a) When the facility owner or operator is the generator of the hazardous waste, the point of waste origination means the point where a solid waste produced by a system, process, or waste management unit is determined to be a hazardous waste as identified in 401 KAR Chapter 31.

(b) When the facility owner and operator are not the generator of the hazardous waste, point of waste origination means the point where the owner or operator accepts delivery or takes possession of the hazardous waste.

(210) "Point of waste treatment" means the point where a hazardous waste exits a waste management unit used to destroy, degrade, or remove organics in the hazardous waste.

(211) "Point source" means any discernible, confined, and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

(212) "Pollutant" shall have the same meaning as KRS 224.01-010.

(213) "Polychlorinated biphenyls" or "PCB" means halogenated organic compounds defined in accordance with 40 C.F.R. 761.2 as of July 1989.

(214) "Pestclosure care" means the manner in which a facility shall be maintained when it no longer accepts waste for disposal.

(215) "Pestclosure monitoring and maintenance" shall have the meaning specified in KRS 224.01-010.

(216) "Pestclosure plan" means the plan for pestclosure care prepared in accordance with the requirements of Sections 8 to 11 of 401 KAR 34.070 or Sections 8 to 11 of 401 KAR 35.070.

(217) "Pressure release" means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

(218) "Primary exporter" means any person who is required to originate the manifest for a shipment of hazardous waste in accordance with Section 1 of 401 KAR 32.020 which specifies a treatment, storage, or disposal facility in a receiving country as the

facility to which the hazardous waste will be sent and any intermediary arranging for the export.

(219) "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.

(220) "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.

(221) "Property damage" shall have the meaning given by applicable Kentucky statutes. Property damage does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for property damage.

(222) "Proposed permit" means a document prepared by the cabinet indicating the cabinet's tentative decision to issue or deny, modify, revoke or terminate a permit.

(223) "Publicly owned treatment works" or "POTW" shall have the meaning specified in KRS 224.01-010.

(224) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

(225) "Qualified groundwater scientist" means a geologist registered in Kentucky who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and has sufficient training and experience in groundwater hydrology and related fields to enable that individual to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport.

(226) "Receiving country" means a foreign country to which a hazardous waste is sent for the purpose of treatment, storage or disposal (except short-term storage incidental to transportation).

(227) "Recharge zone" means an area supplying the water which enters an underground drinking water source.

(228) "Reclaimed" means a material that is processed to recover a usable product, or that is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(229) "Recovered material" shall have the meaning specified in KRS 224.01-010.

(230) "Recyclable materials" means hazardous wastes that are recycled.

(231) "Recycled" means a material that is used, reused, or reclaimed.

(232) "Recycling" shall have the meaning specified in KRS 224.01-010.

(233) "Regional integrated waste treatment and disposal demonstration facility" shall have the meaning specified in KRS 224.01-010.

(234) "Regulated unit" means hazardous waste land disposal sites or facilities, or portions of existing hazardous waste land disposal sites or facilities that continued to receive waste after January 26, 1983.

(235) "Remediation waste" means all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements under Section 12 of 401 KAR 34-060 and KRS 224.46-520. For a given facility, remediation wastes may originate only from within the facility boundary, but may include waste managed in implementing KRS 224.46-520 for releases beyond the facility boundary.

(236) "Repaired" means that equipment is adjusted, or otherwise altered, to eliminate a leak.

(237) "Replacement unit" means a landfill, surface impoundment, or waste pile unit from which all or substantially all of the waste is removed, and that is subsequently reused to treat, store, or dispose of hazardous waste. "Replacement unit" does not apply to a unit from which waste is removed during closure, if the subse-

quent reuse solely involves the disposal of waste from that unit and other closing units or corrective action areas at the facility, in accordance with an approved closure plan or approved corrective action.

(238) "Representative sample" means a sample of a universe or whole (for example, waste pile, lagoon, or groundwater) which can be expected to exhibit the average properties of the universe or whole.

(239) "Research, development, and demonstration permit" means a permit issued by the cabinet for a hazardous waste treatment facility that utilizes 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 through 36.

(240) "Resource recovery" means the recovery of material or energy from waste.

(241) "Run off" means any rainwater, leachate, or other liquid that drains overland from any part of a facility.

(242) "Run on" means any rainwater, leachate, or other liquid that drains overland onto any part of a facility.

(243) "Saturated zone" shall have the same meaning as "zone of saturation".

(244) "Schedule of compliance" means a schedule of remedial measures included in a permit or cabinet order, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with KRS Chapter 224 and 401 KAR Chapters 30 to 40.

(245) "Scrap metal" is bits and pieces of metal parts (for example, bars, turnings, rods, sheets, or wire) or metal pieces that may be combined together with bolts or soldering (for example, radiators, scrap automobiles, or railroad boxcars), which when worn or superfluous can be recycled.

(246) "Secretary" shall have the meaning specified in KRS 224.01-010.

(247) "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.

(248) "Separator tank" means a device used for separation of two immiscible liquids.

(249) "Sewage system" shall have the meaning specified in KRS 224.01-010.

(250) "Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the waste facility or activity.

(251) "Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant or any other waste having similar characteristics and effects.

(252) "Sludge dryer" means any enclosed thermal treatment device that is used to dehydrate sludge and that has a maximum total thermal input, excluding the heating value of the sludge itself, of 2,500 BTU per pound of sludge treated on a wet weight basis.

(253) "Small quantity generator" means a generator who generates more than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month.

(254) "Small quantity handler of universal waste" means a universal waste handler who does not accumulate more than 5,000 kilograms of universal waste (batteries, lamps, pesticides, or thermostats, calculated collectively) at any time.

(255) "Solid waste management unit" shall mean any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

(256) "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.

(257) "Sorb" means to either adsorb, absorb, or both.

(258) "Sorbent" means a material that is used to soak up free liquids by either adsorption or absorption, or both.

(259) "Spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

(260) "Spill" means any accidental spilling, leaking, pumping, pouring, emitting, or dumping of hazardous wastes or materials which, when spilled, become hazardous wastes into or on any land or water.

(261) "Start-up" means the setting in operation of a hazardous waste management unit or control device for any purpose.

(262) "State" means any of the fifty (50) states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Northern Mariana Islands or Guam but does not include any foreign country.

(263) "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.

(264) "Storage" shall have the meaning specified in KRS 224.01-010.

(265) "Storage facility" means a facility or part of a facility at which hazardous waste is held for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere. A generator who accumulates his own hazardous wastes in an approved manner for less than ninety (90) days for subsequent transport on site or off site is not operating or maintaining a storage facility.

(266) "Storage of hazardous waste" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed, or stored elsewhere.

(267) "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.

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

(269) "Sump" means any pit or reservoir that meets the definition of tank, and those troughs and trenches connected to it, that serves to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities; except that as used in the landfill, surface impoundment, and waste pile administrative regulations, "sump" means any lined pit or reservoir that serves to collect liquids drained from a leachate collection and removal system or leak detection system for subsequent removal from the system.

(270) "Surface impoundment" means a facility or part of a facility which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

(271) "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.

(272) "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.

(273) "Tank" means a stationary device designed to contain an accumulation of hazardous waste that is constructed primarily of nonearthen materials (for example, wood, concrete, steel, or plastic) which provide structural support and which does not meet the definition of any other unit.

(274) "Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

(275) "Termination" shall have the meaning specified in KRS 224.01-010.

(276) "The full amount of the liability coverage to be provided" means the amount of coverage for sudden and nonsudden occur-

rences required to be provided by the owner or operator, 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.

(277) "Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge (see also "incinerator" and "open burning").

(278) "Thermal treatment facility" means a facility or part of a facility which uses elevated temperatures as the primary means to change the chemical, physical or biological character or composition of hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge.

(279) "Thermostat" means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of Section 4(3)(b) of 401 KAR 43.020 or Section 4(3)(b) of 401 KAR 43.030.

(280) "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.

(281) "Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which acid is neutralized.

(282) "Transit country" means any foreign country, other than a receiving country, through which a hazardous waste is transported.

(283) "Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body is a separate transport vehicle.

(284) "Transportation" shall have the meaning specified in KRS 224.01-010.

(285) "Transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, highway or water.

(286) "Treatability study" means:

(a) A study in which a hazardous waste is subjected to a treatment process to determine:

1. Whether the waste is amenable to the treatment process;
2. What pretreatment, if any, is required;
3. The optimal process conditions needed to achieve the desired treatment;
4. The efficiency of a treatment process for a specific waste or wastes; or
5. The characteristics and volumes of residuals from a particular treatment process.

(b) For the purpose of 401 KAR 31.010, Section 4(5) and (6), exemptions are liner compatibility, corrosion, and other material compatibility studies and toxicological and health effects studies.

(c) A "treatability study" is not a means to commercially treat or dispose of hazardous waste.

(287) "Treatment" shall have the meaning specified in KRS 224.01-010.

(288) "Treatment facility" means a facility or part of a facility using any method, technique or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

(289) "Treatment zone" means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

(290) "Underground drinking water source" means:

(a) An aquifer supplying drinking water for human consumption; or

(b) An aquifer in which the groundwater contains less than 10,000 mg/l total dissolved solids.

(201) "UIC well" means an underground injection control well as provided in 40 C.F.R. Part 144.

(202) "Underground injection" means the subsurface emplacement of fluids through a bored, drilled, or driven well; or through a dug well, where the depth of the dug well is greater than the largest surface dimension. (See also "injection well".)

(203) "Underground tank" means a device meeting the definition of "tank" in this section whose entire surface area is totally below the surface of and covered by the ground.

(204) "Underlying hazardous constituent" means any constituent listed in Section 1 of 401 KAR 37-040, Table—Treatment Standards for Hazardous Wastes, except vanadium and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific treatment standards.

(205) "Unfit for use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

(206) "Universal waste" means any of the following hazardous wastes that are subject to the universal waste requirements of 401 KAR Chapter 43:

- (a) Batteries as described in Section 2 of 401 KAR 43-010;
- (b) Pesticides as described in Section 3 of 401 KAR 43-010;
- (c) Thermostats as described in Section 4 of 401 KAR 43-010;

and

- (d) Spent lamps as described in Section 5 of 401 KAR 43-010.

(207) "Universal waste handler":

(a) Means:

1. A generator of universal waste; or

2. The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination.

(b) Does not mean:

1. A person who treats (except under the provisions of Sections 4(1) or (3) of 401 KAR 43-020 or Sections 4(1) or (3) of 401 KAR 43-030), disposes of, or recycles universal waste; or

2. A person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

(208) "Universal waste transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of universal waste are held during the normal course of transportation for ten days or less.

(209) "Universal waste transporter" means a person engaged in the off-site transportation of universal waste by air, rail, highway, or water.

(300) "Unsaturated zone" shall have the same meaning as "Zone of aeration".

(301) "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

(302) "Used oil" shall have the same meaning as KRS 224-50-545.

(303) "Used or reused" means a material that is either:

(a) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one (1) process used as feedstock in another process). However, a material shall not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or

(b) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in

wastewater treatment).

(304) "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.

(305) "Vapor recovery system" means that equipment, device, or apparatus capable of collecting vapors and gases discharged from a storage tank, and a vapor processing system capable of affecting such vapors and gases so as to prevent their emission into the atmosphere.

(306) "Vapor-mounted seal" means a foam-filled primary seal mounted continuously around the circumference of the tank so that there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the hazardous waste surface, and the floating roof.

(307) "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.

(308) "Vessel" means any watercraft used or capable of being used as a means of transportation on the water.

(309) "Volatile organic concentration" or "VO concentration" means the fraction by weight of organic compounds in a hazardous waste expressed in terms of parts per million (ppmw) as determined by direct measurement using Method 25D or by knowledge of the waste in accordance with the requirements of Section 4 of 401 KAR 35-281.

(310) "Washout" means the carrying away of waste by waters as a result of flooding.

(311) "Waste" shall have the meaning specified in KRS 224.01-010.

(312) "Waste boundary" means the outermost perimeter of the waste (projected in the horizontal plane) as it would exist at completion of the disposal activity.

(313) "Waste determination" means performing all applicable procedures in accordance with the requirements of Section 4 of 401 KAR 35-281 to determine whether a hazardous waste meets standards specified in 401 KAR Chapter 36. Examples of a waste determination include performing the procedures in accordance with the requirements of Section 4 of 401 KAR 35-281 to determine the average VO concentration of a hazardous waste at the point of waste origination; the average VO concentration of a hazardous waste at the point of waste treatment and comparing the results to the exit concentration limit specified for the process used to treat the hazardous waste; determining the organic reduction efficiency and the organic biodegradation efficiency for a biological process used to treat a hazardous waste and comparing the results to the applicable standards; or the maximum volatile organic vapor pressure for a hazardous waste in a tank and comparing the results to the applicable standards.

(314) "Waste pile" shall have the same meaning as "pile".

(315) "Waste stabilization process" means any physical or chemical process used to either reduce the mobility of hazardous constituents in a hazardous waste or eliminate free liquids as determined by Test Method 9005 (Paint Filter Liquids Test) in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, (incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30-040). A waste stabilization process includes mixing the hazardous waste with binders or other materials, and curing the resulting hazardous waste and binder mixture. Other synonymous terms used to refer to this process are "waste fixation" or "waste solidification."

(316) "Wastewaters" means 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:

(a) 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 1 of 401 KAR 37-040 in Table Treatment Standards for Hazardous Waste;

(b) K011, K013, K014 wastewaters contain less than five (5) percent by weight TOC and less than one (1) percent by weight TSS, as generated, and

(c) K103 and K104 wastewaters contain less than four (4) percent by weight TOC and less than one (1) percent by weight TSS.

(317) "Wastewater treatment unit" means a device that:

(a) Is part of a wastewater treatment facility that is subject to administrative regulation under either section 402 or 307(b) of the CWA;

(b) Receives and treats or stores an influent wastewater which is a hazardous waste as defined in 401 KAR 31:010, Section 3, or generates and accumulates a wastewater treatment sludge that is a hazardous waste as defined in 401 KAR 31:010, Section 3; or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in Section 3 of 401 KAR 31:010, and

(c) Meets the definition of tank or tank system in this administrative regulation.

(318) "Water" or "waters of the Commonwealth" shall have the meaning specified in KRS 224.01-010.

(319) "Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

(320) "Well" means any shaft or pit dug or bored into the earth, generally of cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

(321) "Wetlands" means land that has a predominance of hydric soils and is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

(322) "Zone of aeration" means that region of the soil or rock between the land surface and the nearest saturated zone in which the interstices are occupied partially by air.

(323) "Zone of engineering control" means an area under the control of the owner or operator that upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to waters of the Commonwealth.

(324) "Zone of saturation" means that part of the earth's crust containing groundwater in which all voids, large and small, are filled with liquid.

Section 2. Acronyms and Abbreviations. Unless otherwise specifically indicated by context, acronyms and abbreviations used in 401 KAR Chapter 31 shall have the meaning as identified in Table 1 of this administrative regulation.

Am.	Amended
C	Corrosive waste
CAA	Clean Air Act, as amended
C.F.R.	Code of Federal Regulations
cm	Centimeter
cm ²	Centimeter squared
CO	Carbon monoxide
CO ₂	Carbon dioxide
CWA	Clean Water Act, as amended
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
DOT	United States Department of Transportation
DRE	Destruction and removal efficiency
E	Explosive waste
eff.	Effective
EPA	United States Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIA	Federal Insurance Administration
FR	Federal Register
H	Acutely hazardous waste
ha	Hectare
HTMR	High temperature metals recovery
HSWA	Hazardous and Solid Waste Amendments of 1994

I	Ignitable waste
KAR	Kentucky Administrative Regulation
kg	Kilogram
KPDES	Kentucky Pollution Discharge Elimination System
KRS	Kentucky Revised Statute
Ky.R.	Administrative Register of Kentucky
l	Liter
LC	Lethal concentration
LD	Lethal dose
ml	Milliliter
mm	Millimeter
N	Normal
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NPDES	National Pollutant and Discharge Elimination System
PCB	Polychlorinated biphenyl
µCi/l	Picocuries per liter
PHC	Principal hazardous constituent
Permit	Permitted principal organic hazardous constituent
POHC	Principal organic hazardous constituent
PM	Particulate matter
POHC	Principal organic hazardous constituent
ppm	parts per million
Trial	Trial burn principal organic hazardous constituent
POHC	Principal organic hazardous constituent
POTW	Publicly owned treatment works
PSD	Prevention of significant deterioration
psi	Pounds per square inch
psig	Pounds per square inch gauge
R	Reactive waste
RCRA	Resource Conservation and Recovery Act, as amended
SDWA	Safe Drinking Water Act, as amended
SEC	Securities and Exchange Commission
SIC	Standard Industrial Classification Code
SPCC	Spill Prevention, Control, and Countermeasures Plan
T	Toxic waste
UIC	Underground Injection Control
UICP	Underground Injection Control Program
U.S.C.	United States Code
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
USPS	United States Postal Service

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: November 28, 2006 at 10 a.m.
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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department of Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:010. General provisions for facilities.

RELATES TO: KRS 224.01, 224.10, 224.40, 224.43, 224.46, 224.70, 224.99

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530

NECESSITY, FUNCTION, AND CONFORMITY: 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 [Natural Resources and Environmental Protection] cabinet to establish standards for these permits, to require ade-

quate 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 the purpose, scope and applicability of the standards in this chapter and the relationship to the Interim status standards for facilities.

Section 1. Purpose, Scope, and Applicability. (1) The subject matter shall be governed by 40 C.F.R. 264.1 except 264.1(f) and 264.1(g)(12), effective July 1, 2005.

(2) "Notification of Hazardous Waste Activity Form", DEP 7037, incorporated by reference in 401 KAR 32:010, Section 4, shall be used in lieu of EPA Form 8700-12.

Section 2 Relationship to Interim Status Standards. The subject matter shall be governed by 40 C.F.R. 264.3, effective July 1, 2005.

Section 3. Imminent Hazard Action. (1) The subject matter shall be governed by 40 C.F.R. 264.4, effective July 1, 2005.

(2) The reference to Section 7003 of RCRA referred to in the federal regulation referenced in subsection (1) of this section shall be replaced with KRS 224.10-410.

[purpose of this chapter is to establish minimum standards which define the acceptable management of hazardous waste.

(2) The standards in this chapter apply to owners and operators of all hazardous waste sites or facilities which treat, store, or dispose of hazardous waste, except as specifically provided otherwise in this chapter or in 401 KAR Chapter 31.

(3) The requirements of this chapter 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 only to the extent they are included in a permit by rule granted to such a person under 401 KAR Chapter 38.

(4) The requirements of this chapter apply to a person disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act only to the extent they are required by Section 5 of 401 KAR 38:060.

(5) The requirements of this chapter apply to the owner or operator of a POTW which treats, stores, or disposes of hazardous waste only to the extent they are included in a hazardous waste permit by rule granted to such a person under 401 KAR Chapter 38.

(6) The requirements of this chapter do not apply to:

(a) The owner or operator of a facility permitted by the cabinet to manage solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from administrative regulation under Section 5 of 401 KAR 31:010.

(b) 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 36 or in 401 KAR Chapter 44);

(c) A generator accumulating waste on site in compliance with Section 5 of 401 KAR 32:030;

(d) A farmer disposing of waste pesticides from his own use in compliance with Section 10 of 401 KAR 32:050;

(e) The owner or operator of a totally enclosed treatment facility;

(f) The owner or operator of an elementary neutralization unit or a wastewater treatment unit, provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory identified in Section 1 of 401 KAR 37:040 Table Treatment Standards for Hazardous Wastes), or reactive (D002) 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 34:020;

(g)1. Except as provided in subparagraph 2 of this paragraph, a person engaged in treatment or containment activities during immediate response to any of the following situations:

a. A discharge of hazardous waste;

b. An imminent and substantial threat of a discharge of 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 must comply with all applicable requirements of 401 KAR 34:030 and 401 KAR 34:040.

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 these activities.

(h) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of Section 1 of 401 KAR 34:030 at a transfer facility for a period of ten (10) days or less;

(i) The addition of absorbent material to waste in a container or the addition of waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and Section 2 of 401 KAR 34:020, and Sections 2 and 3 of 401 KAR 34:180 are complied with;

(j) 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

(k) A generator who is treating hazardous waste on site in accordance with Section 6 of 401 KAR 32:030.

(7) The requirements of this chapter apply to owners or operators of all hazardous waste sites or facilities which treat, store, or dispose of hazardous wastes referred to in 401 KAR Chapter 37.

Section 2. Relationship to Interim Status Standards. A facility owner or operator who has fully complied with the requirements for interim status, as regulated under 401 KAR 38:020, shall comply with the administrative regulations specified in 401 KAR Chapter 35 in lieu of this chapter until final administrative disposition of his permit application is made except as provided in 401 KAR 34:287.

Section 3. Imminent Hazard Action. Notwithstanding any other provisions of these administrative regulations, enforcement actions may be brought pursuant to KRS 224.10-410.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Rellly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 34:020. General facility standards.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 C.F.R. 264 Subpart B

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 40 C.F.R. 264 Subpart B

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 administrative regulation establishes general standards for hazardous waste facilities. This administrative regulation is equivalent to corresponding federal regulations, except Section 9 of this administrative regulation prohibits the construction of a facility in the 100-year flood plain. [To implement provisions of KRS 224.46-620 and to establish the general standards for facilities.]

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 264.10, effective July 1, 2005.

Section 2. Identification Number. The subject matter shall be governed by 40 C.F.R. 264.11, effective July 1, 2005.

Section 3. Required Notices. The subject matter shall be governed by 40 C.F.R. 264.12, effective July 1, 2005.

Section 4. General Waste Analysis. The subject matter shall be governed by 40 C.F.R. 264.13, effective July 1, 2005.

Section 5. Security. The subject matter shall be governed by 40 C.F.R. 264.14, effective July 1, 2005.

Section 6. General Inspection Requirements. The subject matter shall be governed by 40 C.F.R. 264.15, effective July 1, 2005.

Section 7. Personnel Training. The subject matter shall be governed by 40 C.F.R. 264.16, effective July 1, 2005.

Section 8. General Requirements for Ignitable, Reactive, or Incompatible Wastes. The subject matter shall be governed by 40 C.F.R. 264.17, effective July 1, 2005.

Section 9. Location Standards. (1) Seismic considerations. Portions of new facilities where treatment, storage, or disposal of hazardous waste will be conducted shall not be located within sixty-one (61) meters (approximately 200 feet) of a fault which had displacement in Holocene time.

(2) Flood plains.

(a) Except as provided in paragraph (c) of this subsection [applies], a facility located in a 100-year flood plain shall be designed, constructed, operated, maintained, and refitted if necessary, to prevent washout of any hazardous waste and to protect the facility from inundation by waters of the 100-year flood plain throughout the active life of the facility, throughout the closure phase of the facility, and for disposal facilities only, throughout the postclosure phase. Facilities that have closed and removed all hazardous waste, waste constituents, contaminated soil, debris, or other material contaminated with hazardous constituents, shall not be [are not] required to protect the closed portion of the facility from washout of waste or inundation by waters of the 100-year flood. Prevention of washout and protection from inundation shall be accomplished by one (1) of the following:

1. Using a structure or device such as a dike or floodwall which has been designed to:

a. [To] Provide adequate freeboard to prevent overtopping of the structure during a 100-year flood due to wind and wave action;

b. [To] Provide sufficient structural integrity to prevent massive failure due to the force and erosive tendencies of the 100-year floodwaters; and

c. [To] Accommodate [such] other characteristics of the facility's location, such as special geologic or hydrological features, as necessary to accomplish the requirements of this subsection; []

2. Providing procedures which will cause the waste to be removed safely, before floodwaters can reach the facility, to a location where the wastes will not be vulnerable to floodwaters; and []

3. Demonstrating [to the satisfaction of the cabinet] that alternate devices or measures, with the exception of covering the waste, will provide protection which meets the requirements of this paragraph.

(b) A [No] person shall not be issued a permit to construct a new hazardous waste site or facility in the floodway.

(c) A [No] person shall not be issued a permit to construct a

new hazardous waste disposal site or facility in the 100-year flood plain or a seasonal high-water table.

(d) A [No] hazardous waste site or facility shall not restrict the flow of the 100-year flood or reduce the temporary water storage capacity of the 100-year flood plain so as to pose a hazard to human life, wildlife, or land or water resources.

(3) Salt dome formations, salt bed formations, underground mines and caves, [The placement of any] Noncontainized or bulk liquid hazardous waste shall not be placed in any salt dome formation, salt bed formation, underground mine, or cave [is prohibited].

Section 10. Construction Quality Assurance Program. The subject matter shall be governed by 40 C.F.R. 264.19, effective July 1, 2005.

[Section 1. Applicability. (1) This chapter applies to owners and operators of all hazardous waste facilities, except as provided in Section 1 of 401-KAR 34-010 and subsection (2) of this section.

(2) Section 9(2) of this administrative regulation applies only to facilities subject to administrative regulation under 401-KAR 34-180, 34-190, 34-200, 34-210, 34-220, 34-230, 34-240, and 34-250.

Section 2. Identification Number. Every facility owner or operator shall apply to the cabinet for an EPA identification number in accordance with the 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) The owner or operator of a facility that receives hazardous waste from an off-site source (except where the owner or operator is also the generator) shall inform the generator in writing that he has the appropriate permit(s) for, and shall accept, the waste the generator is shipping. The owner or operator shall keep a copy of this written notice as part of the operating record.

(3) 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.

Section 4. General Waste Analysis. (1)(a) Before an owner or operator treats, stores, or disposes of any hazardous waste, or nonhazardous waste if applicable under Section 4(4) of 401-KAR 34-070, 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 or with the conditions of a permit issued under 401-KAR Chapter 38.

(b) The analysis may include data developed under 401-KAR Chapter 31 and existing published or documented data on the hazardous waste or on hazardous 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 waste if applicable under Section 4(4) of 401-KAR 34-070, 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 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 facility. At a minimum, the plan shall specify:

(a) The parameters for which each hazardous waste, or non-hazardous waste if applicable under Section 4(4) of 401 KAR 34.070, 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 one (1) of the sampling methods described in 401 KAR 31.100.

(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;

(f) Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in Section 8 of this administrative regulation, Section 9 of 401 KAR 34.230, in Section 2 of 401 KAR 34.240, Section 7 of 401 KAR 37.010, Section 5(4) of 401 KAR 34.275, Section 14(4) of 401 KAR 34.280, and Section 3 of 401 KAR 34.281; and

(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 224.46-620; or

(ii) The residues are prohibited from land disposal under Section 5(6) of 401 KAR 37.030.

(h) For owners or operators seeking an exemption to the air emission standards of 401 KAR 34.281 in accordance with Section 2 of 401 KAR 34.281;

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;

(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 he can demonstrate to the cabinet that:

(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 the owner or operator has made a successful demonstration under subsection (1) of this section, a facility shall have:

(a) A twenty-four (24) hour surveillance system (for example, 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 (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);

(3) Unless the owner or operator has made a successful demonstration under subsection (1) 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 number 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.

Section 6. General Inspection Requirements. (1) The owner or operator shall inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing or may lead to release of hazardous waste constituents to the environment, or a threat to human health. 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 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) He shall keep this schedule at the facility.

(c) The schedule shall identify the types of problems (for example, malfunctions or deterioration) which are to be looked for during the inspection (for example, inoperative sump pump, leaking fitting, or eroding dike);

(d) The frequency of inspection may vary for the items on the schedule. However, it should be based on the rate of 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 terms and frequencies called for in Section 5 of 401 KAR 34.180, Sections 4 and 6 of 401 KAR 34.190, Section 4 of 401 KAR 34.200, Section 5 of 401 KAR 34.210, Section 6 of 401 KAR 34.220, Section 4 of 401 KAR 34.230, Section 7 of 401 KAR 34.240, and Section 3 of 401 KAR 34.250, Section 4 of 401 KAR 34.275, Sections 3, 4, and 9 of 401 KAR 34.280, and Sections 8 and 11(2) of 401 KAR 34.281 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 the effective date of these administrative regulations or six (6) months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these administrative regulations 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 job;

(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 employees 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 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 (for example, from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator shall confine smoking and open flame 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 owner or operator of a facility that treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, shall take precautions to prevent reactions which:

- (a) Generate extreme heat or pressure, fire or explosions, or violent reactions;
- (b) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;
- (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; or
- (e) Through other like means threaten human health or the environment.

(3) When required to comply with subsection (1) or (2) of this section, the owner or operator shall document that compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests (for example, bench scale or pilot scale tests), waste analyses (as specified in Section 4 of this administrative regulation), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

Section 9. Location Standards. (1) Seismic considerations. Portions of new facilities where treatment, storage, or disposal of hazardous waste will be conducted shall not be located within sixty-one (61) meters (approximately 200 feet) of a fault which had displacement in Holocene time.

(2) Flood plains.

(a) Except as paragraph (c) of this subsection applies, a facility located in a 100-year flood plain shall be designed, constructed, operated, maintained, and refilled if necessary, to prevent washout of any hazardous waste and to protect the facility from inundation by waters of the 100-year flood plain throughout the active life of the facility, throughout the closure phase of the facility, and for disposal facilities only, throughout the postclosure phase. Facilities that have closed and removed all hazardous waste, waste constituents, contaminated soil, debris or other material contaminated with hazardous constituents, are not required to protect the closed portion of the facility from washout of waste or inundation by waters of the 100-year flood. Prevention of washout and protection from inundation shall be accomplished by one (1) of the following:

1. Using a structure or device such as a dike or floodwall which has been designed:
 - a. To provide adequate freeboard to prevent overtopping of the structure during a 100-year flood due to wind and wave action;
 - b. To provide sufficient structural integrity to prevent massive failure due to the force and erosive tendencies of the 100-year floodwaters;
 - c. To accommodate such other characteristics of the facility's location, such as special geologic or hydrological features, as necessary to accomplish the requirements of this subsection.
2. Providing procedures which will cause the waste to be removed safely, before floodwaters can reach the facility, to a location where the wastes will not be vulnerable to floodwaters.
3. Demonstrating to the satisfaction of the cabinet that alternate devices or measures, with the exception of covering the waste, will provide protection which meets the requirements of this paragraph.

(b) No person shall be issued a permit to construct a new hazardous waste site or facility in the floodway.

(c) No person shall be issued a permit to construct a new hazardous waste disposal site or facility in the 100-year flood plain or a seasonal high water table.

(d) No hazardous waste site or facility shall restrict the flow of the 100-year flood or reduce the temporary water storage capacity of the 100-year flood plain so as to pose a hazard to human life, wildlife or land or water resources.

(3) Salt dome formations, salt bed formations, underground mines and caves. The placement of any noncontainerized or bulk liquid hazardous waste in any salt dome formation, 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 2(4) of 401 KAR 34.200, Section 2(3) of 401 KAR 34.210, and Section 2(3) and (4) of 401 KAR 34.230. 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 a registered professional engineer.

(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) Written CQA plan. The owner or operator of units subject to the CQA program under subsection (1) of this section shall develop and implement 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: sampling size and locations; frequency of testing; data evaluation procedures; acceptance and rejection criteria for construction materials; plans for implementing corrective measures; and data or other information to be recorded and retained in the operating record under Section 4 of 401 KAR 34.050.

(3) Contents of program.

(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 (for example, pipes) according to design specifications;
3. Conformity of all materials used with design and other material specifications under Section 2 of 401 KAR 34.200, Section 2 of 401 KAR 34.210, and Section 2 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 Sections 2(3)(a)1b of 401 KAR 34.200, Section 2(3)(a)1b of 401 KAR 34.210, and Section 2(3)(a)1b 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 cabinet may accept an alternative demonstration, in lieu of a test fill, where data are sufficient to show that a constructed soil liner will meet the hydraulic conductivity requirements of Section 2(3)1b of 401 KAR 34.200, Section 2(3)(a)1b of 401 KAR 34.210, and Section 2(3)(a)1b of 401 KAR 34.230 in the field.

(4) Certification. Waste shall not be received in a unit subject to this section until the owner or operator has submitted to the cabinet by certified mail or hand delivery a certification signed by the CQA officer that the approved CQA plan has been successfully carried out and that the unit meets the requirements of Section 2(3) or (4) of 401 KAR 34.200, Section 2(3) or (4) of 401 KAR 34.210, and Section 2(3) or (4) of 401 KAR 34.230, and the procedure in Section 1(12)(b)2 of 401 KAR 38.030 of this has been completed. Documentation supporting the CQA officer's certification shall be furnished to the cabinet upon request.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 34:030. Preparedness and prevention.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 C.F.R. 264 Subpart C
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 49 C.F.R. 264 Subpart G

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 procedures and standards for preparedness and prevention of hazardous waste releases.

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 264.30, effective July 1, 2005.

Section 2. Design and Operation of a Facility. The subject matter shall be governed by 40 C.F.R. 264.31, effective July 1, 2005.

Section 3. Required Equipment. The subject matter shall be governed by 40 C.F.R. 264.32, effective July 1, 2005.

Section 4. Testing and Maintenance of Equipment. The subject matter shall be governed by 40 C.F.R. 264.33, effective July 1, 2006.

Section 5. Access to an Communications of Alarm System. The subject matter shall be governed by 40 C.F.R. 264.34, effective July 1, 2005.

Section 6. Required Aisle Space. The subject matter shall be governed by 40 C.F.R. 264.35, effective July 1, 2005.

Section 7. Arrangements with Local Authorities. The subject matter shall be governed by 40 C.F.R. 264.37, effective July 1, 2005. [These administrative regulations apply to owners and operators of all hazardous waste sites or facilities, except as Section 4 of 401 KAR 34:010 provides otherwise.]

Section 2. Design and Operation of Facility. Facilities must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water or ground water which could threaten human health or the environment.

Section 3. Required Equipment. All facilities must be equipped with the following, unless it can be demonstrated to the cabinet that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

(1) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(2) A device, such as a telephone (immediately available at

the scene of operations) or a hand-held two (2) way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;

(3) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(4) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

Section 4. Testing and Maintenance of Equipment. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

Section 5. Access to Communications or Alarm System. (1) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless the cabinet has ruled that such a device is not required under Section 3 of this administrative regulation.

(2) If there is ever just one (1) employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two (2) way radio, capable of summoning external emergency assistance, unless the cabinet has ruled that such a device is not required under Section 3 of this administrative regulation.

Section 6. Required Aisle Space. The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the cabinet that aisle space is not needed for any of these purposes.

Section 7. Arrangements with Local Authorities. (1) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of those organizations:

(a) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to any roads inside the facility, and possible evacuation routes;

(b) Where more than one (1) police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(c) Agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and

(d) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(2) Where state or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:040. Contingency plan and emergency procedures.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 C.F.R. 264 Subpart D

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 40 C.F.R. 264 Subpart D

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 contingency planning and emergency procedures for facilities.

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 264.50, effective July 1, 2005.

Section 2. Purpose and Implementation of the Contingency [Emergency] Plan. The subject matter shall be governed by 40 C.F.R. 264.51, effective July 1, 2005.

Section 3. Content of the Contingency Plan. The subject matter shall be governed by 40 C.F.R. 264.52, effective July 1, 2005.

Section 4. Copies of the Contingency Plan. The subject matter shall be governed by 40 C.F.R. 264.53, effective July 1, 2005.

Section 5. Amendment of the Contingency Plan. The subject matter shall be governed by 40 C.F.R. 264.54, effective July 1, 2005.

Section 6. Emergency Coordinator. The subject matter shall be governed by 40 C.F.R. 264.55, effective July 1, 2005.

Section 7. Emergency Procedures. The subject matter shall be governed by 40 C.F.R. 264.56, effective July 1, 2005. [This administrative regulation applies to owners and operators of all hazardous waste sites or facilities, except as Section 1 of 401 KAR 34-010 provides otherwise.

Section 2. Purpose and Implementation of Contingency Plan. (1) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water or ground water.

(2) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Section 3. Content of Contingency Plan. (1) The contingency plan must describe the actions facility personnel must take to comply with Sections 2 and 7 of this administrative regulation in response to fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water or ground water at the facility.

(2) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 C.F.R. 112 or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this chapter.

(3) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services, pursuant to Section 7 of 401 KAR 34.030.

(4) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see Section 6 of this administrative regulation) and this list must be kept up to date. Where more than one (1) person is listed, one (1) person must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates. For new facilities, this information must be supplied to the cabinet prior to the issuance of the operating permit rather than at the time of permit application.

(5) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(6) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

Section 4. Copies of Contingency Plan. A copy of the contingency plan and all revisions to the plan must be:

- (1) Maintained at the facility; and
- (2) Submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

Section 5. Amendment of Contingency Plan. The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

- (1) The facility permit is revised;
- (2) The plan fails in an emergency;
- (3) The facility changes (e.g., in its design, construction, operation, maintenance, or other circumstances) in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
- (4) The list of emergency coordinators changes; or
- (5) The list of emergency equipment changes.

Section 6. Emergency Coordinator. At all times, there must be at least one (1) employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

Section 7. Emergency Procedures. (1) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

- (a) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel, and
- (b) Notify appropriate state or local agencies with designated response roles if their help is needed.

(2) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.

(3) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both

direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic irritating or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat induced explosions).

(4) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment outside the facility, he must report his findings as follows:

(a) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(b) He must immediately notify either the government official designated as the on-scene coordinator or the National Response Center (using their twenty-four (24) hour toll free number 800-424-8802). The report must include:

1. Name and telephone number of reporter;
2. Name and address of facility;
3. Time and type of incident (e.g., release, fire);
4. Name and quantity of material(s) involved, to the extent known;
5. The extent of injuries, if any; and
6. The possible hazards to human health or the environment outside the facility.

(5) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

(6) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(7) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water or ground water, or other material that results from a release, fire, or explosion at the facility.

(8) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(a) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(b) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(9) The owner or operator must notify the cabinet and appropriate state and local authorities that the facility is in compliance with subsection (8) of this section before operations are resumed in the affected area(s) of the facility.

(10) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within fifteen (15) days after the incident, he must submit a written report on the incident to the cabinet. The report must 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 (e.g., fire, explosion);
- (d) Name and quantity of material(s) involved;
- (e) The extent of injuries, if any;
- (f) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- (g) Estimated quantity and disposition of recovered material that resulted from the incident.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:050. Manifest system, recordkeeping and reporting.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 C.F.R. 264 Subpart E
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 40 C.F.R. 264 Subpart E

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 administrative regulation establishes [a] manifest system, recordkeeping, and reporting requirements for hazardous waste [To implement provisions of KRS 224.46-520 and to establish a manifest system, recordkeeping and reporting requirements for] facilities.

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 264.70, effective July 1, 2005.

Section 2. Use of the Manifest System. The subject matter shall be governed by 40 C.F.R. 264.71, effective July 1, 2005.

Section 3. Manifest Discrepancies. The subject matter shall be governed by 40 C.F.R. 264.72, effective July 1, 2005.

Section 4. Operating Record. (1) The subject matter shall be governed by 40 C.F.R. 264.73, effective July 1, 2005.

Section 5. Availability, Retention, and Disposition of Records. The subject matter shall be governed by 40 C.F.R. 264.74, effective July 1, 2005.

Section 6. Annual Report (1) The owner or operator shall prepare and submit a single copy of the "Hazardous Waste Annual Report," DEP Form 7072, incorporated by reference in 401 KAR 32:040, Section 6, to the cabinet by March 1 of each year.

(2) The Hazardous Waste Annual Report shall cover facility activities during the previous calendar year.

Section 7. Unmanifested Waste Report. The subject matter shall be governed by 40 C.F.R. 264.76, effective [265-76, effective date of] September 6, 2005.

Section 8. Additional Reports In addition to submitting the annual report and unmanifested waste reports required by [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 401 KAR 34:040, Section 7;

(2) Facility closure as specified in 401 KAR 34:070, Section 6; and

(3) As otherwise required by 401 KAR 34:060, 34:200, 34:210, 34:220, 34:230, 34:275, 34:280, and 34:281, [This administrative regulation applies to owners and operators of both on-site and off-site hazardous waste sites or facilities, except as Section 1 of 401 KAR 34:010 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 after 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 that 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. Significant discrepancies in quantity are:

(a) For bulk waste, variations greater than ten (10) percent in weight; and

(b) For batch waste, any variation in piece count, such as a discrepancy of one (1) drum in a truckload. 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 (for example, 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 described in 401 KAR 34:200;

(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;

(c) Records and results of waste analyses and waste determinations performed as specified in Sections 4 and 8 of 401 KAR

34:020, Section 8 of 401 KAR 34:230, Section 2 of 401 KAR 34:240, Section 5 of 401 KAR 34:275, Section 14 of 401 KAR 34:280, Section 3 of 401 KAR 34:281 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 34:040;

(e) Records and results of inspections as required by Section 6(4) of 401 KAR 34:020 (except these data need be kept only three (3) years);

(f) Monitoring, testing or analytical data, and corrective action where required by 401 KAR 34:060, and Section 10 of 401 KAR 34:020, Sections 2, 4 and 6 of 401 KAR 34:190, Sections 3, 4 and 10 of 401 KAR 34:200, Sections 3, 4, and 5 of 401 KAR 34:210, Sections 5, 6 and 8 of 401 KAR 34:220, Sections 3, 4, 5 and 13 of 401 KAR 34:230, Section 7 of 401 KAR 34:240 and Section 3 of 401 KAR 34:250, Sections 5(3) to (6) and 6 of 401 KAR 34:275, Sections 14(4) to (9) and 15 of 401 KAR 34:280, and Sections 8, 9, and 11 of 401 KAR 34:281;

(g) For off-site facilities, notices to generators as specified in Section 3(2) of 401 KAR 34:020;

(h) All closure cost estimates under Section 1 of 401 KAR 34:090 and, for disposal facilities, postclosure cost estimates under Section 1 of 401 KAR 34:100;

(i) A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable; and the proposed method of treatment, storage or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and environment;

(j) 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, a petition pursuant to Section 6 of 401 KAR 37:010, or a certification under 401 KAR 37:010, Section 8, and the applicable notice required of a generator under Section 7(1) of 401 KAR 37:010;

(k) For an off-site treatment facility, a copy of the notice, and the certification and demonstration, if applicable, required of a generator or the owner or operator under Section 7 or 8 of 401 KAR 37:010;

(l) For an on-site treatment 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 land disposal facility, a copy of the notice and 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, whichever is applicable;

(n) For an on-site land disposal facility, the information contained in the notice required of the generator or owner or operator of a treatment facility under 401 KAR 37:010, Section 7, except for the manifest number, and the certification and demonstration if required under 401 KAR 37:010, Section 8, whichever is applicable;

(o) For surface impoundments, water balance calculations as required in 401 KAR 34:200, Section 4;

(p) 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 Section 7 or 8 of 401 KAR 37:010; and

(q) 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 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 of the cabinet.

(2) The retention period for all records required under this chapter is extended automatically during the course of any unre-

solved enforcement action regarding the 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.

Section 6. Annual Report. The owner or operator shall prepare and submit a single copy of the Hazardous Waste Annual Report, DEP Form 7072-01, incorporated by reference in Section 5 of 401 KAR 34:040, to the cabinet by March 1 of each year. The Hazardous Annual Report shall cover facility activities during the previous calendar year.

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 chipping 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 34:010, then the owner or operator shall prepare and submit a single copy of a report to the secretary within fifteen (15) days after receiving the waste. The unmanifested waste report shall be submitted on a form approved by the cabinet. The report shall be designated "Unmanifested Waste Report" and 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 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 34:040;

(2) Facility closure as specified in Section 6 of 401 KAR 34:070; and

(3) As otherwise required by 401 KAR 34:060, 34:200, 34:210, 34:220, 34:230, 34:275, 34:280, and 34:281.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 34:060. Releases from solid waste management units [Groundwater protection].

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.70, 224.99, 40 C.F.R. 264 Subpart F
STATUTORY AUTHORITY: KRS 224.10-100(30), 224.46-520(1), 40 C.F.R. 264 Subpart F

NECESSITY, FUNCTION, AND CONFORMITY: 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 **Environmental and Public Protection 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. [This chapter establishes minimum standards for hazardous waste sites or facilities.] This administrative regulation establishes the minimum groundwater protection standards for new hazardous waste sites or facilities. [This administrative regulation is equivalent to federal standards established in 40 C.F.R. 264 Subpart F except for language that has been added to clarify federal intent; Section 5 of this administrative regulation, which references MCLs found in 401 KAR Chapter 8 to provide consistency with federal policy and other Kentucky environmental programs; Section 8(2) of this administrative regulation, which establishes a minimum two inch monitoring well requirement appropriate for Kentucky's unique environment; and Sections 8(11) and 13 of this administrative regulation, which provide for and establish forms to provide monitoring information for Kentucky's groundwater database.]

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 264.90, effective July 1, 2005.

Section 2. Required Programs. The subject matter shall be governed by 40 C.F.R. 264.91, effective July 1, 2005.

Section 3. Groundwater [Ground-Water] Protection Standard. The subject matter shall be governed by 40 C.F.R. 264.92, effective July 1, 2005.

Section 4. Hazardous Constituents. The subject matter shall be governed by 40 C.F.R. 264.93, effective July 1, 2005.

Section 5. Concentration Limits. (1) The cabinet shall specify in the facility permit concentration limits in the groundwater for hazardous constituents established in [under] Section 4 of this administrative regulation. The concentration of a hazardous constituent:

(a) Shall not exceed the background level of that constituent in the groundwater at the time that limit is specified in the permit;

(b) Shall not exceed the maximum contaminant level listed in the following table, if the background level of the constituent is below the maximum contaminant level given in the table and if the owner or operator has utilized appropriate sampling methods capable of detecting the constituent values listed in the table:

MAXIMUM CONCENTRATION OF CONSTITUENTS FOR GROUNDWATER PROTECTION*	
Maximum Contaminant Constituent	Level (mg/l)
Aldicarb	0.003
Antimony	0.006
Arsenic	0.05
Barium	2
Benzene	0.005
Benzo(a)pyrene	0.0002
Beryllium	0.004
Cadmium	0.005
Carbon tetrachloride	0.005
Chlordane	0.002
Chromium	0.1
Cyanide (as free Cyanide)	0.2
Dibromochloropropane	0.0002
1,2-Dichloroethane	0.005
o-Dichlorobenzene	0.6
p-Dichlorobenzene	0.075
1,1-Dichloroethylene	0.007
cis-1,2-Dichloroethylene	0.07
trans-1,2-Dichloroethylene	0.1
Dichloromethane (Methylene chloride)	0.005
2,4-D (2,4-Dichlorophenoxyacetic acid)	0.07
1,2-Dichloropropane	0.005
Di(2-ethylhexyl)phthalate	0.006
Dinoseb	0.007
Endothall	0.1

Endrin	0.002
Ethylene dibromide (1,2-Dibromoethane)	0.00005
Fluoride	4.0
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Lead	0.05
Lindane	0.0002
Mercury	0.002
Methoxychlor	0.04
Monochlorobenzene	0.1
Nickel	0.1
Polychlorinated biphenyls	0.0005
Pentachlorophenol	0.001
Selenium	0.05
Silver	0.05
Tetrachloroethylene	0.005
Thallium	0.002
Toluene	1
Toxaphene	0.003
1,1,1-Trichloroethane	0.2
Trichloroethylene	0.005
1,2,4-Trichlorobenzene	0.07
1,1,2-Trichloroethane	0.005
2,4,5-TP Silvex	0.05
2,3,7,8-TCDD (Dioxin)	3.0 x 10 ⁻³
Vinyl chloride	0.002

*NOTE: This table applies in lieu of 401 KAR 30.031, Section 5, or

(c) Shall not exceed an alternate limit established by the cabinet under subsection (2) of this section.

(2) The cabinet shall establish an alternate concentration limit for a hazardous constituent if it finds that the constituent shall not pose a [substantial] present or potential hazard to human health or the environment if [as long as] the alternate concentration limit is not exceeded. In establishing alternate concentration limits, the cabinet shall consider the following factors:

(a) Potential adverse effects on groundwater quality, considering:

1. The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;
2. The hydrogeological characteristics of the facility and surrounding land;
3. The quantity of groundwater and the direction of groundwater flow;
4. The proximity and withdrawal rates of groundwater users;
5. The current and future uses of groundwater in the area;
6. The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

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

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

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

(b) Potential adverse effects of hydraulically connected surface water quality, considering:

1. The volume and physical and chemical characteristics of the waste in the regulated unit;
2. The hydrogeological characteristics of the facility and surrounding land;
3. The quantity and quality of groundwater[,] and the direction of groundwater flow;
4. The patterns of rainfall in the region;
5. The proximity of the regulated unit to surface waters;
6. The current and future uses of surface waters in the area and any water quality standards established for those surface waters;
7. The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water qual-

ity:

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

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

10. The persistence and permanence of the potential adverse effects.

(3) In making any determination under subsection (2) of this section about the use of groundwater in the area around the facility, the cabinet shall consider any identification of underground sources of drinking water and exempted aquifers made under 40 C.F.R. 144.7 [or as designated by the cabinet].

Section 6. Point of Compliance. The subject matter shall be governed by 40 C.F.R. 264.95, effective July 1, 2005.

Section 7. Compliance Period. The subject matter shall be governed by 40 C.F.R. 264.96, effective July 1, 2005.

Section 8. General Groundwater [Ground-Water] Monitoring Requirements. (1) Except as provided in subsection (2) of this section, the subject matter shall be governed by 40 C.F.R. 264.97, effective July 1, 2005 [subject to the modifications, additions and exceptions set forth in this section].

(2) The groundwater monitoring data shall be submitted on a "Groundwater Sample Analysis" form, DEP Form 8046, and "Hazardous Waste Groundwater Report" form, DEP Form 8046A, or a document that includes the same language that is specified in DEP Form 8046 and DEP Form 8046A.

Section 9. Detection Monitoring Program. The subject matter shall be governed by 40 C.F.R. 264.98, effective July 1, 2005.

Section 10. Compliance Monitoring Program. The subject matter shall be governed by 40 C.F.R. 264.99, effective July 1, 2005.

Section 11. Corrective Action Program. The subject matter shall be governed by 40 C.F.R. 264.100, effective July 1, 2005.

Section 12. Releases from Solid Waste Management Units. (1)(a) The owner or operator of a facility or any person seeking a permit or any person closing a facility for the treatment, storage, or disposal of hazardous waste shall institute corrective action as specified in this section, as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in the [such] unit.

(b) A facility assessment shall be conducted in a manner consistent with the substantive requirements specified in 401 KAR 100.030, Section 6(1) and (2).

(c) A fee for the facility assessment shall be required as specified in KRS 224.46-016(3).

(2)(a) Corrective action shall be specified in the permit or other enforceable document in accordance with this section and 401 KAR 34.287.

(b) The permit or other enforceable document shall contain:

1. Schedules of compliance for the corrective action, if corrective action will not [such corrective action (where such corrective action cannot) be completed prior to issuance of the permit or closure of the facility; and

2.] and Assurances of financial responsibility for completing the [such] corrective action.

(c) 1. A required facility investigation [(a) Any required facility investigation] shall be conducted in a manner consistent with the [substantive] requirements specified in 401 KAR 100.030, Section 6(3) through (8), Section 7(2)(a)1 and 2, and Section 7(2)(b) and (c).

2. A fee for the facility investigation shall be required as specified in KRS 224.46-016(4) and 224.46-018(5)(a).

(d) 1. A (b) Any required plan or report for corrective action shall be conducted in a manner consistent with the substantive requirements specified in 401 KAR 100.030, Section 8(1) and (3), and Section 9(1) and (2).

2. A fee for corrective action shall be required as specified in

KRS 224.46-016(4) and 224.46-018(5)(b).

(3)(a) The owner or operator shall implement corrective actions beyond the facility property boundary. If [where] necessary to protect human health and the environment, unless the owner or operator demonstrates [to the satisfaction of the cabinet] that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain [the necessary] permission to implement corrective actions beyond the facility property boundary,

(b) [undertake such actions.] The owner or operator shall not be [is not] relieved of all responsibility to clean up a release that has migrated beyond the facility property boundary if [where] off-site access is denied.

(c) On-site measures to address [such] releases shall be determined on a case-by-case basis.

(d) Assurances of financial responsibility for the [such] corrective action shall be provided. [These financial responsibility assurances shall be approved by the cabinet.]

(4) This section shall [does] not apply to remediation waste management sites unless they are part of a facility subject to a permit for treating, storing, or disposing of hazardous wastes that are not remediation wastes.

Section 13. Incorporation by Reference. (1) The following material is [documents are hereby] incorporated by reference:

(a) "Groundwater Sample Analysis", DEP Form 8046, August 1995 [form, DEP Form 8046 (August 1995)]; and

(b) Hazardous Waste Groundwater Report", DEP Form 8046A, March 1996 [form, DEP Form 8046A (March 1996)].

(2) This material may be inspected, copied, or obtained, subject to applicable [The documents referenced in this administrative regulation are available for inspection and copying, subject to] copyright law, at the Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, (502) 564-6716, [from 8 a.m. to 4:30 p.m., eastern time,] Monday through Friday, 8 a.m. to 4:30 p.m. [excluding state holidays.]

(3) These documents may also be obtained from the Division of Waste Management's Web site [page located] at [www.waste.ky.gov].

[Section 1. Applicability. (1)(a) Except as provided in subsection (2) of this section, the requirements in this administrative regulation apply to owners and operators of facilities that treat, store, or dispose of hazardous waste. The owner or operator shall satisfy the requirements of paragraph (b) of this subsection for all wastes (or constituents thereof) contained in solid waste management units at the facility regardless of the time at which waste was placed in such units.

(b) All solid waste management units shall comply with the requirements in Section 12 of this administrative regulation. A surface impoundment, waste pile, land treatment unit or landfill that receives hazardous waste after July 26, 1982 (hereinafter referred to as a "regulated unit") shall comply with the requirements of Sections 2 through 4 of this administrative regulation in lieu of Section 12 of this administrative regulation for purposes of detecting, characterizing and responding to releases to the uppermost aquifer. The financial responsibility requirements of Section 12 of this administrative regulation apply to regulated units.

(2) The owner or operator's regulated unit or units are not subject to administrative regulation for releases into the uppermost aquifer under this administrative regulation if:

(a) The owner or operator is exempted under Section 1 of 401 KAR 34.010, or

(b) He operates a unit which the cabinet finds:

1. Is an engineered structure;

2. Does not receive or contain liquid waste or wastes containing free liquids;

3. Is designed and operated to exclude liquid, precipitation, and other run-on and run-off;

4. Has both inner and outer layers of containment enclosing the waste;

5. Has a leak detection system built into each containment layer;

6. The owner or operator shall provide continuing operation and maintenance of these leak detection systems during the active

life of the unit and the closure and postclosure care periods; and

7. To a reasonable degree of certainty, shall not allow hazardous constituents to migrate beyond the outer containment layer prior to the end of the postclosure care period.

(c) The cabinet finds pursuant to 401 KAR 34.220, Section 8(4) that the treatment zone of a land treatment unit that qualifies as a regulated unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of 401 KAR 34.220, Section 6, has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the unit. An exemption under this subsection can only relieve an owner or operator of responsibility to meet the requirements of this administrative regulation during the postclosure care period;

(d) The cabinet finds that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and the postclosure care period specified under 401 KAR 34.070, Section 8. This demonstration shall be certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator shall base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration; or

(e) He designs and operates a pile in compliance with 401 KAR 34.210, Section 1(3).

(3) This administrative regulation applies during the active life of the regulated unit (including the closure period). After closure of the regulated unit, this administrative regulation.

(a) Does not apply if all waste, waste residues, contaminated containment system components, and contaminated soils are removed or decontaminated at closure;

(b) Applies during the postclosure care period under Section 8 of 401 KAR 34.070 if the owner or operator is conducting a detection monitoring program under Section 9 of this administrative regulation; or

(c) Applies during the compliance period under Section 7 of this administrative regulation if the owner or operator is conducting a compliance monitoring program under Section 10 of this administrative regulation or a corrective action program under Section 11 of this administrative regulation.

(4) This administrative regulation may apply to miscellaneous units when necessary to comply with Sections 2 through 4 of 401 KAR 34.250.

Section 2. Required Programs. (1) Owners and operators subject to this administrative regulation shall conduct a monitoring and response program as follows:

(a) Whenever hazardous constituents under Section 4 of this administrative regulation from a regulated unit are detected at the compliance point under Section 6 of this administrative regulation, the owner or operator shall institute a compliance monitoring program under Section 10 of this administrative regulation. Detected means statistically significant evidence of contamination as described in Section 9(6) of this administrative regulation;

(b) Whenever the groundwater protection standard under Section 3 of this administrative regulation is exceeded, the owner or operator shall institute a corrective action program under Section 11 of this administrative regulation. Exceeded means statistically significant evidence of increased contamination as described in Section 10(4) of this administrative regulation;

(c) Whenever hazardous constituents under Section 4 of this administrative regulation from a regulated unit exceed concentration limits under Section 5 of this administrative regulation in groundwater between the compliance point under Section 6 of this administrative regulation and the downgradient facility property boundary, the owner or operator shall institute a corrective action program under Section 11 of this administrative regulation; or

(d) In all other cases, the owner or operator shall institute a detection monitoring program under Section 9 of this administrative regulation.

(2) The cabinet shall specify in the facility permit the specific elements of the monitoring and response program. The cabinet may include one (1) or more of the programs identified in subsec-

tion (1) of this section in the facility permit as may be necessary to protect human health and the environment and shall specify the circumstances under which each of the programs shall be required. In deciding whether to require the owner or operator to be prepared to institute a particular program, the cabinet shall consider the potential adverse effects on human health and the environment that might occur before final administrative action on a permit modification application to incorporate such a program shall be taken.

Section 3. Groundwater Protection Standard. The owner or operator shall comply with conditions specified in the facility permit that are designed to ensure the hazardous constituents under Section 4 of this administrative regulation detected in the groundwater from a regulated unit do not exceed the concentration limits under Section 5 of this administrative regulation in the uppermost aquifer underlying the waste management area beyond the point of compliance under Section 6 of this administrative regulation during the compliance period under Section 7 of this administrative regulation. The cabinet shall establish this groundwater protection standard in the facility permit when hazardous constituents have been detected in the groundwater.

Section 4. Hazardous Constituents. (1) The cabinet shall specify in the facility permit the hazardous constituents to which the groundwater protection standard of Section 3 of this administrative regulation applies. Hazardous constituents are constituents identified in 401 KAR 31:170 that have been detected in groundwater in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the cabinet has excluded them under subsection (2) of this section.

(2) The cabinet shall exclude a 401 KAR 31:170 constituent from the list of hazardous constituents specified in the facility permit if it finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In deciding whether to grant an exemption, the cabinet shall consider the following:

(a) Potential adverse effects on groundwater quality, considering:

1. The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;
2. The hydrogeological characteristics of the facility and surrounding land;
3. The quantity of groundwater and the direction of groundwater flow;
4. The proximity and withdrawal rates of groundwater users;
5. The current and future uses of groundwater in the area;
6. The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;
7. The potential for health risks caused by human exposure to waste constituents;
8. The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
9. The persistence and permanence of the potential adverse effects; and

(b) Potential adverse effects of hydraulically connected surface water quality, considering:

1. The volume and physical and chemical characteristics of the waste in the regulated unit;
2. The hydrogeological characteristics of the facility and surrounding land;
3. The quantity and quality of groundwater, and the direction of groundwater flow;
4. The patterns of rainfall in the region;
5. The proximity of the regulated unit to surface waters;
6. The current and future uses of surface waters in the area and any water quality standards established for those surface waters;
7. The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;
8. The potential for health risks caused by human exposure to

waste constituents;

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

10. The persistence and permanence of the potential adverse effects.

(3) In making any determination under subsection (2) of this section about the use of groundwater in the area around the facility, the cabinet shall consider any identification of underground sources of drinking water and exempted aquifers made under 40 C.F.R. 144.7 or as designated by the cabinet.

Section 5. Concentration Limits. (1) The cabinet shall specify in the facility permit concentration limits in the groundwater for hazardous constituents established under Section 4 of this administrative regulation. The concentration of a hazardous constituent:

(a) Shall not exceed the background level of that constituent in the groundwater at the time that limit is specified in the permit; or

(b) Shall not exceed the maximum contaminant level listed in the following table, if the background level of the constituent is below the maximum contaminant level given in the table and if the owner or operator has utilized appropriate sampling methods capable of detecting the constituent values listed in the table:

MAXIMUM CONCENTRATION OF CONSTITUENTS FOR GROUNDWATER PROTECTION*	
Maximum Contaminant Constituent	Level (mg/l)
Aldicarb	0.003
Antimony	0.006
Arsenic	0.05
Barium	2
Benzene	0.005
Benzo(a)pyrene	0.0002
Beryllium	0.004
Cadmium	0.005
Carbon tetrachloride	0.005
Chlordane	0.002
Chromium	0.1
Cyanide (as free Cyanide)	0.2
Dibromochloropropane	0.0002
1,2-Dichloroethane	0.005
o-Dichlorobenzene	0.6
p-Dichlorobenzene	0.075
1,1-Dichloroethylene	0.007
cis-1,2-Dichloroethylene	0.07
trans-1,2-Dichloroethylene	0.1
Dichloromethane (Methylene chloride)	0.005
2,4-D (2,4-Dichlorophenoxyacetic acid)	0.07
1,2-Dichloropropane	0.005
Di(2-ethylhexyl)phthalate	0.006
Dinoseb	0.007
Endosulf	0.1
Endrin	0.002
Ethylene dibromide (1,2-Dibromoethane)	0.00005
Fluoride	4.0
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Lead	0.05
Lindane	0.0002
Mercury	0.002
Methoxychlor	0.04
Monochlorobenzene	0.1
Nickel	0.1
Polychlorinated biphenyls	0.0005
Pentachlorophenol	0.001
Selenium	0.05
Silver	0.05
Tetrachloroethylene	0.005
Thallium	0.002
Toluene	1

Toxaphene	0.003
1,1,1-Trichloroethane	0.2
Trichloroethylene	0.005
1,2,4-Trichlorobenzene	0.07
1,1,2-Trichloroethane	0.005
2,4,6-TP Silvex	0.05
2,3,7,8-TCDD (Dioxin)	3.0 x 10 ⁻⁴
Vinyl chloride	0.002

*NOTE: This table applies in lieu of Section 6 of 401 KAR 30.031.

(6) Shall not exceed an alternate limit established by the cabinet under subsection (2) of this section.

(2) The cabinet shall establish an alternate concentration limit for a hazardous constituent if it finds that the constituent shall not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In establishing alternate concentration limits, the cabinet shall consider the following factors:

(a) Potential adverse effects on groundwater quality, considering:

1. The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;
2. The hydrogeological characteristics of the facility and surrounding land;
3. The quantity of groundwater and the direction of groundwater flow;
4. The proximity and withdrawal rates of groundwater users;
5. The current and future uses of groundwater in the area;
6. The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

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

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

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

(b) Potential adverse effects of hydraulically connected surface water quality, considering:

1. The volume and physical and chemical characteristics of the waste in the regulated unit;
2. The hydrogeological characteristics of the facility and surrounding land;

3. The quantity and quality of groundwater, and the direction of groundwater flow;

4. The patterns of rainfall in the region;

5. The proximity of the regulated unit to surface waters;

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

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

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

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

10. The persistence and permanence of the potential adverse effects.

(3) In making any determination under subsection (2) of this section about the use of groundwater in the area around the facility, the cabinet shall consider any identification of underground sources of drinking water and exempted aquifers made under 40 C.F.R. 144.7 or as designated by the cabinet.

Section 6. Point of Compliance. (1) The cabinet shall specify in the facility permit the point of compliance at which the groundwater protection standard of Section 3 of this administrative regulation applies and at which monitoring shall be conducted. The point of compliance is a vertical surface located at the hydraulically down-gradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units.

(2) The waste management area is the limit projected in the

horizontal plane of the area on which waste shall be placed during the active life of a regulated unit.

(a) The waste management area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit.

(b) If the facility contains more than one (1) regulated unit, the waste management area is described by an imaginary line circumscribing the several regulated units.

Section 7. Compliance Period. (1) The cabinet shall specify in the facility permit the compliance period during which the groundwater protection standard of Section 3 of this administrative regulation applies. The compliance period is the number of years equal to the active life of the waste management area (including any waste management activity prior to permitting, and the closure period).

(2) The compliance period begins when the owner or operator initiates a compliance monitoring program meeting the requirements of Section 10 of this administrative regulation.

(3) If the owner or operator is engaged in a corrective action program at the end of the compliance period specified in subsection (1) of this section, the compliance period is extended until the owner or operator can demonstrate that the groundwater protection standard of Section 3 of this administrative regulation has not been exceeded for a period of three (3) consecutive years.

Section 8. General Groundwater Monitoring Requirements. The owner or operator shall comply with the requirements of this section for any groundwater monitoring program developed to satisfy Section 9, 10 or 11 of this administrative regulation:

(1) The groundwater monitoring system shall consist of a sufficient number of wells, installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer that:

(a) Represents the quality of back-groundwater that has not been affected by leakage from a regulated unit.

1. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

a. Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; and

b. Sampling at other wells shall provide an indication of back-ground groundwater quality that is representative or more representative than that provided by the upgradient wells; and

(b) Represent the quality of groundwater passing the point of compliance; and

(c) Allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management area to the uppermost aquifer.

(2) If a facility contains more than one (1) regulated unit, separate groundwater monitoring systems are not required for each regulated unit provided that provisions for sampling the groundwater in the uppermost aquifer shall enable detection and measurement at the compliance point of hazardous constituents from the regulated units that have entered the groundwater in the uppermost aquifer.

(3) All monitoring wells shall be cased in a manner that maintains the integrity of the monitoring well bore hole and shall be at least two (2) inches in diameter. This casing shall be screened or perforated and packed with gravel or sand, where necessary, to enable collection of groundwater samples. The annular space (that is, the space between the bore hole and well casing) above the sampling depth shall be sealed to prevent contamination of samples and the groundwater.

(4) The groundwater monitoring program shall include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of groundwater quality below the waste management area. At a minimum the program shall include procedures and techniques for:

(a) Sample collection;

(b) Sample preservation and shipment;

(c) Analytical procedures; and

(d) Chain of custody control.

(5) The groundwater monitoring program shall include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents in

groundwater samples.

(6) The groundwater monitoring program shall include a determination of the groundwater surface elevation each time groundwater is sampled.

(7) In detection monitoring or where appropriate in compliance monitoring, data on each hazardous constituent specified in the permit shall be collected from background wells and wells at the compliance points. The number and kinds of samples collected to establish background shall be appropriate for the form of statistical test employed, following generally accepted statistical principles. The sample size shall be as large as necessary to ensure with reasonable confidence that a contaminant release to groundwater from a facility shall be detected. The owner or operator shall determine an appropriate sampling procedure and interval for each hazardous constituent listed in the facility permit which shall be specified in the unit permit upon approval by the cabinet. This sampling procedure shall be:

(a) A sequence of at least four (4) samples, taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained, by reference to the uppermost aquifer's effective porosity, hydraulic conductivity, and hydraulic gradient, and the fate and transport characteristics of the potential contaminants; or

(b) An alternate sampling procedure proposed by the owner or operator and approved by the cabinet.

(8) The owner or operator shall specify one (1) of the statistical methods listed in paragraphs (a) through (e) of this subsection to be used in evaluating groundwater monitoring data for each hazardous constituent. The statistical method which the owner or operator specifies, if approved by the cabinet, shall be included in the unit permit. The statistical test chosen shall be conducted separately for each hazardous constituent in each well. Where practical quantification limits (PQL's) are used in any of the following statistical procedures to comply with subsection (9)(c) of this section, the PQL shall be proposed by the owner or operator and approved by the cabinet. Use of any of the following statistical methods shall be protective of human health and the environment and shall comply with the performance standards outlined in subsection (9) of this section. The statistical methods which an owner or operator may specify are:

(a) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method shall include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(b) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method shall include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(c) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(d) A control chart approach that gives control limits for each constituent.

(e) Another statistical test method submitted by the owner or operator and approved by the cabinet.

(9) Any statistical method chosen under subsection (8) of this section for specification in the unit permit shall comply with the following performance standards, as appropriate:

(a) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data shall be transformed or a distribution-free theory test shall be used. If the distributions for the constituents differ, more than one (1) statistical method may be needed.

(b) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test shall be done at a Type I error level no less than

0.01 for each testing period. If a multiple comparisons procedure is used, the Type I error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons shall be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(c) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be proposed by the owner or operator and shall be approved by the cabinet if it is protective of human health and the environment.

(d) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval shall contain, shall be proposed by the owner or operator and shall be approved by the cabinet if it finds these parameters to be protective of human health and the environment. These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of concentration values for each constituent of concern.

(e) The statistical method shall account for data below the limit of detection with one (1) or more statistical procedures that are protective of human health and the environment. Any practical qualification limit (PQL) approved by the cabinet under subsection (8) of this section that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions that are available to the facility.

(f) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(10) Groundwater monitoring data collected in accordance with subsection (7) of this section, including actual levels of constituents, shall be maintained in the facility operating record. The cabinet shall specify in the permit when the data shall be submitted for review.

(11) 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 1995). These forms are incorporated by reference in Section 13 of this administrative regulation. 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.

Section 9. Detection Monitoring Program. An owner or operator required to establish a detection monitoring program under this administrative regulation shall, at a minimum, discharge the following responsibilities:

(1) The owner or operator shall monitor for indicator parameters (for example, specific conductance, total organic carbon, or total organic halogen), waste constituents, or reaction products that provide a reliable indication of the presence of hazardous constituents in groundwater. The cabinet shall specify the parameters or constituents to be monitored in the facility permit, after considering the following factors:

(a) The types, quantities, and concentrations of constituents in waste managed at the regulated unit;

(b) The mobility, stability, and persistence of waste constituents or their reaction products in the saturated and unsaturated zone beneath the waste management area;

(c) The detectability of indicator parameters, waste constituents, and reaction products in groundwater; and

(d) The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the background groundwater quality.

(2) The owner or operator shall install a groundwater monitoring system at the compliance point as specified under Section 6 of this regulation. The groundwater monitoring system shall comply with Section 8(1)(b), (2) and (3) of this administrative regulation.

(3) The owner or operator shall conduct a groundwater monitoring program for each chemical parameter and hazardous constituent specified in the permit pursuant to subsection (1) of this section in accordance with Section 8(7) of this administrative regu-

lation. The owner or operator shall maintain a record of groundwater analytical data as measured and in a form necessary for the determination of statistical significance under Section 8(8) of this administrative regulation.

(4) The cabinet shall specify the frequencies for collecting samples and conducting statistical tests to determine whether there is statistically significant evidence of contamination for any parameter or hazardous constituent specified in the permit under subsection (1) of this section in accordance with Section 8(7) of this administrative regulation. A sequence of at least four (4) samples from each well (background and compliance wells) shall be collected at least semiannually during detection monitoring.

(5) The owner or operator shall determine the groundwater flow rate and direction in the uppermost aquifer as specified in the permit. This determination shall be made at least annually.

(6) The owner or operator shall determine whether there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in the permit pursuant to subsection (1) of this section at a frequency specified under subsection (4) of this section.

(a) In determining whether statistically significant evidence of contamination exists, the owner or operator shall use the method specified in the permit under Section 8(8) of this administrative regulation. These methods shall compare data collected at the compliance point to the background groundwater quality data.

(b) The owner or operator shall determine whether there is statistically significant evidence of contamination at each monitoring well at the compliance point within a reasonable period of time after completion of sampling. The cabinet shall specify in the facility permit what period of time is reasonable, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(7) If the owner or operator determines pursuant to subsection (6) of this section that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents specified pursuant to subsection (1) of this section at any monitoring well at the compliance point, he or she shall:

(a) Notify the cabinet of this finding in writing within seven (7) days. The notification shall indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination;

(b) Immediately sample the groundwater in all monitoring wells and determine whether constituents in the list of 401 KAR 34.360 are present, and if so, in what concentration;

(c) For any 401 KAR 34.360 compounds found in the analysis pursuant to subsection (7)(b) of this section, the owner or operator may resample within one (1) month and repeat the analysis for those compounds detected. If the results of the second analysis confirm the initial results, then these constituents shall form the basis for compliance monitoring. If the owner or operator does not resample for the compounds found pursuant to subsection (7)(b) of this section, the hazardous constituents found during this initial 401 KAR 34.360 analysis shall form the basis for compliance monitoring;

(d) Within ninety (90) days, submit to the cabinet an application for a permit modification to establish a compliance monitoring program meeting the requirements of Section 10 of this administrative regulation. The application shall include the following information:

1. An identification of the concentration of any 401 KAR 34.360 constituent detected in the groundwater at each monitoring well at the compliance point;

2. Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of Section 10 of this administrative regulation;

3. Any proposed additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of Section 10 of this administrative regulation;

4. For each hazardous constituent detected at the compliance point, a proposed concentration limit under Section 5(1)(a) or (b) of this administrative regulation, or a notice of intent to seek an alternate concentration limit under Section 5(2) of this administrative regulation; and

(e) Within 180 days, submit to the cabinet

1. All data necessary to justify an alternate concentration limit sought under Section 5(2) of this administrative regulation; and

2. An engineering feasibility plan for a corrective action program necessary to meet the requirement of Section 11 of this administrative regulation, unless:

a. All hazardous constituents identified under subsection (7)(b) of this section are listed in Section 5(1)(b) of this administrative regulation and their concentrations do not exceed the respective values given in that paragraph; or

b. The owner or operator has sought an alternative concentration limit under Section 5(2) of this administrative regulation for every hazardous constituent identified under subsection (7)(b) of this section.

(f) If the owner or operator determines, pursuant to subsection (6) of this section, that there is a statistically significant difference for chemical parameters or hazardous constituents specified pursuant to subsection (1) of this section at any monitoring well at the compliance point, he or she may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the groundwater. The owner or operator may make a demonstration under this subsection in addition to, or in lieu of, submitting a permit modification application under subsection (7)(d) of this section; however, the owner or operator is not relieved of this requirement to submit a permit modification application within the time specified in subsection (7)(d) of this section unless the demonstration made under this subsection successfully shows that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator shall:

1. Notify the cabinet in writing within seven (7) days of determining statistically significant evidence of contamination at the compliance point that he intends to make a demonstration under this subsection;

2. Within ninety (90) days, submit a report to the cabinet which demonstrates that a source other than a regulated unit caused the contamination or that the contamination resulted from error in sampling, analysis, or evaluation;

3. Within ninety (90) days, submit to the cabinet an application for a permit modification to make any appropriate changes to the detection monitoring program facility; and

4. Continue to monitor in accordance with the detection monitoring program established under this section.

(g) If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this section, he shall, within ninety (90) days, submit an application for a permit modification to make any appropriate changes to the program.

Section 10. Compliance Monitoring Program. An owner or operator required to establish a compliance monitoring program under this administrative regulation shall, at a minimum, discharge the following responsibilities:

(1) The owner or operator shall monitor the groundwater to determine whether all regulated units are in compliance with the groundwater protection standard under Section 3 of this administrative regulation. The cabinet shall specify the groundwater protection standard in the facility permit, including:

(a) A list of the hazardous constituents identified under Section 4 of this administrative regulation;

(b) Concentration limits under Section 5 of this administrative regulation for each of those hazardous constituents;

(c) The compliance point under Section 6 of this administrative regulation; and

(d) The compliance period under Section 7 of this administrative regulation.

(2) The owner or operator shall install a groundwater monitoring system at the compliance point as specified under Section 6 of this administrative regulation. The groundwater monitoring system shall comply with Section 8(1)(b), (2) and (3) of this administrative regulation.

(3) The cabinet shall specify the sampling procedures and statistical methods appropriate for the constituents and the facility, consistent with Section 8(7) and (8) of this administrative regula-

tion.

(a) The owner or operator shall conduct a sampling program for each chemical parameter or hazardous constituent in accordance with Section 8(7) of this administrative regulation.

(b) The owner or operator shall record groundwater analytical data as measured and in form necessary for the determination of statistical significance under Section 8(8) of this administrative regulation for the compliance period of the facility.

(4) The owner or operator shall determine whether there is statistically significant evidence of increased contamination for any chemical parameter or hazardous constituent specified in the permit, pursuant to subsection (1) of this section, at a frequency specified under subsection (6) of this section.

(a) In determining whether statistically significant evidence of increased contamination exists, the owner or operator shall use the method(s) specified in the permit under Section 8(8) of this administrative regulation. The method(s) shall compare data collected at the compliance point(s) to a concentration limit developed in accordance with Section 5 of 401 KAR 34.060.

(b) The owner or operator shall determine whether there is statistically significant evidence of increased contamination at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The cabinet shall specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(5) The owner or operator shall determine the groundwater flow rate and direction in the uppermost aquifer as specified in the permit and which shall be no less frequently than at least annually.

(6) The cabinet shall specify the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of increased contamination in accordance with Section 8(7) of this administrative regulation. A sequence of at least four (4) samples from each well (background and compliance wells) shall be collected at least semiannually during the compliance period of the facility.

(7) The owner or operator shall analyze samples from all monitoring wells at the compliance point for all constituents contained in 401 KAR 34.360 at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer and, if so, at what concentration, pursuant to procedures in Section 9(6) of this administrative regulation. If the owner or operator finds 401 KAR 34.360 constituents in the groundwater that are not already identified in the permit as monitoring constituents, the owner or operator may resample within one (1) month and repeat the 401 KAR 34.360 analysis. If the second analysis confirms the presence of new constituents, the owner or operator shall report the concentration of those additional constituents to the cabinet within seven (7) days after the completion of the second analysis and add them to the monitoring list. If the owner or operator chooses not to resample, then he or she shall report the concentrations of these additional constituents to the cabinet within seven (7) days after completion of the initial analysis and shall add them to the monitoring list.

(8) If the owner or operator determines, pursuant to subsection (4) of this section, that any concentration limits under Section 5 of this administrative regulation are being exceeded at any monitoring well at the point of compliance, he or she shall:

(a) Notify the cabinet of this finding in writing within seven (7) days. The notification shall indicate what concentration limits have been exceeded.

(b) Submit to the cabinet an application for a permit modification to establish a corrective action program meeting the requirements of Section 11 of this administrative regulation within 180 days, or within ninety (90) days if an engineering feasibility study has been previously submitted to the cabinet under Section 9(9)(e) of this administrative regulation. The application shall at a minimum include the following information:

1. A detailed description of corrective actions that shall achieve compliance with the groundwater protection standard specified in the permit under subsection (1) of this section; and

2. A plan for a groundwater monitoring program that shall demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance

monitoring program developed to meet the requirements of this section.

(9) If the owner or operator determines, pursuant to subsection (4) of this section, that the groundwater concentration limits under this section are being exceeded at any monitoring well at the point of compliance, he or she may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis or statistical evaluation or natural variation in the groundwater. In making a demonstration under this subsection, the owner or operator shall:

- (a) Notify the cabinet in writing within seven (7) days that he intends to make a demonstration under this subsection;
- (b) If appropriate, within ninety (90) days, submit a report to the cabinet which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent non-compliance with the standards resulted from error in sampling, analysis, or evaluation;
- (c) Within ninety (90) days, submit to the cabinet an application for a permit modification to make any appropriate changes to the compliance monitoring program at the facility; and
- (d) Continue to monitor in accordance with the compliance monitoring program established under this section.

(10) If the owner or operator determines that the compliance monitoring program no longer satisfies the requirements of this section, he shall, within ninety (90) days, submit an application for a permit modification to make any appropriate changes to the program.

Section 11. Corrective Action Program. An owner or operator required to establish a corrective action program under this administrative regulation shall, at a minimum, discharge the following responsibilities:

(1) The owner or operator shall take corrective action to ensure that regulated units are in compliance with the groundwater protection standard under Section 3 of this administrative regulation. The cabinet shall specify the groundwater protection standard in the facility permit, including:

- (a) A list of the hazardous constituents identified under Section 4 of this administrative regulation;
- (b) Concentration limits under Section 5 of this administrative regulation for each of these hazardous constituents;
- (c) The compliance point under Section 6 of this administrative regulation; and
- (d) The compliance period under Section 7 of this administrative regulation.

(2) The owner or operator shall implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the compliance point by removing the hazardous waste constituents or treating them in place. The permit shall specify the specific measures that shall be taken.

(3) The owner or operator shall begin corrective action within a reasonable time period after the groundwater protection standard is exceeded. The cabinet shall specify that time period in the facility permit. If a facility permit includes a corrective action program in addition to a compliance monitoring program, the permit shall specify when the corrective action shall begin and such a requirement shall operate in lieu of Section 10(9)(b) of this administrative regulation.

(4) In conjunction with a corrective action program, the owner or operator shall establish and implement a groundwater monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for a compliance monitoring program under Section 10 of this administrative regulation and shall be as effective as that program in determining compliance with the groundwater protection standard under Section 3 of this administrative regulation and in determining the success of a corrective action program under subsection (5) of this section, where appropriate.

(5) In addition to the other requirements of this section, the owner or operator shall conduct a corrective action program to remove or treat in place any hazardous constituents under Section 4 of this administrative regulation that exceed concentration limits under Section 5 of this administrative regulation in groundwater:

- (a) Between the compliance point under Section 6 of this ad-

ministrative regulation and the downgradient property boundary; and

(b) Beyond the facility boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the cabinet that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. The owner or operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases shall be determined on a case-by-case basis.

(c) Corrective action measures under this subsection shall be initiated and completed within a reasonable period of time as specified by the cabinet considering the extent of contamination.

(d) Corrective action measures under this subsection may be terminated upon approval of the cabinet once the concentration of hazardous constituents under Section 4 of this administrative regulation is reduced to levels below their respective concentration limits under Section 5 of this administrative regulation.

(6) The owner or operator shall continue corrective action measures during the compliance period to the extent necessary to ensure that the groundwater protection standard is not exceeded. If the owner or operator is conducting corrective action at the end of the compliance period, he shall continue that corrective action for as long as necessary to achieve compliance with the groundwater protection standard. The owner or operator may terminate corrective action measures taken beyond the period equal to the active life of the waste management area (including the closure period) if he can demonstrate to the satisfaction of the cabinet based on data from the groundwater monitoring program under subsection (4) of this section, that the groundwater protection standard of Section 3 of this administrative regulation has not been exceeded for a period of three (3) consecutive years.

(7) The owner or operator shall report in writing to the cabinet on the effectiveness of the corrective action program. The owner or operator shall submit these reports at least semiannually on a schedule determined by the cabinet.

(8) If the owner or operator determines that the corrective action program no longer satisfies the requirements of this section, he shall, within ninety (90) days, submit an application for a permit modification to make any appropriate changes to the program.

Section 12. Corrective Action for Solid Waste Management Units. (1) The owner or operator of a facility or any person seeking a permit or any person closing a facility for the treatment, storage or disposal of hazardous waste shall institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in such unit.

(2) Corrective action shall be specified in the permit in accordance with this section and 401 KAR 34.287. The permit shall contain schedules of compliance for such corrective action (where such corrective action cannot be completed prior to issuance of the permit or closure of the facility) and assurances of financial responsibility for completing such corrective action.

(3) The owner or operator shall implement corrective actions beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the cabinet that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such actions. The owner or operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases shall be determined on a case-by-case basis. Assurances of financial responsibility for such corrective action shall be provided. These financial responsibility assurances shall be approved by the cabinet.

Section 13. Incorporation by Reference. (1) The following documents are hereby incorporated by reference:

- (a) Groundwater Sample Analysis form, DEP Form 8046 (August 1995); and

~~(b) Hazardous Waste Groundwater Report form, DEP Form 8046A (March 1996).~~

~~(2) The documents referenced in subsection (1) of this section 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, from 8 a.m. to 4:30 p.m., eastern time, Monday through Friday, excluding state holidays.~~

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: November 28, 2006 at 10 a.m.
 CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, e-mail Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:070. Closure and postclosure.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.70, 224.99, 40 C.F.R. 264 Subpart G
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, ~~40 C.F.R. 264 Subpart G~~

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection Cabinet to establish standards for these permits, to require adequate financial responsibility, to establish minimum standards for closure of all facilities and the postclosure monitoring and maintenance of hazardous waste disposal facilities. This administrative regulation establishes [implements provisions of KRS 224.46-520 by establishing] standards for closure and postclosure of facilities. [To implement provisions of KRS 224.46-520 and to establish standards for closure and postclosure of facilities.]

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 264.110, effective July 1, 2005.

Section 2. Closure Performance Standard. The subject matter shall be governed by 40 C.F.R. 264.111, effective July 1, 2005.

Section 3. Closure Plan and [;] Amendment of a Plan. (1) The subject matter shall be governed by 40 C.F.R. 264.112, effective July 1, 2005.

(2) The citation to Section 3008 of RCRA in the federal regulation referenced in subsection (1) of this section shall be replaced with KRS 224.10-100, 224.10-440, 224.46-530, or 224.99-010.

Section 4. [Closure.] Time Allowed for Closure. (1) The subject matter shall be governed by 40 C.F.R. 264.113, except 264.113(e)(7)(v), effective July 1, 2005.

(2) The citation to 42 U.S.C. 3004(o)(1) and 3005(i)(1) in 40 C.F.R. 264.113(e) shall be replaced with the following administrative regulations:

- (a) 401 KAR 34:200, Section 2;
- (b) 401 KAR 34:230, Section 2;
- (c) 401 KAR 34:240, Section 4; and
- (d) 401 KAR 35:200, Section 10.

(3) The citation to 42 U.S.C. 3004(o)(2) or (3) in 40 C.F.R. 264.113(e) shall be replaced with 401 KAR 34:200, Section 2.

(4) The citation to 42 U.S.C. 3005(i)(2), (3), (4), or (13) in 40 C.F.R. 264.113(e) shall be replaced with 401 KAR 35:200, Section 10.

Section 5. Disposal or Decontamination of Equipment, Structures, and Soils. The subject matter shall be governed by 40

C.F.R. 264.114, effective July 1, 2005.

Section 6. Certification of Closure. The subject matter shall be governed by 40 C.F.R. 264.115, effective July 1, 2005.

Section 7. Survey Plat. The subject matter shall be governed by 40 C.F.R. 264.116, effective July 1, 2005.

Section 8. Postclosure Care and Use of Property. (1) The subject matter shall be governed by 40 C.F.R. 264.117, effective July 1, 2005.

(2) A [Any] decision to shorten the postclosure care period, as specified in 40 C.F.R. 264.117(a)(2)(i), shall also be made in accordance with KRS 224.46-520(4).

Section 9. Postclosure Plan and [;] Amendment of a Plan. (1) The subject matter shall be governed by 40 C.F.R. 264.118, effective July 1, 2005.

(2) The reference in 40 C.F.R. 264.118(c) to 40 C.F.R. 264.18(b)(3) is incorrect. The reference shall [should] be to 40 C.F.R. 264.118(b)(3).

(3) In addition to the requirements to shorten the postclosure monitoring and maintenance of a permitted facility in subsection (1) of this section, the requirements of KRS 224.46-520(4) shall also be applicable.

Section 10. Postclosure Notices. The subject matter shall be governed by 40 C.F.R. 264.119, effective July 1, 2005.

Section 11. Certification of Completion of Postclosure Care. The subject matter shall be governed by 40 C.F.R. 264.120, effective July 1, 2005.

~~[Section 1. Applicability. Except as Section 1 of 401 KAR 34:010 provides otherwise: (1) Sections 2 to 6 of this administrative regulation (which concern closure) apply to the owners and operators of all hazardous waste management 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;~~
- ~~(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 of 401 KAR 34:200 or Section 8 of 401 KAR 34:210;~~
- ~~(c) Tank systems that are required under Section 8 of 401 KAR 34:190 to meet the requirements for landfills;~~
- ~~(d) Containment buildings that are required under Section 3 of 401 KAR 34:245 to meet the requirements for landfills; and~~
- ~~(e) Drip pads that are required under Section 6 of 401 KAR 34:285 to meet the requirements of landfills.~~

~~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 these administrative regulations including but not limited to, the requirements of 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, Section 2 to 4 of 401 KAR 34:260, and Section 6 of 34:285.~~

~~Section 3. Closure Plan; Amendment of Plan. (1) Written plan.~~

~~(a) The owner or operator of a hazardous waste site or facility shall have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous waste at partial or final closure are required by Section 6(3)(a)1 of 401 KAR 34:200 and Section 8(3)(a)1 of 401 KAR 34:210 to have contingent clo-~~

sure plans. The plan shall be submitted with the permit application, in accordance with Section 2(13) of 401 KAR 38:000, and approved by the cabinet as part of the permit issuance procedures under 401 KAR 38:050. In accordance with Section 3 of 401 KAR 38:030, the approved closure plan shall become a condition of any hazardous waste site or facility permit.

(b) The cabinet's approval of the plan shall ensure that the approved closure plan is consistent with Sections 2 to 6 of this administrative regulation and the applicable requirements of 401 KAR 34:060, 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, Section 2 of 401 KAR 34:250, and Section 6 of 401 KAR 34:285. Until final closure is completed and certified in accordance with Section 6 of this administrative regulation, a copy of the approved plan and all approved revisions shall be furnished to the cabinet upon request, including request by mail.

(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 operations which will be unexecuted during the active life of the facility;

(c) An estimate of the maximum inventory of hazardous wastes that was 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, treating, storing, or disposing of all hazardous wastes, and identification of the type(s) of the off-site hazardous waste management units 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 required to satisfy the closure performance standard;

(e) A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, 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) For facilities that use trust funds to establish financial assurance under 401 KAR 34:000 or 401 KAR 34:100 and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure.

(3) Amendment of plan. The owner or operator shall submit a written request for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the procedures in 401 KAR Chapter 38. The written request shall include a copy of the amended closure plan for approval by the cabinet.

(a) The owner or operator may submit a written request to the cabinet for a permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility.

(b) The owner or operator shall submit a written request for a permit modification to authorize a change in the approved closure plan whenever:

1. Changes in operating plans or facility design affect the clo-

sure 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 approved closure plan.

(e) The owner or operator shall submit a written request for a permit modification including a copy of the amended closure plan for approval 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 request a permit modification no later than thirty (30) days after the unexpected event. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to prepare a contingent closure plan under Section 6(3)(a)1 of 401 KAR 34:200 or Section 8(3)(a)1 of 401 KAR 34:210, shall submit an amended closure plan to the cabinet no later than sixty (60) days from the date that the owner or operator or cabinet determines that the hazardous waste management unit will be closed as a landfill, subject to the requirements of Section 6 of 401 KAR 34:230, or no later than thirty (30) days from that date if the determination is made during partial or final closure. The cabinet shall approve, disapprove, or modify this amended plan in accordance with the procedures in 401 KAR Chapter 38. In accordance with Section 3 of 401 KAR 38:030, the approved closure plan shall become a condition of any hazardous waste site or facility permit issued.

(d) The cabinet may request modifications to the plan under the conditions described in paragraph (b) of this subsection. The owner or operator shall submit the modified plan within sixty (60) days of the cabinet's request or within thirty (30) days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the cabinet shall be approved in accordance with the procedures in 401 KAR Chapter 38.

(4) Notification of partial closure and final closure.

(a) The owner or operator 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, land treatment or landfill unit, or final closure of a facility with such a unit. The owner or operator 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 treatment or storage tanks, container storage, or incinerator units to be closed. The owner or operator shall notify the cabinet in writing 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, whichever is earlier.

(b) The date when he "expects to begin closure" shall be either:

1. No later than 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 he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the cabinet may approve an extension to this one (1) year limit, or

2. For units meeting the requirements of Section 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 permit requirements, the cabinet may approve an extension to this one (1) year limit.

(e) If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or final order under KRS 224.10-100, 224.10-440, and 224.46-630 or 224.99-010 to cease receiving hazardous wastes or to close, then the requirements of this subsection do not apply. However, the owner or operator shall close the facility in accordance with the deadlines established in Section 4 of this administrative regulation.

(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.

(6) For existing disposal facilities within the 100-year flood plain, the closure plan and cost estimates shall reflect compliance with the requirements in Section 9(2) of 401 KAR 34-020 to prevent washout of waste and protect the facility from inundation by waters of the 100-year flood.

(7) For new hazardous waste sites or facilities located or to be located in the 100-year flood plain, the closure plan and cost estimates shall reflect that all hazardous waste and hazardous waste residues will be removed from the site at closure, in accordance with Section 9(2) of 401 KAR 34-020.

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, 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 complies with all applicable requirements for requesting a modification to the permit and 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 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 permit 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 in subsections (4) and (5) of this section, at the hazardous waste management unit or facility. The cabinet may approve an extension to the closure period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and 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 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 permit requirements.

(3) The demonstrations referred to in subsections (1) and (2) 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 demonstration 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 the deadlines in subsection (4) of this section.

(4) The cabinet may allow an owner or operator to receive only 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 requests a permit modification in compliance with all applicable requirements in 401 KAR Chapter 38 and in the permit modification request 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 facility design and operating requirements of the unit or facility; 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 permit requirements; and

(b) The request to modify the permit includes:

1. An amended waste analysis plan;

2. Groundwater monitoring and response program;

3. Human exposure assessment required under Section 9 of 401 KAR 38-070; and

4. 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 request to modify the permit includes revisions, as necessary and appropriate, to affected conditions of the permit to account for the receipt of nonhazardous wastes following receipt of the final volume of hazardous wastes; and

(d) The request to modify the permit and the demonstrations referred to in paragraphs (a) and (b) of this subsection are submitted to the cabinet no later than 120 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes at the unit, or no later than ninety (90) days after the effective date of this administrative regulation which ever 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 Section 2 of 401 KAR 34-200; Section 2 of 401 KAR 34-230; Section 4 of 401 KAR 34-240; and Section 10 of 401 KAR 35-200 or Section 2(4) of 401 KAR 34-200 or Section 10(4) of 35-200 shall:

(a) Submit with the request to modify the permit:

1. A contingent corrective measures plan, unless a corrective action plan has already been submitted under Section 10 of 401 KAR 34-060; 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 sludges to the extent practicable without impairing the integrity of the liner(s), if any.

(c) Remove hazardous wastes 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 dem-

onstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that 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) over background values for detection monitoring parameters or constituents specified in the permit or that exceeds the facility's groundwater protection standard at the point of compliance, if applicable, is detected in accordance with the requirements in 401 KAR 34.060, 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 continue to 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 the 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 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 groundwater protection standard or background levels if the facility has not yet established a groundwater protection standard.

(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 the cabinet shall:

1. Notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadlines 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 subsection (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, the owner or operator shall initiate closure in accordance with the deadlines in subsections (1) and (2) of this section.

Section 5. Disposal or Decontamination of Equipment, Structures and Soils During the partial and final closure periods, all contaminated equipment, structures and soils shall be properly disposed of or decontaminated unless otherwise specified in 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, or Section 6 of 401 KAR 34.230 or under the authority of Section 2 and 4 of 401

KAR 34.250. By removing any hazardous waste or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and shall handle that waste in accordance with all applicable requirements of 401 KAR Chapter 32.

Section 6. Certificate 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 the 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 engineer. 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 12 of 401 KAR 34.000.

Section 7. Survey Plat No later than the submission of the 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 survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently displayed benchmarks. This plat shall be prepared and certified by a professional land surveyor registered in 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 and shall consist of at least the following:

1. Monitoring and reporting in accordance with the requirements of 401 KAR 34.060, 401 KAR 34.200, 401 KAR 34.210, 401 KAR 34.220, 401 KAR 34.230, and 401 KAR 34.250; and
2. Maintenance and monitoring of waste containment systems in accordance with the requirements of 401 KAR 34.060, 401 KAR 34.200, 401 KAR 34.210, 401 KAR 34.220, 401 KAR 34.230, and 401 KAR 34.250.

(b) Any time preceding partial 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 unit, the cabinet may, in accordance with the permit modification procedures in 401 KAR Chapter 38:

1. Shorten the postclosure care period applicable to the hazardous waste management unit, or facility, to not less than thirty (30) years as specified in KRS 224.46-520 if all disposal units have been closed, if the cabinet finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or groundwater monitoring results, characteristics of the hazardous waste, application of advanced technology, or alternative disposal, treatment, or reuse techniques indicate that the hazardous waste management unit or facility is secure); or
2. Extend the postclosure care period applicable to the hazardous waste management unit or facility if the cabinet 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 34.020 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 never be allowed to disturb the integrity of the final cover, liner(s), or any other components of any 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.

Section 9. Postclosure Plan; Amendment of Plan. (1) Written plan. The owner or operator of a hazardous waste disposal unit shall have a written postclosure plan. In addition, certain waste piles and certain surface impoundments from which the owner or operator intends to remove or decontaminate the hazardous wastes at partial or final closure are required by Section 6(3)(a)2 of 401 KAR 34:200, and Section 8(3)(a)2 of 401 KAR 34:210 to have contingent postclosure plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent postclosure plans under Section 6(3)(a)2 of 401 KAR 34:200 and Section 8(3)(a)2 of 401 KAR 34:210 shall submit a postclosure plan to the cabinet within ninety (90) days from the date that the owner or operator or cabinet determines that the hazardous waste management unit shall be closed as a landfill, subject to the requirements of Sections 8 to 11 of this administrative regulation. The plan shall be submitted with the permit application, in accordance with Section 2(12) of 401 KAR 38:090, and approved by the cabinet as part of the permit issuance procedures under 401 KAR Chapter 38. In accordance with Section 3 of 401 KAR 38:030, the approved postclosure plan shall become a condition of any hazardous waste site or facility permit issued.

(2) 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 those activities, and include at least:

(a) A description of the planned monitoring activities and frequencies at which they will be performed to comply with 401 KAR 34:060, 401 KAR 34:200, 401 KAR 34:210, 401 KAR 34:220, 401 KAR 34:230, and 401 KAR 34:250 during the postclosure care period; and

(b) A description of the planned maintenance activities, and 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 34:060, 401 KAR 34:200, 401 KAR 34:210, 401 KAR 34:220, 401 KAR 34:230, and 401 KAR 34:250; and

2. The function of the monitoring equipment in accordance with the requirements of 401 KAR 34:060, 401 KAR 34:200, 401 KAR 34:210, 401 KAR 34:220, 401 KAR 34:230, and 401 KAR 34:250; 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.

(3) Until final closure of the facility, a copy of the approved postclosure plan shall be furnished to the cabinet upon request, including request by mail. After final closure has been certified, the person or office specified in subsection (2)(c) of this section shall keep the approved postclosure plan during the remainder of the postclosure period.

(4) Amendment of plan. The owner or operator shall request a permit modification to authorize a change in the approved postclosure plan in accordance with the applicable requirements of 401 KAR Chapter 38. The written request shall include a copy of the amended postclosure plan for approval by the cabinet.

(a) The owner or operator may submit a written request to the cabinet for a permit modification to amend the postclosure plan at any time during the active life of the facility or during the postclosure care period.

(b) The owner or operator shall submit a written request for a permit modification to authorize a change in the approved postclosure plan whenever:

1. Changes in operating plans or facility design affect the approved postclosure plan; or

2. There is a change in the expected year of final closure, if applicable; or

3. Events which occur during the active life of the facility, including partial and final closures, affect the approved postclosure plan.

(e) The owner or operator shall submit a written request for a permit modification 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. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to submit a contingent postclosure plan under Section 6(3)(a)2 of 401 KAR 34:200 and Section 8(3)(a)2 of 401 KAR 34:210, shall submit a postclosure plan to the cabinet no later than ninety (90) days after the date that the owner or operator or cabinet determines that the hazardous waste management unit shall be closed as a landfill, subject to the requirements of Section 6 of 401 KAR 34:230. The cabinet shall approve, disapprove, or modify this plan in accordance with the procedures in 401 KAR Chapter 38. In accordance with Section 3 of 401 KAR 38:030, the approved postclosure plan shall become a permit condition.

(d) The cabinet may request modifications to the plan under the conditions described in paragraph (b) of this subsection. The owner or operator shall submit the modified plan no later than sixty (60) days after the cabinet's request, or no later than ninety (90) days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent postclosure plan. Any modifications requested by the cabinet shall be approved, disapproved, or modified in accordance with the procedures in 401 KAR Chapter 38.

(5) For existing disposal facilities within the 100 year flood plain, the postclosure plan and cost estimates shall reflect compliance with the requirements in Section 9(2) of 401 KAR 34:020 to prevent washout of waste and protect the facility from inundation by waters of the 100 year flood.

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 a certification, signed by the owner or operator, that he has recorded the notation specified in paragraph (a) of this subsection, including a copy of the document in which the notation has been placed, to the cabinet.

(3) If the owner or operator or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes, hazardous waste residues, the liner, if any, or contaminated soils, he shall request a modification to the postclosure permit in accordance with the appli-

able requirements in 401 KAR Chapter 38. 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. If he is granted a permit modification or otherwise granted approval to conduct such 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 during title search; or

(b) The addition of a notation to the deed or other instrument indicating the removal of the hazardous waste.

Section 11. Certification of Completion of Postclosure Care. No later than sixty (60) days after completion of the established 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 engineer. Documentation supporting the engineer's certification shall be furnished to the cabinet upon request until he releases the owner or operator from the financial assurance requirements for postclosure care under Section 12 of 401 KAR 34:100.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

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

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 C.F.R. 264 Subpart I

STATUTORY AUTHORITY: KRS 224.01-100, 224.46-520 [40 C.F.R. 264 Subpart I]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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. The subject matter shall be governed by 40 C.F.R. 264 170, effective July 1, 2005.

Section 2. Condition of Containers. The subject matter shall be governed by 40 C.F.R. 264 171, effective July 1, 2005.

Section 3. Compatibility of Waste with Containers. The subject matter shall be governed by 40 C.F.R. 264 172, effective July 1, 2005.

Section 4. Management of Containers. The subject matter shall be governed by 40 C.F.R. 264 173, effective July 1, 2005.

Section 5. Inspections. The subject matter shall be governed

by 40 C.F.R. 264 174, effective July 1, 2005.

Section 6. Containment. The subject matter shall be governed by 40 C.F.R. 264.175, effective July 1, 2005.

Section 7. Special Requirements for Ignitable or Reactive Waste. The subject matter shall be governed by 40 C.F.R. 264 176, effective July 1, 2005.

Section 8. Special Requirements for Incompatible Wastes. The subject matter shall be governed by 40 C.F.R. 264.177, effective July 1, 2005.

Section 9. Closure. The subject matter shall be governed by 40 C.F.R. 264.178, effective July 1, 2005.

Section 10. Air Emission Standards. The subject matter shall be governed by 40 C.F.R. 264.179, effective July 1, 2005. [This administrative regulation applies to owners and operators of all hazardous waste sites or facilities that 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 pump 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 dioxin, dibenzofurane, and phenolic).

~~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 coil 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.]~~

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 34:190. Tank systems [Tanks].

RELATES TO. KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 C.F.R. 264 Subpart J
STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520[~~40 C.F.R. 264 Subpart J~~]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 administrative regulation establishes implements provisions of KRS

224.46-520 by establishing] minimum standards for tanks. [This administrative regulation is equivalent to the corresponding federal regulations except the text of the federal regulations referenced in this administrative regulation includes dates that occurred before the effective date of the incorporation of these requirements into this administrative regulation. Such dates shall not be construed as creating a retroactive right or obligation under the Kentucky Hazardous Waste Regulations when that right or obligation did not exist in this regulation prior to the date the federal regulations were referenced. If a right or obligation existed under federal regulations based on a date in federal regulations and there is a period from the date cited in the incorporated text until the date they initially took effect in this administrative regulation, nothing in this administrative regulation shall contravene or countermand the legal application of the federal regulation for that period.] [To implement provisions of KRS 224.46-520 and to establish minimum standards for tanks.]

Section 1. Applicability. (1) The subject matter shall be governed by 40 C.F.R. 264.190, effective July 1, 2005.

Section 2. Assessment of Existing Tank System's Integrity. The subject matter shall be governed by 40 C.F.R. 264.191, effective July 1, 2005.

Section 3. Design and Installation [Installation] of New Tank Systems or Components. The subject matter shall be governed by 40 C.F.R. 264.192, effective July 1, 2005.

Section 4. Containment and Detection. The subject matter shall be governed by 40 C.F.R. 264.193, effective July 1, 2005.

Section 5. General Operating Requirements. The subject matter shall be governed by 40 C.F.R. 264.194, effective July 1, 2005.

Section 6. Inspections. The subject matter shall be governed by 40 C.F.R. 264.195, effective July 1, 2005.

Section 7. Response to leaks or Spills and Disposition of Leaking or Unfit-for-Use Tank Systems. The subject matter shall be governed by 40 C.F.R. 264.196, effective July 1, 2005.

Section 8. Closure and Postclosure Care. The subject matter shall be governed by 40 C.F.R. 264.197, effective July 1, 2005.

Section 9. Special Requirements for Ignitable or Reactive Wastes. The subject matter shall be governed by 40 C.F.R. 264.198, effective July 1, 2005.

Section 10. Special Requirements for Incompatible Wastes. The subject matter shall be governed by 40 C.F.R. 264.199, effective July 1, 2005.

Section 11. Air Emission Standards. The subject matter shall be governed by 40 C.F.R. 264.200, effective July 1, 2005.

Section 12. Effective Dates. (1) Dates included in the federal regulations referenced in this administrative regulation that occurred before the effective date of this administrative regulation shall not be construed as creating a retroactive right or obligation under the Kentucky hazardous waste administrative regulations if that right or obligation did not exist in this administrative regulation prior to the date the federal regulations were referenced.

(2) If a right or obligation existed under federal regulations based on a date in federal regulations, and there is a period from the date cited in the text until the date the requirements initially became effective in this administrative regulation, this administrative regulation shall not contravene or countermand the legal application of the federal regulation for that period. [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 9005 (paint filter liquids test) as described in "Test Methods for Evaluating Solid Wastes. Physical-Chemical Methods" (EPA Publication No. SW-846) referenced in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 34.010.

(2) Tank systems, including sumps, as defined in Section 1 of 401 KAR 34.190, 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, 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 sulfide 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 dislodgment 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)(e) 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 contain-

ment 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 36. 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 C.F.R. 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.

(e) 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) Overflow 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 overflow 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 these 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 C.F.R. 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 waste 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

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 C.F.R. 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.]

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: November 28, 2006 at 10 a.m.
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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:200. Surface Impoundments.

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 C.F.R. 264 Subpart K
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520[49 C.F.R. 264 Subpart K]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 [implementations provisions of KRS 224.46-520 and 224.46-530 relative to] surface impoundments of hazardous waste. [To implement provisions of KRS 224.46-520 relative to surface impoundments.]

Section 1. Applicability. The subject matter shall be governed

by 40 C.F.R. 264.220, effective July 1, 2005.

Section 2. Design and Operating Requirements. (1) The subject matter shall be governed by 40 C.F.R. 264.221, except 40 C.F.R. 264.221(c)(4), effective July 1, 2005.

(2) The citation to Section 3004 of RCRA in the federal regulation referred to in subsection (1) of this section shall be replaced with the requirements of this administrative regulation.

(3) The citation to Section 3005(c) of RCRA in the federal regulation referred to in subsection (1) of this section shall be replaced with KRS 224.40-310 and 224.46-520.

Section 3. Action Leakage Rate The subject matter shall be governed by 40 C.F.R. 264.222, effective July 1, 2005.

Section 4. Response Actions. The subject matter shall be governed by 40 C.F.R. 264.223, effective July 1, 2005.

Section 5. Monitoring and Inspection. The subject matter shall be governed by 40 C.F.R. 264.226, effective July 1, 2005.

Section 6. Emergency Repairs and Contingency Plans. The subject matter shall be governed by 40 C.F.R. 264.227, effective July 1, 2005.

Section 7. Closure and Postclosure Care The subject matter shall be governed by 40 C.F.R. 264.228, effective July 1, 2005.

Section 8. Special Requirements for Ignitable or Reactive Wastes The subject matter shall be governed by 40 C.F.R. 264.229, effective July 1, 2005.

Section 9. Special Requirements for Incompatible Wastes. The subject matter shall be governed by 40 C.F.R. 264.230, effective July 1, 2005.

Section 10. Special Requirements for Hazardous Wastes FO20, FO21, FO22, FO23, FO26, and FO27. The subject matter shall be governed by 40 C.F.R. 264.231, effective July 1, 2005.

Section 11. Air Emission Standards. The subject matter shall be governed by 40 C.F.R. 264.232, effective July 1, 2005. [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, climate 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 require-

ments 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.

(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 1×10^{-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 1×10^{-4} 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 3×10^{-4} m²/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 pressure 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 34.030, 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. 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, 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; overflowing; 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 requirements 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 pressure).

(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 6. 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 34.010 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 moni-

toring techniques.

(2) The cabinet may determine that additional design, operating, and monitoring requirements are necessary for surface impoundments managing hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27 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.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:210. Waste piles.

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.70, 224 99, 40 C.F.R. 264 Subpart L

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 40 C.F.R. 264 Subpart L

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 [implements provisions of KRS 224.46-520 and] establishes minimum standards for waste piles, [to implement provisions of KRS 224.46-520 and to establish minimum standards for waste piles.]

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 264.250, effective July 1, 2005.

Section 2. Design and Operating Requirements. (1) The subject matter shall be governed by 40 C.F.R. 264.251, except 40 C.F.R. 264.251(c)(5), effective July 1, 2005.

(2) The citation section 3004 of RCRA in the federal regulation referred to in subsection (1) of this section shall be replaced with the requirements of this administrative regulation.

Section 3. Action Leakage Rate. The subject matter shall be governed by 40 C.F.R. 264.252, effective July 1, 2005.

Section 4. Response Actions. The subject matter shall be governed by 40 C.F.R. 264.253, effective July 1, 2005.

Section 5. Monitoring and Inspections. The subject matter shall be governed by 40 C.F.R. 264.254, effective July 1, 2005.

Section 6. Special Requirements for Ignitable or Reactive Wastes. The subject matter shall be governed by 40 C.F.R. 264.256, effective July 1, 2005.

Section 7. Special Requirements for Incompatible Wastes. The subject matter shall be governed by 40 C.F.R. 264.257, effective July 1, 2005.

Section 8. Closure and Postclosure Care. The subject matter shall be governed by 40 C.F.R. 264.258, effective July 1, 2005.

Section 9. Special Requirements for Hazardous Wastes FO20, FO21, FO22, FO23, FO26, and FO27. The subject matter shall be governed by 40 C.F.R. 264.259, effective July 1, 2005. [(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 pre-

vent 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 20, 1992, each lateral expansion of a waste pile unit on which construction commences after July 20, 1992, and each replacement of an existing waste pile unit that is to commence reuse after July 20, 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.

(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 1×10^{-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 1×10^{-3} 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 3×10^{-4} m²/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 alternate 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 monfills 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 main-

tain 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 cump. Unless the cabinet approves a different calculation, the average daily flow rate for each cump 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 cump, 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 lances, 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 cump 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 subsolls 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 subsolls 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 subsolls 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 FO20, FO21, FO22, FO23, FO26, and FO27. (1) Hazardous waste numbers FO20, FO21, FO22, FO23, FO26, and FO27 (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 FO20, FO21, FO22, FO23, FO26, and FO27 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.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:220. Land treatment.

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 C.F.R. 264 Subpart M

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520[40 C.F.R. 264 Subpart]

NECESSITY, FUNCTION, AND CONFORMITY: 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 [im-] plements provisions of KRS 224.46-520 by establishing] standards for hazardous waste land treatment facilities. [To implement provisions of KRS 224.46-520 and to establish minimum standards for hazardous waste land treatment facilities.]

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 264.270, effective July 1, 2005.

Section 2. Treatment Program. The subject matter shall be governed by 40 C.F.R. 264.271, effective July 1, 2005.

Section 3. Treatment Demonstration. The subject matter shall be governed by 40 C.F.R. 264.272, effective July 1, 2005.

Section 4. Design and Operating Requirements. The subject matter shall be governed by 40 C.F.R. 264.273, effective July 1, 2005.

Section 5. Food Chain Crops. The subject matter shall be governed by 40 C.F.R. 264.276, effective July 1, 2005.

Section 6. Unsaturated Zone Monitoring. The subject matter shall be governed by 40 C.F.R. 264.278, effective July 1, 2005.

Section 7. Recordkeeping. The subject matter shall be governed by 40 C.F.R. 264.279, effective July 1, 2005.

Section 8. Closure and Postclosure Care. The subject matter shall be governed by 40 C.F.R. 264.280, effective July 1, 2005.

Section 9. Special Requirements for Ignitable or Reactive Wastes. The subject matter shall be governed by 40 C.F.R. 264.281, effective July 1, 2005.

Section 10. Special Requirements for Incompatible Wastes. The subject matter shall be governed by 40 C.F.R. 264.282, effective July 1, 2005.

Section 11. Special Requirements for Hazardous Wastes FO20, FO21, FO22, FO23, FO26, and FO27. The subject matter shall be governed by 40 C.F.R. 264.283, effective July 1, 2005. [This administrative regulation applies to owners and operators of facilities that treat and dispose of hazardous waste in land treatment units, except as Section 1 of 401 KAR 34:010 provides otherwise.

Section 2. Treatment Program. (1) An owner or operator subject to this administrative regulation shall establish a land treatment program that is designed to ensure that hazardous constituents placed in or on the treatment zone are degraded, transformed, or immobilized within the treatment zone. The cabinet shall specify in the facility permit the elements of the treatment program, including:

(a) The wastes that are capable of being treated at the unit based on a demonstration under Section 3 of this administrative regulation;

(b) Design measures and operating practices necessary to maximize the success of degradation, transformation, and immobilization processes in the treatment zone in accordance with Section 4(1) of this administrative regulation; and

(c) Unsaturated zone monitoring provisions meeting the requirements of Section 6 of this administrative regulation.

(2) The cabinet shall specify in the facility permit the hazardous constituents that shall be degraded, transformed, or immobilized under this administrative regulation. Hazardous constituents are constituents identified in 401 KAR 31:170 that are reasonably expected to be in, or derived from, waste placed in or on the treat-

ment zone, and all maximum groundwater contaminant levels as identified in Table I of Section 5 of 401 KAR 34.060.

(3) The cabinet shall specify the vertical and horizontal dimensions of the treatment zone in the facility permit. The treatment zone is the portion of the unsaturated zone below and including the land surface in which the owner or operator intends to maintain the conditions necessary for effective degradation, transformation, or immobilization of hazardous constituents. The maximum depth of the treatment zone shall be:

- (a) No more than one and five tenths (1.5) meters (approximately five (5) feet) from the initial soil surface; and
- (b) More than one (1) meter (approximately three (3) feet) above the seasonal high water table.

Section 3. Treatment Demonstration. (1) For each waste that will be applied to the treatment zone, the owner or operator shall demonstrate, prior to application of the waste, that hazardous constituents in the waste can be completely degraded, transformed, or immobilized in the treatment zone.

(2) In making this demonstration, the owner or operator may use field tests, laboratory analyses, available data, or, in the case of existing units, operating data. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the demonstration required under subsection (1) of this section, he shall obtain a treatment or disposal permit under Section 4 of 401 KAR 38.060. The cabinet shall specify in this permit the testing, analytical, design, and operating requirements (including the duration of the tests and analyses, and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone, monitoring procedures, closure and cleanup activities) necessary to meet the requirements in subsection (3) of this section.

(3) Any field test or laboratory analysis conducted in order to make a demonstration under subsection (1) of this section shall:

(a) Accurately simulate the characteristics and operating conditions for the proposed land treatment unit including:

- 1. The characteristics of the waste (including the presence of constituents from 401 KAR 31.170);
- 2. The climate in the area;
- 3. The topography of the surrounding area;
- 4. The characteristics of the soil in the treatment zone (including depth); and
- 5. The operating practices to be used at the unit.

(b) Be likely to show that hazardous constituents in the waste to be tested will be completely degraded, transformed, or immobilized in the treatment zone of the proposed land treatment unit; and

(c) Be conducted in a manner that protects human health and the environment considering:

- 1. The characteristics of the waste to be tested;
- 2. The operating and monitoring measures taken during the course of the test;
- 3. The duration of the test;
- 4. The volume of waste used in the test; and
- 5. In the case of field tests, the potential for migration of hazardous constituents to groundwater or surface water.

Section 4. Design and Operating Requirements. The cabinet shall specify in the facility permit how the owner or operator shall design, construct, operate, and maintain the land treatment unit in compliance with this section.

(1) The owner or operator shall design, construct, operate, and maintain the unit to maximize the degradation, transformation, and immobilization of hazardous constituents in the treatment zone. The owner or operator shall design, construct, operate, and maintain the unit in accord with all design and operating conditions that were used in the treatment demonstration under Section 3 of this administrative regulation. At a minimum, the cabinet shall specify the following in the facility permit:

- (a) The rate and method of waste application to the treatment zone;
- (b) Measures to control soil pH;
- (c) Measures to enhance microbial or chemical reactions (fertilization, tilling, for example); and
- (d) Measures to control the moisture content of the treatment zone.

(2) The owner or operator shall design, construct, operate, and maintain the treatment zone to minimize run-off of hazardous constituents during the active life of the land treatment unit.

(3) The owner or operator shall design, construct, operate, and maintain a run-on control system capable of preventing flow onto the treatment zone during peak discharge from at least a twenty-five (25) year storm.

(4) 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.

(5) 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 the design capacity of the system.

(6) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator shall manage the unit to control wind dispersal.

(7) The owner or operator shall inspect the unit weekly and after storms to detect evidence of:

- (a) Deterioration, malfunctions, or improper operation of run-on and run-off controls systems; and
- (b) Improper functioning of wind dispersal control measures.

(8) New land treatment facilities shall be located entirely above the seasonal high water table and out of the 100 year flood plain, in accordance with Section 9(2) of 401 KAR 34.020.

Section 5. Food Chain Crops. The cabinet may allow the growth of food chain crops in or on the treatment zone only if the owner or operator satisfies the conditions of this section. The cabinet shall specify in the facility permit the specific food chain crops which may be grown:

(1)(a) The owner or operator shall demonstrate that there is no risk to human health caused by the growth of such crops in or on the treatment zone by demonstrating, prior to the planting of such crops, that hazardous constituents other than cadmium:

- 1. Will not be transferred to the food or food portions of the crop by plant uptake or direct contact, and will not otherwise be ingested by food chain animals (by grazing for example); or
- 2. Will not occur in greater concentrations in or on the food or food portions of crops grown on the treatment zone than in or on identical portions of the same crops grown on untreated soils under similar conditions in the same region.

(b) The owner or operator shall make the demonstration required under this subsection prior to the planting of crops at the facility of all constituents identified in 401 KAR 31:170 that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone. The owner or operator shall determine all maximum groundwater contaminant levels as identified in Table I of Section 5 of 401 KAR 34.060, and soil pH and submit test results as part of the demonstration required by this subsection.

(c) In making a demonstration under this subsection, the owner or operator may use field tests, greenhouse studies, available data, or, in the case of existing units, operating data, and shall:

- 1. Base the demonstration on conditions similar to those present in the treatment zone, including soil characteristics (for example, pH, cation exchange capacity), specific wastes, application rates, application methods, and crops to be grown; and
- 2. Describe the procedures used in conducting any tests, including the sample selection criteria, sample size, analytical methods, and statistical procedures.

(d) If the owner or operator intends to conduct field tests or greenhouse studies in order to make the demonstration required under this subsection, he shall obtain a permit for conducting such activities.

(2) The owner or operator shall comply with the following conditions if cadmium is contained in wastes applied to the treatment zone:

- (a) 1. The pH of the waste and soil mixture shall be six and five tenths (6.5) or greater at the time of each waste application, except for waste containing cadmium at concentrations of two (2) mg/kg (dry weight) or less;
- 2. The annual application of cadmium from waste shall not exceed five tenths (0.5) kilograms per hectare (kg/ha) on land used

for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food chain crops, the annual cadmium application rate shall not exceed the rates in Table 1.

Table 1	
Time Period	Annual Cd application rate (kilograms per hectare)
Present to June 30, 1984	2.0
July 1, 1984–December 31, 1986	1.25
Beginning Jan. 1, 1987	0.5

3. The cumulative application of cadmium from waste shall not exceed five (5) kg/ha if the waste and soil mixture has a pH of less than six and five tenths (6.5); and

4. If the waste and soil mixture has a pH of six and five tenths (6.5) or greater or is maintained at a pH of six and five tenths (6.5) or greater during crop growth, the cumulative application of cadmium from waste shall not exceed: five (5) kg/ha if soil cation exchange capacity (CEC) is less than five (5) meq/100g; ten (10) kg/ha if soil CEC is 5-15 meq/100g; and twenty (20) kg/ha if soil CEC is greater than fifteen (15) meq/100g; or

(b) 1. Animal feed shall be the only food chain crop produced;

2. The pH of the waste and soil mixture shall be six and five tenths (6.5) or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level shall be maintained whenever food chain crops are grown;

3. There shall be an operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The operating plan shall describe the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses; and

4. Future property owners shall be notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food chain crops shall not be grown except in compliance with subsection (2)(b) of this section.

Section 6. Unsaturated Zone Monitoring. An owner or operator subject to this administrative regulation shall establish an unsaturated zone monitoring program to discharge the following responsibilities:

(1) The owner or operator shall monitor the soil and soil-pore liquid to determine whether hazardous constituents migrate out of the treatment zone.

(a) The cabinet will specify the hazardous constituents to be monitored in the facility permit. The hazardous constituents to be monitored are those specified under Section 2(2) of this administrative regulation.

(b) The cabinet may require monitoring for principal hazardous constituents (PHCs) in lieu of the constituents specified under Section 2(2) of this administrative regulation. PHCs are hazardous constituents contained in the wastes to be applied at the unit that are the most difficult to treat, considering the combined effects of degradation, transformation, and immobilization. The cabinet shall establish PHCs, based on waste analyses, treatment demonstration, or other data, that demonstrate effective degradation, transformation, or immobilization of the PHCs will assure treatment at least equivalent levels for the other hazardous constituents in the wastes.

(2) The owner or operator shall install an unsaturated zone monitoring system that includes soil monitoring using soil cores and soil-pore liquid monitoring using devices such as lysimeters. The unsaturated zone monitoring system shall consist of a sufficient number of sampling points at appropriate locations and depths to yield samples that:

(a) Represent the quality of background soil-pore liquid quality and the chemical make-up of soil that has not been affected by leakage from the treatment zone; and

(b) Indicate the quality of soil-pore liquid and the chemical make-up of the soil below the treatment zone.

(3) The owner or operator shall establish a background value for each hazardous constituent to be monitored under subsection (1) of this section. The permit shall specify the background values

for each constituent or specify the procedures to be used to calculate the background values.

(a) Background soil values may be based on a one (1) time sampling at a background plot having characteristics similar to those of the treatment zone.

(b) Background soil-pore liquid values shall be based on at least quarterly sampling for one (1) year at a background plot having characteristics similar to those of the treatment zone.

(c) The owner or operator shall express all background values in a form necessary for the determination of statistically significant increases under subsection (6) of this section.

(d) In taking samples used in the determination of all background values, the owner or operator shall use an unsaturated zone monitoring system that complies with subsection (2)(a) of this section.

(4) The owner or operator shall conduct soil monitoring and soil-pore liquid monitoring immediately below the treatment zone. The cabinet shall specify the frequency and timing of soil and soil-pore liquid monitoring in the facility permit after considering the frequency, timing, and rate of waste application, and the soil permeability. The owner or operator shall express the results of soil and soil-pore liquid monitoring in a form necessary for the determination of statistically significant increases under subsection (6) of this section.

(5) The owner or operator shall use consistent sampling and analysis procedures that are designed to ensure sampling results that provide a reliable indication of soil-pore liquid quality and the chemical make-up of the soil below the treatment zone. At a minimum, the owner or operator shall implement procedures and techniques for:

(a) Sample collection;

(b) Sample preservation and shipment;

(c) Analytical procedures; and

(d) Chain of custody control.

(6) The owner or operator shall determine whether there is a statistically significant change over background values for any hazardous constituent to be monitored under subsection (1) of this section below the treatment zone each time he conducts soil monitoring and soil-pore liquid monitoring under subsection (4) of this section.

(a) In determining whether a statistically significant increase has occurred, the owner or operator shall compare the value of each constituent, as determined under subsection (4) of this section, to the background value for that constituent according to the statistical procedures specified in the facility permit under this subsection.

(b) The owner or operator shall determine whether there has been a statistically significant increase below the treatment zone within a reasonable time period after completion of sampling. The cabinet shall specify that time period in the facility permit after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of soil and soil-pore liquid samples.

(c) The owner or operator shall determine whether there is a statistically significant increase below the treatment zone using a statistical procedure that provides reasonable confidence that migration from the treatment zone will be identified. The cabinet shall specify a statistical procedure in the facility permit that:

1. Is appropriate for the distribution of the data used to establish background values; and

2. Provides a reasonable balance between the probability of falsely identifying migration from the treatment zone and the probability of failing to identify real migration from the treatment zone.

(7) If the owner or operator determines, pursuant to subsection (6) of this section, that there is a statistically significant increase of hazardous constituents below the treatment zone, he shall:

(a) Notify the cabinet of this finding in writing within seven (7) days. The notification shall indicate what constituents have shown statistically significant increases.

(b) Within ninety (90) days, submit to the cabinet an application for a permit modification to modify the operating practices at the facility in order to maximize the success of degradation, transformation, or immobilization processes in the treatment zone.

(8) If the owner or operator determines, pursuant to subsection

(6) of this section, that there is a statistically significant increase of hazardous constituents below the treatment zone, he may demonstrate that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this subsection in addition to submitting a permit modification application under subsection (7)(b) of this section, he is only relieved of the requirement to submit a permit modification application within the time specified in subsection (7)(b) of this section if the cabinet approves the demonstration made under this subsection showing that a source other than the regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this subsection, the owner or operator shall:

(a) Notify the cabinet in writing within seven (7) days of determining a statistically significant increase below the treatment zone that he intends to make a determination under this subsection;

(b) Within ninety (90) days, submit a report to the cabinet demonstrating that a source other than the regulated units caused the increase or that the increase resulted from error in sampling, analysis, or evaluation;

(c) Within ninety (90) days, submit to the cabinet an application for a permit modification to make any appropriate changes to the unsaturated zone monitoring program at the facility; and

(d) Continue to monitor in accordance with the unsaturated zone monitoring program established under this section.

Section 7. Recordkeeping. The owner or operator shall include hazardous waste application dates and rates in the operating record required under Section 4 of 401 KAR 34-050.

Section 8. Closure and Postclosure Care. (1) During the closure period the owner or operator shall:

(a) Continue all operations (including pH control) necessary to maximize degradation, transformation, or immobilization of hazardous constituents within the treatment zone as required under Section 4(1) of this administrative regulation, except to the extent such measures are inconsistent with subsection (1)(h) of this section;

(b) Continue all operations in the treatment zone to minimize run off of hazardous constituents as required under Section 4(2) of this administrative regulation;

(c) Maintain the run on control system required under Section 4(3) of this administrative regulation;

(d) Maintain the run off management system required under Section 4(4) of this administrative regulation;

(e) Control wind dispersal of hazardous waste if required under Section 4(6) of this administrative regulation;

(f) Continue to comply with any prohibitions or conditions concerning growth of food chain crops under Section 5 of this administrative regulation;

(g) Continue unsaturated zone monitoring in compliance with Section 6 of this administrative regulation, and

(h) Establish a vegetative cover on the portion of the facility being closed at such time that the cover will not substantially impede degradation, transformation, or immobilization of hazardous constituents in the treatment zone. The vegetative cover shall be capable of maintaining growth without extensive maintenance.

(2) For the purpose of complying with Section 6 of 401 KAR 34-070, when closure is completed the owner or operator may submit to the cabinet certification by an independent qualified soil scientist, in lieu of an engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(3) During the postclosure care period the owner or operator shall:

(a) Continue all operations (including pH control) necessary to enhance degradation and transformation and sustain immobilization of hazardous constituents in the treatment zone to the extent that such measures are consistent with other postclosure care activities.

(b) Maintain a vegetative cover over closed portions of the facility;

(c) Maintain the run on control system required under Section 4(3) of this administrative regulation;

(d) Maintain the run off management system required under Section 4(4) of this administrative regulation;

(e) Control wind dispersal of hazardous waste if required under Section 4(6) of this administrative regulation;

(f) Continue to comply with any prohibitions or conditions concerning growth of food chain crops under Section 5 of this administrative regulation, and

(g) Continue unsaturated zone monitoring in compliance with Section 6 of this administrative regulation.

(4) The owner or operator shall not be subject to administrative regulation under subsections (1)(h) and (3) of this section if the cabinet finds that the level of hazardous constituents in the treatment zone soil does not exceed the background value of those constituents by an amount that is statistically significant when using the test specified in subsection (4)(e) of this section. The owner or operator may submit such a demonstration to the cabinet for approval at any time during the closure or postclosure care periods. For the purposes of this subsection:

(a) The owner or operator shall establish background soil values and determine whether there is a statistically significant increase over those values for all hazardous constituents specified in the facility permit under Section 2(2) of this administrative regulation.

1. Background soil values may be based on a one (1) time sampling of a background plot having characteristics similar to those of the treatment zone.

2. The owner or operator shall express background values and values for hazardous constituents in the treatment zone in a form necessary for the determination of statistically significant increases under subsection (4)(e) of this section.

(b) In taking samples used in the determination of background and treatment zone values, the owner or operator shall take samples at a sufficient number of sampling points and at appropriate locations and depths to yield samples that represent the chemical make-up of soil that has not been affected by leakage from the treatment zone and the soil within the treatment zone, respectively.

(c) In determining whether a statistically significant increase has occurred, the owner or operator shall compare the value of each constituent in the treatment zone to the background value for that constituent using a statistical procedure that provides reasonable confidence that constituent presence in the treatment zone will be identified. The owner or operator shall use a statistical procedure that:

1. Is appropriate for the distribution of the data used to establish background values, and

2. Provides a reasonable balance between the probability of falsely identifying hazardous constituent presence in the treatment zone and the probability of failing to identify real presence in the treatment zone.

(5) The owner or operator shall not be subject to the requirements of 401 KAR 34-060 if the cabinet finds that the owner or operator satisfies subsection (4) of this section and if unsaturated zone monitoring under Section 6 of this administrative regulation indicates that hazardous constituents have not migrated beyond the treatment zone during the active life of the land treatment unit.

Section 9. Special Requirements for Ignitable or Reactive Waste. The owner or operator shall not apply ignitable or reactive waste to the treatment zone unless:

(1) The waste and the treatment zone meet all applicable requirements of 401 KAR Chapter 37; and

(2) The waste is immediately incorporated into the soil so that:

(a) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under Sections 4 and 5 of 401 KAR 31-030; and

(b) Section 8(2) of 401 KAR 34-020 is complied with.

Section 10. Special Requirements for Incompatible Wastes. The owner or operator shall not place incompatible wastes, or incompatible wastes and materials (see 401 KAR 34-030 for examples), in or on the same treatment zone.

Section 11. Special Requirements for Hazardous Wastes F020, F021, F022, F023, F026, and F027. (1) Hazardous wastes

numbers F020, F021, F022, F023, F026, and F027 (chlorinated dibenzo-p-dioxins, dibenzofurans, and phenols) shall not be placed in a land treatment unit unless the owner or operator operates the facility in accordance with a management plan for these wastes that is approved by the cabinet pursuant to the standards set out in this subsection, 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 co-disposed 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 land treatment facilities 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.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:230. Landfills.

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 C.F.R. 264 Subpart N, 49 C.F.R. Subtitle B [Subpart C]

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520[~~49 C.F.R. 264 Subpart N]~~

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 [implements provisions of KRS 224.46-520 by establishing] the minimum standards for hazardous waste landfills. [To implement provisions of KRS 224.46-520 and to establish the minimum standards for hazardous waste landfills.]

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 264.300, effective July 1, 2005.

Section 2 Design and Operating Requirements (1) The subject matter shall be governed by 40 C.F.R. 264.301, effective July 1, 2005, except 40 C.F.R. 264.301(c)(5) and 40 C.F.R. 264.301(l)

(2) The citation to Section 3005(c) of RCRA in the federal regulation referred to in subsection (1)[4] of this section shall be replaced with KRS 224.40-310 and 224.46-520.

(3) The citation to Section 3004 of RCRA in the federal regulation referred to in subsection (1)[4] of this section shall be replaced with 401 KAR 34:200 and this administrative regulation [34-230].

Section 3. Action Leakage Rate The subject matter shall be

governed by 40 C.F.R. 264.302, effective July 1, 2005.

Section 4. Monitoring and Inspection. The subject matter shall be governed by 40 C.F.R. 264.303, effective July 1, 2005.

Section 5. Response Actions. The subject matter shall be governed by 40 C.F.R. 264.304, effective July 1, 2005.

Section 6 Surveying and Recordkeeping. The subject matter shall be governed by 40 C.F.R. 264.309, effective July 1, 2005.

Section 7 Closure and Postclosure Care. The subject matter shall be governed by 40 C.F.R. 264.310, effective July 1, 2005.

Section 8 Special Requirements for Ignitable or Reactive Wastes. The subject matter shall be governed by 40 C.F.R. 264.312, effective July 1, 2005.

Section 9. Special Requirements for Incompatible Wastes. The subject matter shall be governed by 40 C.F.R. 264.313, effective July 1, 2005.

Section 10. Special Requirements for Bulk and Containerized Liquids The subject matter shall be governed by 40 C.F.R. 264.314, effective July 1, 2005.

Section 11 Special Requirements for Containers The subject matter shall be governed by 40 C.F.R. 264.315, effective July 1, 2005.

Section 12. Disposal of Small Containers of Hazardous Waste in Over-packed Drums, or Lab Packs [Lab Packs]. The subject matter shall be governed by 40 C.F.R. 264.316, effective July 1, 2005.

Section 13 Special Requirements for Hazardous Wastes F020, F021, F022, F023, F026, and F027. The subject matter shall be governed by 40 C.F.R. 264.317, effective July 1, 2005. [The 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 40(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 1×10^{-7} 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 20, 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(99) of 401 KAR 34:006.

(a) 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 1×10^{-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 1×10^{-6} 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 3×10^{-6} m²/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 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 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 34:006); 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 accor-

dance 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 cump. Unless the cabinet approves a different calculation, the average daily flow rate for each cump 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 loss than or equal to 1×10^{-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) Containers holding free liquids shall not be placed in a landfill unless:

(a) All free-standing 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 the administrative regulation and is disposed in accordance with Section 11 of this administrative regulation.

(3) 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 49 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30 010.

(4) Sorbents used to treat free liquids to be disposed of in landfill 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, polymerborene, 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 CO₂ Evolution (modified Sturm Test)

(5) Effective November 8, 1986, 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 drink-

ing 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, chredded, 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 C.F.R. Subpart C), 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 chipping container (49 C.F.R. Subpart C) of no more than 416 liter (approximately 110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material, determined to be nonbiodegradable in accordance with Section 9(4) of this administrative regulation, to completely absorb all of the liquid contents of the inside containers. The metal outer container shall be full after packing with inside containers and sorbent material.

(3) The 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 9(2) of 401 KAR 34.020.

(4) Incompatible wastes, as defined in 401 KAR 34.005, 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 C.F.R. Subpart C 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 man-

aging 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 pump, 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.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:240. Incinerators.

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 C.F.R. 264 Subpart O

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520 [40 C.F.R. 264 Subpart O]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 implements provisions of KRS 224.46-520 by establishing [To implement provisions of KRS 224.46-520 and to establish] minimum standards for incinerators.

Section 1. Applicability. (1) The subject matter shall be governed by 40 C.F.R. 264.340, effective [date of] July 1, 2005.

(2) The reference in 40 C.F.R. 264.340(d) to paragraphs (b)(1)(i),(ii),(iii), or (iv) of 40 C.F.R. 264.340 shall be replaced with the reference [this section is incorrect the reference should be] to paragraphs (c)(1)(i),(ii),(iii), or (iv) 40 C.F.R. 264.340.

Section 2. Waste Analysis. The subject matter shall be governed by 40 C.F.R. 264.341, effective [date of] July 1, 2005.

Section 3. Principal Organic Hazardous Constituents, or POHCs (POHCS). The subject matter shall be governed by 40 C.F.R. 264.342, effective [date of] July 1, 2005.

Section 4. Performance Standards. (1) The subject matter shall be governed by 40 C.F.R. 264.343, effective [date of] July 1, 2005.

(2) The citation to 40 C.F.R. Part 60 Appendix A in the federal regulation referenced in subsection (1) [1] of this section shall be replaced with 401 KAR 59.020.

Section 5. Hazardous Waste Incinerator Permits. The subject matter shall be governed by 40 C.F.R. 264.344, effective [date of] July 1, 2005.

Section 6. Operating Requirements. The subject matter shall be governed by 40 C.F.R. 264.345, effective [date of] July 1, 2005.

Section 7. Monitoring and Inspections. The subject matter shall be governed by 40 C.F.R. 264.347, effective [date of] July 1, 2005.

Section 8. Closure. The subject matter shall be governed by 40 C.F.R. 264.351, effective [date of] July 1, 2005. [The administrative regulation applies to owners or operators of hazardous waste sites or facilities as defined in 401 KAR 34.006 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 38.060.

(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 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 38.100, 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.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:245. Containment buildings.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.46, 40 C.F.R. Part 264 Subpart DD

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530[40 C.F.R. Part 264 Subpart DD]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 [implements provisions of KRS 224.46-520 and 224.46-530 by establishing] [To implement provisions of KRS 224.46-520 and 224.46-530 and to establish] minimum standards for containment buildings.

Section 1. Applicability. (1) The subject matter shall be governed by 40 C.F.R. 264.1100, effective July 1, 2005.

(2) The citation to Section 3004(k) of RCRA referred to in the federal regulation referenced in subsection (1)[1] of this section shall be replaced with KRS 224.01-010.

Section 2. Design and Operating Standards. The subject matter shall be governed by 40 C.F.R. 264.1101, effective July 1, 2005.

Section 3. Closure and Postclosure Care. The subject matter shall be governed by 40 C.F.R. 264.1102, effective July 1, 2005. [The requirements of this administrative regulation apply to owners or operators who store or treat hazardous waste in units designed and operated under Section 2 of this administrative regulation. Those provisions shall become effective on the effective date of this administrative regulation, although the owner or operator may notify the cabinet of their intent to be bound by this administrative regulation at an earlier time. The owner or operator is not subject to the definition of land disposal in KRS 224.01-010 provided that the unit:

(1) Is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents,

and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls;

(2) Has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel, wastes, and handling equipment within the unit;

(3) If the unit is used to manage liquids, has:

(a) A primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier;

(b) A liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier; and

(c) A secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time, unless the unit has been granted a variance from the secondary containment system requirements under Section 2(2)(d) of this administrative regulation;

(4) Has controls sufficient to prevent fugitive dust emissions to meet the no visible emission standard in Section 2(3)(a)4 of the administrative regulation; and

(5) Is designed and operated to ensure containment and prevent the migration of materials from the unit by personnel or equipment.

Section 2. Design and Operating Standards. (1) All containment buildings shall comply with the following design standards:

(a) The containment building shall be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (for example, precipitation, wind, run-on), and to assure containment of managed wastes.

(b) The floor and containment walls of the unit, including the secondary containment system if required under subsection (2) of this section, shall be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls. The unit shall be designed so that it has sufficient structural strength to prevent collapse or other failure. All surfaces to be in contact with hazardous wastes shall be chemically compatible with those wastes. The cabinet will consider standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirements of this subsection. If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for light weight doors and windows that meet these criteria:

1. They provide an effective barrier against fugitive dust emissions under subsection (3)(a)4 of this section; and

2. The unit is designed and operated in a fashion that assures that wastes will not actually come in contact with these openings.

(c) Incompatible hazardous wastes or treatment reagents shall not be placed in the unit or its secondary containment system if they may cause the unit or secondary containment system to leak, corrode, or otherwise fail.

(d) A containment building shall have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(2) For a containment building used to manage hazardous waste containing free liquids or treated with free liquids (the presence of which is determined by Paint-Filter Liquids Test (as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846, incorporated

in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30:010), a visual examination, or other appropriate means), the owner or operator shall include:

(a) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier (for example, a geomembrane covered by a concrete wear surface);

(b) A liquid collection and removal system to minimize the accumulation of liquid on the primary barrier of the containment building;

1. The primary barrier shall be sloped to drain liquids to the associated collection system; and

2. Liquids and waste shall be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time.

(c) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

1. The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum:

a. Constructed with a bottom slope of 1 percent or more; and

b. Constructed of a granular drainage material with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m²/sec or more.

2. If treatment is to be conducted in the building, an area in which such treatment will be conducted shall be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.

3. The secondary containment system shall be constructed of materials that are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlying materials and by any equipment used in the containment building. (Containment buildings can serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building can serve as an external liner system for a tank, provided it meets the requirements of Section 4(4)(a) of 401 KAR 34:190. In addition, the containment building shall meet the requirements of Section 4(2) and (3)(a) and (b) of 401 KAR 34:190 to be considered an acceptable secondary containment system for a tank.)

(d) For existing units other than ninety (90) day generator units, the cabinet may delay the secondary containment requirement for up to two (2) years, based on a demonstration by the owner or operator that the unit substantially meets the standards of this administrative regulation. In making this demonstration, the owner or operator shall:

1. Provide written notice to the cabinet of their request within 90 days of the effective date of this administrative regulation. This notification shall describe the unit and its operating practices with specific reference to the performance of existing containment systems, and specific plans for retrofitting the unit with secondary containment;

2. Respond to any comments from the cabinet on these plans within thirty (30) days; and

3. Fulfill the terms of the revised plans, if such plans are approved by the cabinet.

(3) Owners or operators of all containment buildings shall:

(a) Use controls and practices to ensure containment of the hazardous waste within the unit, and, at a minimum:

1. Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that may cause hazardous waste to be released from the primary barrier;

2. Maintain the level of the stored or treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded;

3. Take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area shall be designated to decontaminate equipment

and any residue shall be collected and properly managed, and

4. Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions (see 40 C.F.R. Part 60, Appendix A, Method 22-Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares, incorporated by reference in 401 KAR 50 015, Section 1(1)(e)(1)(qq)). In addition, all associated particulate collection devices (for example, fabric filter, electrostatic precipitator) shall be operated and maintained with sound air pollution control practices. This state of no visible emissions shall be maintained effectively at all times during routine operating and maintenance conditions, including when vehicles and personnel are entering and exiting the unit.

(b) Obtain certification by a qualified registered professional engineer that the containment building design meets the requirements of subsections (1) through (3) of this section. For units placed into operation prior to the effective date of this administrative regulation, this certification shall be placed in the facility's operating record (on-site files for generators who are not formally required to have operating records) no later than sixty (60) days after the date of initial operation of the unit. After the effective date of this administrative regulation, professional engineer certification will be required prior to operation of the unit.

(c) Throughout the active life of the containment building, if the owner or operator detects a condition that may lead to or has caused a release of hazardous waste, shall repair the condition promptly, in accordance with the following procedures:

1. Upon detection of a condition that has led to a release of hazardous waste (for example, upon detection of leakage from the primary barrier) the owner or operator shall:

a. Enter a record of the discovery in the facility operating record;

b. Immediately remove the portion of the containment building affected by the condition from service;

c. Determine what steps shall be taken to repair the containment building, remove any leakage from the secondary collection system, and establish a schedule for accomplishing the cleanup and repairs; and

d. Within seven (7) days after the discovery of the condition, notify the cabinet of the condition, and within fourteen (14) working days, provide a written notice to the cabinet with a description of the steps taken to repair the containment building, and the schedule for accomplishing the work.

2. The cabinet will review the information submitted, make a determination regarding whether the containment building shall be removed from service completely or partially until repairs and cleanup are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

3. Upon completing all repairs and cleanup the owner or operator shall notify the cabinet in writing and provide a verification, signed by a qualified, registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with subsection (3)(c)(1)(d) of this section.

(d) Inspect and record in the facility's operating record, at least once every seven (7) days, data gathered from monitoring equipment and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(4) For containment buildings that contain areas both with and without secondary containment, the owner or operator shall:

(a) Design and operate each area in accordance with the requirements enumerated in subsections (1) through (3) of this section;

(b) Take measures to prevent the release of liquids or wet materials into areas without secondary containment, and

(c) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

(5) The cabinet may waive requirements for secondary containment for a permitted containment building where the owner operator demonstrates that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and safety requirements, and where containment of

managed waste and liquids can be assured without a secondary containment system.

Section 3. Closure and Postclosure Care. (1) At closure of a containment building, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), 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. The closure plan, closure activities, cost estimates for closure, and financial responsibility for containment buildings shall meet all of the requirements specified in 401 KAR 34 070 and 34 080.

(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 requirements of Section 6 of 401 KAR 34:230 that apply to landfills. In addition, for the purposes of closure, postclosure, and financial responsibility, such a containment building 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 and 34 080.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:250. Miscellaneous units.

RELATES TO: KRS Subchapters [Chapters] 224.10, 224.40, 224.43, 224.46, 224.70, 224.99, 40 C.F.R. Part 146, 264 Subpart X [Subpart 264]

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530[40 C.F.R. Part 146, 40 C.F.R. 264 Subpart X]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 subject matter shall be governed by 40 C.F.R. 264.600, effective [date of] July 1, 2005.

Section 2. Environmental Performance Standards. The subject matter shall be governed by 40 C.F.R. 264.601, effective [date of] July 1, 2005.

Section 3. Monitoring, Analysis, Inspection, Response, Reporting, and Corrective Action. The subject matter shall be governed by 40 C.F.R. 264.602, effective [date of] July 1, 2005.

Section 4. Postclosure Care. The subject matter shall be governed by 40 C.F.R. 264.603, effective [date of] July 1, 2005. [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 these 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 C.F.R. Part 146, 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 existing 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 atmosphere, 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.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Department for Environmental Protection

Division of Waste Management

(As Amended at ARRS, May 8, 2007)

401 KAR 34:275. Air emission standards for process vents.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.70, 224.99, 40 C.F.R. 264 Subpart AA STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520 [40 C.F.R. 264 Subpart AA]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 [implements provisions of KRS 224.46-520 by establishing] [To implement provisions of KRS 224.46-520 and to establish] air emission standards for process vents.

Section 1. Definitions. The subject matter shall be governed by 40 C.F.R. 264.1031, effective July 1, 2005.

Section 2. Applicability (1) The subject matter shall be governed by 40 C.F.R. 264.1030(a) through (c) and (e), effective July 1, 2005.

(2) The citation to Section 3005 of RCRA in the federal regula-

tion referenced in subsection (1)(1) of this section shall be replaced with KRS 224.46-520 or 224.46-530.

Section 3. Standards for Process Vents. The subject matter shall be governed by 40 C.F.R. 264.1032, effective July 1, 2005.

Section 4. Standards for Closed-vent Systems and Control Devices. The subject matter shall be governed by 40 C.F.R. 264.1033, effective July 1, 2005.

Section 5. Test Methods and Procedures. The subject matter shall be governed by 40 C.F.R. 264.1034, effective July 1, 2005.

Section 6. Recordkeeping Requirements. The subject matter shall be governed by 40 C.F.R. 264.1035, effective July 1, 2005.

Section 7. Reporting Requirements. The subject matter shall be governed by 40 C.F.R. 264.1036, effective July 1, 2005. [definitions previously found in this section have been relocated to the definition administrative regulation for this chapter, which is 401 KAR 34:005.

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 renewed 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 (5)(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/csm (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/csm (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)(e) 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)(e) 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/csm (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)(e) of this section, less than the velocity, V_{min} , 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 C.F.R. 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 mole is twenty (20) degrees Centigrade;

2. K = Constant, 1.74×10^{-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 C.F.R. 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/0 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 C.F.R. 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 re-

placement 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 (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.

(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 procedure 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 C.F.R. 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 procedure 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 com-

pared with 500 ppm for determining compliance.

(3) Performance tests to determine compliance with Section 3(4) 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 C.F.R. Part 60 for velocity and Volumetric flow rate.
- 2. Method 18 in 40 C.F.R. 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 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:

$$E_D = Q_{25D} \left(\sum_{i=1}^n C_i MW_i \right) (0.0416) (10^{-6})$$

where:

- a. E_D = Total organic mass flow rate, kg/h;
- b. Q_{25D} = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dcfm^3/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, $\text{kg}/\text{kg-mol}$;
- f. 0.0416 = Conversion factor for molar volume, $\text{kg-mol}/\text{m}^3$ (@ 293 K and 760 mm Hg);
- g. 10^{-6} = Conversion from ppm, ppm^{-1} ;
- 5. The annual total organic emission rate shall be determined by the following equation:

$$E_A = (E_D)(H)$$

where:

- a. E_A = Total organic mass emission rate, kg/y ;
- b. E_D = 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_D , as determined in subparagraph 4 of this paragraph) and by summing the annual total organic mass emission rates (E_A , 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 C.F.R. 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(1) 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 mini-

imum 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, 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 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 in the control device is replaced with fresh carbon.

(g) For a carbon adsorption system operated subject to require-

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ments 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.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

**ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)**

401 KAR 34:280. Air emission standards for equipment leaks.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.70, 224.99, 40 C.F.R. 264 Subpart BB STATUTORY AUTHORITY: KRS 224.40-100, 224.46-520[~~40 C.F.R. 264 Subpart BB~~]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 [implements provisions of KRS 224.46-520 by establishing] [To implement provisions of KRS 224.46-520 and to establish] air emission standards for equipment leaks.

Section 1. Definitions. The subject matter shall be governed by 40 C.F.R. 264.1051, effective July 1, 2005.

Section 2. Applicability. (1) The subject matter shall be governed by 40 C.F.R. 264.1050(a) through (f) and (h), effective July 1, 2005.

(2) The citation to section 3005 of RCRA in the federal regulation referenced in subsection (1)] of this section shall be replaced with KRS 224.46-520 or 224.46-530.

Section 3. Standards for:] Pumps in Light Liquid Service. The subject matter shall be governed by 40 C.F.R. 264.1052, effective July 1, 2005.

Section 4. Standards for:] Compressors. The subject matter shall be governed by 40 C.F.R. 264.1053, effective July 1, 2005.

Section 5. Standards for Pressure Relief Devices In Gas or Vapor[~~Pressure Relief Devices in Gas/Vapor~~] Service. The subject matter shall be governed by 40 C.F.R. 264.1054, effective July 1, 2005.

Section 6. Standards for:] Sampling Connection Systems. The subject matter shall be governed by 40 C.F.R. 264.1055, effective July 1, 2005.

Section 7. Standards for:] Open-ended Valves or Lines. The subject matter shall be governed by 40 C.F.R. 264.1056, effective July 1, 2005.

Section 8. Standards for Valves In Gas or Vapor[~~Valves in Gas/Vapor~~] Service or in Light Liquid Service. The subject matter shall be governed by 40 C.F.R. 264.1057, effective July 1, 2005.

Section 9. Standards for Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light or Heavy Liquid Service, and Flanges and Other Connectors. The subject matter shall be governed by 40 C.F.R. 264.1058, effective July 1, 2005.

Section 10. Standards for:] Delay of Repair. The subject matter shall be governed by 40 C.F.R. 264.1059, effective July 1, 2005.

Section 11. Standards for:] Closed-vent Systems and Control Devices. The subject matter shall be governed by 40 C.F.R. 264.1060, effective July 1, 2005.

Section 12. Alternative Standards for Valves in Gas or Vapor Service or in Light Liquid Service and the [Gas/Vapor Service or in Light Liquid Service:] Percentage of Valves Allowed to Leak. The subject matter shall be governed by 40 C.F.R. 264.1061, effective July 1, 2005.

Section 13. Alternative Standards for Valves in Gas or Vapor [Gas/Vapor] Service or in Light Liquid Service: Skip Period Leak Detection and Repair. The subject matter shall be governed by 40 C.F.R. 264.1062, effective July 1, 2005.

Section 14. Test Methods and Procedures. The subject matter shall be governed by 40 C.F.R. 264.1063, effective July 1, 2005.

Section 15. Recordkeeping Requirements. The subject matter shall be governed by 40 C.F.R. 264.1064, effective July 1, 2005.

Section 16. Reporting Requirements. The subject matter shall be governed by 40 C.F.R. 264.1065, effective July 1, 2005. [As used in this administrative regulation, all terms shall have the meaning given them in 401 KAR 34-006.

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 2 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 2 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 2 to 11 of this administrative regulation if it is identified as required in Section 16(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) 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) 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 un-manned 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(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(9)(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(9)(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 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 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 C.F.R. 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 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 160-87, E 168-88, E 260-86;

(b) Method 9060 or 8240 of SW 846, incorporated in 40 C.F.R. 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.

(9) 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).

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).

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 com-

pound 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) 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 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 C.F.R. 60 Subpart VV or 40 C.F.R. 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 C.F.R. 60 or 40 C.F.R. 61 to the extent that the documentation required under this section. The documentation under the regulation at 40 C.F.R. 60 or 40 C.F.R. 61 duplicates the documentation required under this section. The documentation under 40 C.F.R. 60 or 40 C.F.R. 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(2) 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.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:281. Air emission standards for tanks, surface impoundments, and containers.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.46, 40 C.F.R. Part 264 Subpart CC

STATUTORY AUTHORITY: KRS 224 10-100, 224.46-520, 224.46-530 [~~40 C.F.R. 264 Subpart CC~~]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 [implements provisions of KRS 224 46-520 and KRS 224.46-530 by establishing] air emission standards for tanks, surface impoundments, and containers. [To implement provisions of KRS 224.46-520 and 224.46-530 and to establish air emissions standards for tanks, surface impoundments, and containers. This administrative regulation is equivalent to federal standards established in 40 C.F.R. 264 Subpart CC except the date of compliance listed in Section 1 of this administrative regulation has been changed to reflect the original effective date of this administrative regulation.]

Section 1. Applicability. (1) The subject matter shall be governed by 40 C.F.R. 264.1080 (a) through (d), effective July 1, 2005.

(2) The citation to RCRA sections 3004(u), 3004(v), or 3008(h); CERCLA authorities; or similar federal or state authorities in the federal regulation referenced in subsection (1)[1] of this section shall be replaced with KRS 224.01-400 or 224.46-530.

(3) The citation to Section 3005 of RCRA in the federal regulation referenced in subsection (1)[1] of this section shall be replaced with KRS 224.46-520.

Section 2. Standards: General [1-4] The subject matter shall be governed by 40 C.F.R. 264.1082, effective July 1, 2005 [with the following modifications, exceptions, and additions set forth in this section].

(2) The requirements contained within 40 C.F.R. 264.1082(e)(4)(ii) shall be replaced with the following: The organic hazardous constituents in the waste have been treated by the treatment technology established by the cabinet for the waste in 401 KAR 37.040 Section 3, or have been removed or destroyed by an equivalent method of treatment approved by federal EPA pursuant to 40 C.F.R. 268.42(b)1

Section 3. Waste Determination Procedures. The subject matter shall be governed by 40 C.F.R. 264.1083, effective July 1, 2005.

Section 4. Standards for Tanks. The subject matter shall be governed by 40 C.F.R. 264.1084, effective July 1, 2005.

Section 5. Standards for Surface Impoundments. The subject matter shall be governed by 40 C.F.R. 264.1085, effective July 1, 2005.

Section 6. Standards for Containers. The subject matter shall be governed by 40 C.F.R. 264.1086, effective July 1, 2005.

Section 7. Standards for Closed-vent Systems and Control Devices. The subject matter shall be governed by 40 C.F.R. 264.1087, effective July 1, 2005.

Section 8. Inspection and Monitoring Requirements. The subject matter shall be governed by 40 C.F.R. 264.1088, effective July 1, 2005.

Section 9. Recordkeeping Requirements. The subject matter shall be governed by 40 C.F.R. 264.1089, effective July 1, 2005.

Section 10. Reporting Requirements. The subject matter shall be governed by 40 C.F.R. 264.1090, effective July 1, 2005. (1) The requirements of this administrative regulation apply to owners and operators of all facilities that treat, store, or dispose of hazardous waste in tanks, surface impoundments, or containers subject to either 401 KAR 34.180, 34.190, or 34.200 except as Section 1 of 401 KAR 34.010 and subsection (2) of this section provide otherwise.

(2) The requirements of this administrative regulation do not apply to the following hazardous waste management units at the facility:

(a) A hazardous waste management unit that holds hazardous waste placed in the unit before the effective date of this administrative regulation, and in which no hazardous waste is added to the unit on or after this date.

(b) A container that has a design capacity less than or equal to 0.1 m³ (26.4 gallons).

(c) A tank in which an owner or operator has stopped adding hazardous waste and the owner or operator has begun implementing or completed closure of the tank pursuant to an approved closure plan.

(d) A surface impoundment in which an owner or operator has stopped adding hazardous waste (except to implement an approved closure plan) and the owner or operator has begun implementing or completed closure of the surface impoundment pursuant to an approved closure plan.

(e) A hazardous waste management unit that is used solely for

on-site treatment or storage of hazardous waste that is generated as the result of implementing remedial activities required under the corrective action authorities of KRS 224.01-400, or KRS 224.46-530.

(f) A hazardous waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act.

(3) For the owner and operator of a facility subject to this administrative regulation and who received a final permit under KRS 224.46-520 prior to the effective date of this administrative regulation, the requirements of this administrative regulation shall be incorporated into the permit when the permit is reissued in accordance with the requirements of Section 12 of 401 KAR 38.050 or reviewed in accordance with the requirements of Section 5(4) of 401 KAR 38.040. Until such date when the owner and operator receives a final permit incorporating the requirements of this administrative regulation, the owner and operator is subject to the requirements of 401 KAR 35.281.

(4) The requirements of this administrative regulation, except for the recordkeeping requirements specified in Section 9(9) of this administrative regulation, shall not apply to a tank or container used for the management of hazardous waste generated by organic peroxide manufacturing and its associated laboratory operations when the owner or operator of the unit meets all of the following conditions:

(a) The owner or operator identifies that the tank or container receives hazardous waste generated by an organic peroxide manufacturing process producing more than one (1) functional family of organic peroxides or multiple organic peroxides within one (1) functional family, that one (1) or more of these organic peroxides, could potentially undergo self-accelerating thermal decomposition at or below ambient temperatures, and that organic peroxides are the predominant products manufactured by the process. For the purpose of meeting the conditions of this paragraph, "organic peroxide" means an organic compound that contains the bivalent O-O structure and which may be considered to be a structural derivative of hydrogen peroxide where one (1) or both of the hydrogen atoms has been replaced by an organic radical.

(b) The owner or operator prepares documentation, in accordance with the requirements of Section 9(9) of this administrative regulation, explaining why an undue safety hazard would be created if air emission controls specified in Sections 4, 6, and 7 of this administrative regulation are installed and operated on the tanks and containers used at the facility to manage the hazardous waste generated by the organic peroxide manufacturing process or processes meeting the conditions of paragraph (a) of this subsection.

(c) The owner or operator notifies the cabinet in writing that hazardous waste generated by an organic peroxide manufacturing process or processes meeting the conditions of paragraph (a) of this subsection are managed at the facility in tanks or containers meeting the conditions of paragraph (b) of this subsection. The notification shall state the name and address of the facility, and be signed and dated by an authorized representative of the facility owner or operator.

(5) For the purposes of this administrative regulation, the abbreviations in parentheses apply to equations used in 401 KAR 35.281.

Section 2. Standards: General (1) This section applies to the management of hazardous waste in tanks, surface impoundments, and containers subject to this administrative regulation.

(2) The owner or operator shall control air emissions from each hazardous waste management unit in accordance with standards specified in Sections 4 through 7 of this administrative regulation, as applicable to the hazardous waste management unit, except as provided for in subsection (3) of this section.

(3) A hazardous waste management unit is exempted from standards specified in Section 4 through 7 of this administrative regulation provided that all hazardous waste placed in the hazardous waste management unit is determined by the owner or operator to meet either of the following conditions:

(a) The average volatile organic (VO) concentration of the hazardous waste at the point of waste origination is less than 100 parts per million by weight (ppmw). The average VO concentration shall be determined by the procedures specified in Section 3(1) of this administrative regulation.

(b) The organic content of the hazardous waste has been reduced by an organic destruction or removal process that achieves any one (1) of the following conditions:

1. A process that removes or destroys the organics contained in the hazardous waste to a level such that the average VO concentration of the hazardous waste at the point of waste treatment is less than the exit concentration limit (C_e) established for the process. The average VO concentration of the hazardous waste at the point of waste treatment and the exit concentration limit for the process shall be determined using the procedures specified in Section 3(2) of this administrative regulation.

2. A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the average VO concentration of the hazardous waste at the point of waste treatment is less than 50 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in Section 3(2) of this administrative regulation.

3. A process that removes or destroys the organics contained in the hazardous waste to a level such that the actual organic mass removal rate (MR) for the process is greater than the required organic mass removal rate (RMR) established for the process. The required organic mass removal rate and the actual organic mass removal rate for the process shall be determined using the procedures specified in Section 3(2) of this administrative regulation.

4. A biological process that destroys or degrades the organics contained in the hazardous waste, such that either of the following conditions is met:

a. The organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the organic biodegradation efficiency (R_{bio}) for the process is equal to or greater than ninety-five (95) percent. The organic reduction efficiency and the organic biodegradation efficiency for the process shall be determined in accordance with the procedures specified in Section 3(2) of this administrative regulation.

b. The total actual organic mass biodegradation rate (MR_{bio}) for all hazardous waste treated by the process is equal to or greater than the required organic mass removal rate (RMR). The required organic mass removal rate and the actual organic mass biodegradation rate for the process shall be determined using the procedures specified in Section 3(2) of this administrative regulation.

5. A process that removes or destroys the organics contained in the hazardous waste and meets all of the following conditions:

a. All of the materials entering the process are hazardous wastes.

b. From the point of waste origination through the point where the hazardous waste enters the process, the hazardous waste is continuously managed in hazardous waste management units that use air emission controls in accordance with the standards specified in Sections 4 through 7 of this administrative regulation, as applicable to the hazardous waste management unit.

c. The average VO concentration of the hazardous waste at the point of waste treatment is less than the lowest average VO concentration at the point of waste origination determined for each of the individual hazardous waste streams entering the process or 100 ppmw, whichever value is lower. The average VO concentration of each individual hazardous waste stream at the point of waste origination shall be determined using the procedure specified in Section 3(1) of this administrative regulation. The average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedure specified in Section 3(2) of this administrative regulation.

6. A hazardous waste incinerator for which the owner or operator has either:

a. Been issued a final permit under 401 KAR Chapter 38, and designs and operates the unit in accordance with the requirements of 401 KAR 34.240, or

b. Has certified compliance with the interim status requirements of 401 KAR 35.240.

7. A boiler or industrial furnace for which the owner or operator has either:

a. Been issued a final permit under 401 KAR Chapter 38, and designs and operates the unit in accordance with the requirements of

401 KAR 36.020 and 36.025; or

b. Has certified compliance with the interim status requirements of 401 KAR 36.020.

(4) When a process is used for the purpose of treating a hazardous waste to meet one (1) of the sets of conditions specified in subsections (3)(b)1 through (5) of this section, each material removed from or exiting the process that is not a hazardous waste but has an average VO concentration equal to or greater than 100 ppmw shall be managed in a hazardous waste management unit in accordance with the requirements of subsection (2) of this section.

(5) The cabinet may at any time perform or request that the owner or operator perform a waste determination for a hazardous waste managed in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of this section as follows:

(a) The waste determination for average VO concentration of a hazardous waste at the point of waste origination shall be performed using direct measurement in accordance with the applicable requirements of Section 3(1) of this administrative regulation. The waste determination for a hazardous waste at the point of waste treatment shall be performed in accordance with the applicable requirements of Section 3(2) of this administrative regulation.

(b) In a case when the owner or operator is requested to perform the waste determination, the cabinet may elect to have an authorized representative observe the collection of the hazardous waste samples used for the analysis.

(c) In a case when the results of the waste determination performed or requested by the cabinet do not agree with the results of a waste determination performed by the owner or operator using knowledge of the waste, then the results of the waste determination performed in accordance with the requirements of paragraph (a) of this subsection shall be used to establish compliance with the requirements of this administrative regulation.

(d) In a case when the owner or operator has used an averaging period greater than 1 hour for determining the average VO concentration of a hazardous waste at the point of waste origination, the cabinet may elect to establish compliance with this administrative regulation by performing or requesting that the owner or operator perform a waste determination using direct measurement based on waste samples collected within a one (1) hour period as follows:

1. The average VO concentration of the hazardous waste at the point of waste origination shall be determined by direct measurement in accordance with the requirements of Section 3(1) of this administrative regulation.

2. Results of the waste determination performed or requested by the cabinet showing that the average VO concentration of the hazardous waste at the point of waste origination is equal to or greater than 100 ppmw shall constitute noncompliance with this administrative regulation except in a case as provided for in subparagraph 3 of this paragraph.

3. For the case when the average VO concentration of the hazardous waste at the point of waste origination previously has been determined by the owner or operator using an averaging period greater than one (1) hour to be less than 100 ppmw but because of normal operating process variations the VO concentration of the hazardous waste determined by direct measurement for any given one (1) hour period may be equal to or greater than 100 ppmw, information that was used by the owner or operator to determine the average VO concentration of the hazardous waste (for example, test results, measurements, calculations, and other documentation) and recorded in the facility records in accordance with the requirements of Sections 3(1) and 9 of this administrative regulation shall be considered by the cabinet together with the results of the waste determination performed or requested by the cabinet in establishing compliance with this administrative regulation.

Section 3. Waste Determination Procedures. (1) Waste determination procedure for average (VO) concentration of a hazardous waste at the point of waste origination.

(a) An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in hazardous waste management units exempted under the provisions of Section 2(3)(a) of this administrative regulation from using air emission controls in accordance with standards specified in

Sections 4 through 7 of this administrative regulation, as applicable to the hazardous waste management unit.

(b) The VO concentration at the point of waste origination for a hazardous waste shall be determined in accordance with the procedures specified in Sections 4(1)(b) through (f) of 401 KAR 35.281.

(2) Waste determination procedures for treated hazardous waste-

(a) An owner or operator shall perform the applicable waste determinations for each treated hazardous waste placed in hazardous waste management units exempted under the provisions of Section 2(3)(b) of this administrative regulation from using air emission controls in accordance with standards specified in Sections 4 through 7 of this administrative regulation, as applicable to the hazardous waste management unit.

(b) The waste determination for a treated hazardous waste shall be performed in accordance with the procedures specified in Section 4(2)(b) through (f) of 401 KAR 35.281, as applicable to the treated hazardous waste.

(3) Procedure to determine the maximum organic vapor pressure of a hazardous waste in a tank.

(a) An owner or operator shall determine the maximum organic vapor pressure for each hazardous waste placed in tanks using air emission controls in accordance with standards specified in Section 4(3) of this administrative regulation.

(b) The maximum organic vapor pressure of the hazardous waste shall be determined in accordance with the procedures specified in Section 4(3)(b) through (d) of 401 KAR 35.281.

Section 4 Standards: Tanks. (1) This section applies to owners and operators of tanks subject to this administrative regulation into which any hazardous waste is placed except for the following tanks:

(a) A tank in which all hazardous waste entering the tank meets the conditions specified in Section 2(3) of this administrative regulation; or

(b) A tank used for biological treatment of hazardous waste in accordance with the requirements of Section 2(3)(b)4 of this administrative regulation.

(2) The owner or operator shall place the hazardous waste into one (1) of the following tanks:

(a) A tank equipped with a cover (for example, a fixed roof) that is vented through a closed vent system to a control device in accordance with the requirements specified in subsection (4) of this section;

(b) A tank equipped with a fixed roof and internal floating roof in accordance with the requirements of Section 11 of this administrative regulation;

(c) A tank equipped with an external floating roof in accordance with the requirements of Section 11 of this administrative regulation; or

(d) A pressure tank that is designed to operate as a closed system such that the tank operates with no detectable organic emissions at all times that hazardous waste is in the tank except as provided for in subsection (7) of this section.

(3) As an alternative to complying with subsection (2) of this section, an owner or operator may place hazardous waste in a tank equipped with a cover (for example, a fixed roof) meeting the requirements specified in subsection (4)(a) of this section when the hazardous waste is determined to meet all of the following conditions:

(a) The hazardous waste is neither mixed, stirred, agitated, nor circulated within the tank by the owner or operator using a process that results in splashing, frothing, or visible turbulent flow on the waste surface during normal process operations;

(b) The hazardous waste in the tank is not heated by the owner or operator except during conditions requiring that the waste be heated to prevent the waste from freezing or to maintain adequate waste flow conditions for continuing normal process operations;

(c) The hazardous waste in the tank is not treated by the owner or operator using a waste stabilization process or a process that produces an exothermic reaction; and

(d) The maximum organic vapor pressure of the hazardous waste in the tank as determined using the procedure specified in Section 3(3) of this administrative regulation is less than the following applicable value:

1. If the tank design capacity is equal to or greater than 151 m³ (39,893 gallons), then the maximum organic vapor pressure shall be less than five and two tenths (5.2) kPa (gauge);

2. If the tank design capacity is equal to or greater than seventy-five (75) m³ (19,814 gallons) but less than 151 m³, then the maximum organic vapor pressure shall be less than twenty-seven and six tenths (27.6) kPa (gauge); or

3. If the tank design capacity is less than seventy-five (75) m³ (19,814 gallons), then the maximum organic vapor pressure shall be less than sixty-six and six tenths (66.6) kPa (gauge).

(4) To comply with subsection (2)(a) of this section, the owner or operator shall design, install, operate, and maintain a cover that vents the organic vapors emitted from hazardous waste in the tank through a closed vent system connected to a control device.

(a) The cover shall be designed and operated to meet the following requirements:

1. The cover and all cover openings (for example, access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable organic emissions when all cover openings are secured in a closed, sealed position.

2. Each cover opening shall be secured in a closed, sealed position (for example, covered by a gasketed lid or cap) at all times that hazardous waste is in the tank except as provided for in subsection (6) of this section.

(b) The closed vent system and control device shall be designed and operated in accordance with the requirements of Section 7 of this administrative regulation.

(5) The owner and operator shall install, operate, and maintain enclosed pipes or other closed systems, the cabinet considers a drain system that meets the requirements of 40 C.F.R. 61.346(a)(1) or 40 C.F.R. 61.346(b)(1) through (b)(3) to be a "closed system", to-

(a) Transfer all hazardous waste to the tank from another tank, surface impoundment, or container subject to this administrative regulation except for those hazardous wastes that meet the conditions specified in Section 2(3) of this administrative regulation; and

(b) Transfer all hazardous waste from the tank to another tank, surface impoundment, or container subject to this administrative regulation except for those hazardous wastes that meet the conditions specified in Section 2(3) of this administrative regulation.

(6) Each cover opening shall be secured in a closed, sealed position (for example, covered by a gasketed lid) at all times that hazardous waste is in the tank except when it is necessary to use the cover opening to:

(a) Add, remove, inspect, or sample the material in the tank;

(b) Inspect, maintain, repair, or replace equipment located inside the tank; or

(c) Vent gases or vapors from the tank to a closed vent system connected to a control device that is designed and operated in accordance with the requirements of Section 7 of this administrative regulation.

(7) One (1) or more safety devices that vent directly to the atmosphere may be used on the tank, cover, closed vent system, or control device provided each safety device meets all of the following conditions:

(a) The safety device is not used for planned or routine venting of organic vapors from the tank or closed vent system connected to a control device; and

(b) The safety device remains in a closed, sealed position at all times except when an unplanned event requires that the device open for the purpose of preventing physical damage or permanent deformation of the tank, cover, closed vent system, or control device in accordance with good engineering and safety practices for handling flammable, combustible, explosive, or other hazardous materials. An example of an unplanned event is a sudden power outage.

Section 5 Standards: Surface Impoundments. (1) This section applies to owners and operators of surface impoundments subject to this administrative regulation into which any hazardous waste is placed except for the following surface impoundments:

(a) A surface impoundment in which all hazardous waste entering the surface impoundment meets the conditions specified in Section 2(3) of this administrative regulation; or

(b) A surface impoundment used for biological treatment of hazardous waste in accordance with the requirements of Section

2(3)(b)4 of this administrative regulation.

(2) The owner or operator shall place the hazardous waste into a surface impoundment equipped with a cover (for example, an air-supported structure or a rigid cover) that is vented through a closed-vent system to a control device meeting the requirements specified in subsection (4) of this section.

(3) As an alternative to complying with subsection (2) of this section, an owner or operator may place hazardous waste in a surface impoundment equipped with a floating membrane cover meeting the requirements specified in subsection (5) of this section when the hazardous waste is determined to meet all of the following conditions:

(a) The hazardous waste is neither mixed, stirred, agitated, nor circulated within the surface impoundment by the owner or operator using a process that results in splashing, frothing, or visible turbulent flow on the waste surface during normal process operations;

(b) The hazardous waste in the surface impoundment is not heated by the owner or operator; and

(c) The hazardous waste is not treated by the owner or operator using a waste stabilization process or a process that produces an exothermic reaction.

(4) To comply with subsection (2) of this section, the owner or operator shall design, install, operate, and maintain a cover that vents the organic vapors emitted from hazardous waste in the surface impoundment through a closed-vent system connected to a control device.

(a) The cover shall be designed and operated to meet the following requirements:

1. The cover and all cover openings (for example, access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable organic emissions when all cover openings are secured in a closed, sealed position.

2. Each cover opening shall be secured in the closed, sealed position (for example, covered by a gasketed lid or cap) at all times that hazardous waste is in the surface impoundment except as provided for in subsection (7) of this section.

3. The closed-vent system and control device shall be designed and operated in accordance with Section 7 of this administrative regulation.

(5) To comply with subsection (3) of this section, the owner or operator shall design, install, operate, and maintain a floating membrane cover that meets all of the requirements specified in Section 6(5)(a) through (d) of 401 KAR 35.281.

(6) The owner or operator shall install, operate, and maintain enclosed pipes or other closed systems, the cabinet consider a drain system that meets the requirements of 40 C.F.R. 61.346(a)(1) or 40 C.F.R. 61.346(b)(1) through (b)(3) to be a "closed system", to:

(a) Transfer all hazardous waste to the surface impoundment from another tank, surface impoundment, or container subject to this administrative regulation except for those hazardous wastes that meet the conditions specified in Section 2(3) of this administrative regulation; and

(b) Transfer all hazardous waste from the surface impoundment to another tank, surface impoundment, or container subject to this administrative regulation except for those hazardous wastes that meet the conditions specified in Section 2(3) of this administrative regulation.

(7) Each cover opening shall be secured in the closed, sealed position (for example, a cover by a gasketed lid or cap) at all times that hazardous waste is in the surface impoundment except when it is necessary to use the cover opening to:

(a) Add, remove, inspect, or sample the material in the surface impoundment;

(b) Inspect, maintain, repair, or replace equipment located underneath the cover;

(c) Remove treatment residues from the surface impoundment in accordance with the requirements of Section 4 of 401 KAR 37.010; or

(d) Vent gases or vapors from the surface impoundment to a closed-vent system connected to a control device that is designed and operated in accordance with the requirements of Section 7 of this administrative regulation.

(8) One (1) or more safety devices that vent directly to the atmosphere may be installed on the cover, closed-vent system, or

control device provided each device meets all of the following conditions:

(a) The safety device is not used for planned or routine venting of organic vapors from the surface impoundment or the closed-vent system connected to a control device; and

(b) The safety device remains in a closed, sealed position at all times except when an unplanned event requires that the device open for the purpose of preventing physical damage or permanent deformation of the cover, closed-vent system, or control device in accordance with good engineering and safety practices for handling flammable, combustible, explosive, or other hazardous materials. An example of an unplanned event is a sudden power outage.

Section 6. Standards: Containers. (1) This section applies to the owners and operators of containers having design capacities greater than 0.1 m³ (26.4 gallons) subject to this administrative regulation into which any hazardous waste is placed except for a container in which all hazardous waste entering the container meets the conditions specified in Section 2(3) of this administrative regulation.

(2) An owner or operator shall manage hazardous waste in containers using the following procedures:

(a) The owner or operator shall place the hazardous waste into one (1) of the following containers except when a container is used for hazardous waste treatment as required by paragraph (b) of this subsection:

1. A container that is equipped with a cover that operates with no detectable organic emissions when all container openings (for example, lids, bungs, hatches, and sampling ports) are secured in a closed, sealed position. The owner or operator shall determine that a container operates with no detectable emissions by testing each opening on the container for leaks in accordance with Method 21 in 40 C.F.R. Part 60, Appendix A the first time any portion of the hazardous waste is placed into the container. If a leak is detected and cannot be repaired immediately, the hazardous waste shall be removed from the container and the container not used to meet the requirements of this subsection until the leak is repaired and the container is retested.

2. A container having a design capacity less than or equal to 0.46 m³ (121.5 gallons) that is equipped with a cover and complies with all applicable Department of Transportation regulations on packaging hazardous waste for transport under 49 C.F.R. Subpart C.

a. A container that is managed in accordance with the requirements of 49 C.F.R. Subpart C for the purpose of complying with this administrative regulation is not subject to any exceptions to the 49 C.F.R. Subpart C regulations, except as noted in paragraph (a)2b of this subsection.

b. A lab pack that is managed in accordance with the requirements of 49 C.F.R. Subpart C for the purpose of complying with this administrative regulation may comply with the exceptions for combination packagings specified in 49 C.F.R. Subpart C.

3. A container that is attached to or forms a part of any truck, trailer, or railcar; and that has been demonstrated within the preceding 12 months to be organic vapor tight when all container openings are in a closed, sealed position (for example, the container hatches or lids are gasketed and latched). For the purpose of meeting the requirements of this subsection, a container is organic vapor tight if the container sustains a pressure change of not more than 750 pascals (0.11 psi) within 5 minutes after it is pressurized to a minimum of 4,500 pascals (0.65 psi). This condition is to be demonstrated using the pressure test specified in Method 27 of 40 C.F.R. Part 60, Appendix A, and a pressure measurement device that has a precision of ±2.5 mm water and that is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

(b) An owner or operator treating hazardous waste in a container by either a waste stabilization process, any process that requires the addition of heat to the waste, or any process that produces an exothermic reaction shall meet the following requirements:

1. Whenever it is necessary for the container to be open during the treatment process, the container shall be located inside an enclosure that is vented through a closed-vent system to a control device.

2. The enclosure shall be a structure that is designed and operated in accordance with the following requirements:

a. The enclosure shall be a structure that is designed and oper-

ated with sufficient airflow into the structure to capture the organic vapors emitted from the hazardous waste in the container and vent the vapors through the closed vent system to the control device.

b. The enclosure may have permanent or temporary openings to allow worker access; passage of containers through the enclosure by conveyor or other mechanical means; entry of permanent mechanical or electrical equipment; or to direct airflow into the enclosure. The pressure drop across each opening in the enclosure shall be maintained at a pressure below atmospheric pressure such that whenever an open container is placed inside the enclosure no organic vapors released from the container exit the enclosure through the opening. The owner or operator shall determine that an enclosure achieves this condition by measuring the pressure drop across each opening in the enclosure. If the pressure within the enclosure is equal to or greater than atmospheric pressure then the enclosure does not meet the requirements of this section.

3. The closed vent system and control device shall be designed and operated in accordance with the requirements of Section 7 of this administrative regulation.

(c) An owner or operator transferring hazardous waste into a container having a design capacity greater than 0.46 m³ (121.5 gallons) shall meet the following requirements:

1. Hazardous waste transfer by pumping shall be performed using a conveyance system that uses a tube (for example, pipe, hose) to add the waste into the container. During transfer of the waste into the container, the cover shall remain in place and all container openings shall be maintained in a closed, sealed position except for those openings through which the tube enters the container and as provided for in subsection (3) of this section. The tube shall be positioned in a manner such that either the:

a. Tube outlet continuously remains submerged below the waste surface at all times waste is flowing through the tube;

b. Lower bottom edge of the tube outlet is located at a distance no greater than two inside diameters of the tube or 15.25 cm (6 inches), whichever distance is greater, from the bottom of the container at all times waste is flowing through the tube; or

c. Tube is connected to a permanent port mounted on the bottom of the container so that the lower edge of the port opening inside the container is located at a distance equal to or less than 15.25 cm (6 inches) from the container bottom.

2. Hazardous waste transferred by a means other than pumping shall be performed such that during transfer of the waste into the container, the cover remains in place and all container openings are maintained in a closed, sealed position except for those openings through which the hazardous waste is added and as provided for in subsection (4) of this section.

(3) Each container opening shall be maintained in a closed, sealed position (for example, covered by a gasketed lid) at all times that hazardous waste is in the container except when it is necessary to use the opening to:

(a) Add, remove, inspect, or sample the material in the container;

(b) Inspect, maintain, repair, or replace equipment located inside the container; or

(c) Vent gases or vapors from a cover located over or enclosing an open container to a closed vent system connected to a control device that is designed and operated in accordance with the requirements of Section 7 of this administrative regulation.

(4) One (1) or more safety devices that vent directly to the atmosphere may be used on the container, cover, enclosure, closed vent system, or control device provided each device meets all of the following conditions:

(a) The safety device is not used for planned or routine venting of organic vapors from the container, cover, enclosure, or closed vent system connected to a control device, and

(b) The safety device remains in a closed, sealed position at all times except when an unplanned event requires that the device open for the purpose of preventing physical damage or permanent deformation of the container, cover, enclosure, closed vent system, or control device in accordance with good engineering and safety practices for handling flammable, combustible, explosive, or other hazardous materials. An example of an unplanned event is a sudden power outage.

ences. (1) This section applies to each closed vent system and control device installed and operated by the owner or operator to control air emissions in accordance with standards of this administrative regulation.

(2) The closed vent system shall meet the following requirements:

(a) The closed vent system shall route the gases, vapors, and fumes emitted from the hazardous waste in the hazardous waste management unit to a control device that meets the requirements specified in subsection (3) of this section.

(b) The closed vent system shall be designed and operated in accordance with the requirements specified in Section 4(11) of 401 KAR 34:275.

(c) If the closed vent system contains one (1) or more bypass devices that may be used to divert all or a portion of the gases, vapors, or fumes from entering the control device, the owner or operator shall meet the following requirements:

1. For each bypass device except as provided for in subparagraph 2 of this paragraph, the owner or operator shall either:

a. Install, calibrate, maintain, and operate a flow indicator at the inlet to the bypass device that indicates at least once every 15 minutes whether gas, vapor, or fume flow is present in the bypass device; or

b. Secure a valve installed at the inlet to the bypass device in the closed position using a car seal or a lock and key type configuration. The owner or operator shall visually inspect the seal or closure mechanism at least once every month to verify that the valve is maintained in the closed position.

2. Low leg drains, high point bleeds, analyzer vents, open ended valves or lines, and safety devices are not subject to the requirements of subparagraph 1 of this paragraph.

(3) The control device shall meet the following requirements:

(a) The control device shall be one (1) of the following devices:

1. A control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight;

2. An enclosed combustion device designed and operated in accordance with the requirements of Section 4(3) of 401 KAR 34:275; or

3. A flare designed and operated in accordance with the requirements of Section 4(4) of 401 KAR 34:275.

(b) The control device shall be operating at all times when gases, vapors, or fumes are vented from the hazardous waste management unit through the closed vent system to the control device.

(c) The owner or operator using a carbon adsorption system to comply with paragraph (a) of this subsection shall operate and maintain the control device in accordance with the following requirements:

1. Following the initial startup of the control device, all activated carbon in the control device shall be replaced with fresh carbon on a regular basis in accordance with the requirements of Section 4(7) or (8) of 401 KAR 34:275.

2. All carbon removed from the control device shall be managed in accordance with the requirements of Section 4(13) of 401 KAR 34:275.

(d) An owner or operator using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with subsection (3)(a) of this section shall operate and maintain the control device in accordance with the requirements of Section 4(10) of 401 KAR 34:275.

(e) The owner or operator shall demonstrate that a control device achieves the performance requirements of subsection (3)(a) of this section as follows:

1. An owner or operator shall demonstrate using either a performance test as specified in subparagraph 3 of this paragraph or a design analysis as specified in subparagraph 4 of this paragraph the performance of each control device except for the following:

a. A flare;

b. A boiler or process heater with a design heat input capacity of 44 megawatts or greater;

c. A boiler or process heater into which the vent stream is introduced with the primary fuel;

d. A boiler or process heater burning hazardous waste for which the owner or operator has been issued a final permit under 401 KAR Chapter 38 and designs and operates the unit in accordance with the

requirements of 401 KAR 36.020, or

e. A boiler or process heater burning hazardous waste for which the owner or operator has certified compliance with the interim status requirements of 401 KAR 36.020.

2. An owner or operator shall demonstrate the performance of each flare in accordance with the requirements specified in Section 4(5) of 401 KAR 34.275.

3. For a performance test conducted to meet the requirements of subparagraph 1 of this paragraph, the owner or operator shall use the test methods and procedures specified in Section 5(3)(a) through (d) of 401 KAR 34.275.

4. For a design analysis conducted to meet the requirements of subparagraph 1 of this paragraph, the design analysis shall meet the requirements specified in Section 6(2)(d)3 of 401 KAR 34.275.

5. The owner or operator shall demonstrate that a carbon adsorption system achieves the performance requirements of subsection (3)(a) of this section based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery, and carbon disposal.

(f) If the owner or operator and the cabinet do not agree on a demonstration of control device performance using a design analysis then the disagreement shall be resolved using the results of a performance test performed by the owner or operator in accordance with the requirements of subparagraph 3 of this paragraph. The cabinet may choose to have an authorized representative observe the performance test.

Section 8. Inspection and Monitoring Requirements. (1) This section applies to an owner or operator using air emission controls in accordance with the requirements of Sections 4 through 7 of this administrative regulation.

(2) Each cover used in accordance with requirements of Sections 4 through 6 of this administrative regulation shall be visually inspected and monitored for detectable organic emissions by the owner or operator using the procedure specified in Section 9(6)(a) through (g) of 401 KAR 35.281 except as follows:

(a) An owner or operator is exempted from performing the cover inspection and monitoring requirements specified in Section 9(6)(a) through (g) of 401 KAR 35.281 for the following tank covers:

1. A tank internal floating roof that is inspected and monitored in accordance with the requirements of Section 11 of this administrative regulation; or

2. A tank external floating roof that is inspected and monitored in accordance with the requirements of Section 11 of this administrative regulation.

(b) If a tank is buried partially or entirely underground, an owner or operator is required to perform the cover inspection and monitoring requirements specified in Section 9(6)(a) through (g) of 401 KAR 35.281 only for those portions of the tank cover and those connections to the tank cover or tank body (for example fill ports, access hatches, gauge wells, etc.) that extend to or above the ground surface and can be opened to the atmosphere.

(c) An owner or operator is exempted from performing the cover inspection and monitoring requirements specified in Section 9(6)(a) through (g) of 401 KAR 35.281 for a container that meets all requirements specified in either Section 6(2)(a)2 or 3 of this administrative regulation.

(d) An owner or operator is exempted from performing the cover inspection and monitoring requirements specified in Section 9(6)(a) through (g) of 401 KAR 35.281 for an enclosure used to control air emissions from containers in accordance with the requirements of Section 6(2)(b) of this administrative regulation.

(3) Each closed vent system used in accordance with the requirements of Section 7 shall be inspected and monitored by the owner or operator in accordance with the procedure specified in Section 4(11) of 401 KAR 34.275.

(4) Each control device used in accordance with the requirements of Section 7 of this administrative regulation shall be inspected and monitored by the owner or operator in accordance with the procedures specified in Section 4(6) and (9) of 401 KAR 34.275.

(5) The owner or operator shall develop and implement a written plan and schedule to perform all inspection and monitoring requirements of this section. The owner or operator shall incorporate this

plan and schedule into the facility inspection plan required under Section 6 of 401 KAR 34.020.

Section 9. Recordkeeping Requirements. (1) Each owner or operator of a facility subject to requirements in this administrative regulation shall record and maintain the following information as applicable:

(a) Documentation for each cover installed on a tank in accordance with the requirements of Section 4(2)(b) or (c) of this administrative regulation that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the applicable design specifications as listed in Section 11(3) of 401 KAR 35.281.

(b) Documentation for each floating membrane cover installed on a surface impoundment in accordance with the requirements of Section 5(3) of this administrative regulation that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications listed in Section 6(6) of 401 KAR 35.281.

(c) Documentation for each enclosure used to control air emissions from containers in accordance with the requirements of Section 6(2)(b)1 of this administrative regulation that includes information prepared by the owner or operator or provided by the manufacturer or vendor describing the enclosure design, and certification by the owner or operator that the enclosure meets the specifications listed in Section 6(2)(b)2 of this administrative regulation.

(d) Documentation for each closed vent system and control device installed in accordance with the requirements of Section 7 of this administrative regulation that includes:

1. Certification that is signed and dated by the owner or operator stating that the control device is designed to operate at the performance level documented by a design analysis as specified in subparagraph 2 of this paragraph or by performance tests as specified in subparagraph 3 of this paragraph when the tank, surface impoundment, or container is or would be operating at capacity or the highest level reasonably expected to occur.

2. If a design analysis is used, then design documentation as specified in Section 6(2)(d) of 401 KAR 34.275. The documentation shall include information prepared by the owner or operator or provided by the control device manufacturer or vendor that describes the control device design in accordance with Section 6(2)(d)3 of 401 KAR 34.275 and certification by the owner or operator that the control equipment meets the applicable specifications.

3. If performance tests are used, then a performance test plan as specified in Section 6(2)(e) of 401 KAR 34.275 and all test results.

4. Information as required by Section 6(3)(a) and (b) of 401 KAR 34.275.

(e) Records for all Method 27 tests of 40 C.F.R. Part 60, Appendix A, performed by the owner or operator for each container used to meet the requirements of Section 6(2)(a)3 of this administrative regulation.

(f) Records for all visual inspections conducted in accordance with the requirements of Section 8 of this administrative regulation.

(g) Records for all monitoring for detectable organic emissions conducted in accordance with the requirements of Section 8 of this administrative regulation.

(h) Records of the date of each attempt to repair a leak, repair methods applied, and the date of successful repair.

(i) Records for all continuous monitoring conducted in accordance with the requirements of Section 8 of this administrative regulation.

(j) Records of the management of carbon removed from a carbon adsorption system conducted in accordance with Section 7(3)(c)2 of this administrative regulation.

(k) Records for all inspections of each cover installed on a tank in accordance with the requirements of Section 4(2)(b) or (c) of this administrative regulation that includes information as listed in Section 11(3) of this administrative regulation.

(2) An owner or operator electing to use air emission controls for a tank in accordance with the conditions specified in Section

4(3) of this administrative regulation shall record the following information:

(a) Date and time each waste sample is collected for direct measurement of maximum organic vapor pressure in accordance with Section 2(3) of this administrative regulation.

(b) Results of each determination of the maximum organic vapor pressure of the waste in a tank performed in accordance with Section 2(3) of this administrative regulation.

(c) Records specifying the tank dimensions and design capacity.

(3) An owner or operator electing to use air emission controls for a tank in accordance with the requirements of Section 11 of this administrative regulation shall record the information required by Section 11(3) of this administrative regulation.

(4) An owner or operator electing not to use air emission controls for a particular tank, surface impoundment, or container subject to this administrative regulation in accordance with the conditions specified in Section 2(3) of this administrative regulation shall record the information used by the owner or operator for each waste determination (for example, test results, measurements, calculations, and other documentation) in the facility operating log. If analysis results for waste samples are used for the waste determination, then the owner or operator shall record the date, time, and location that each waste sample is collected in accordance with applicable requirements of Section 3 of this administrative regulation.

(5) An owner or operator electing to comply with requirements in accordance with Section 2(2)(b)5 or 6 of this administrative regulation shall record the identification number for the incinerator, boiler, or industrial furnace in which the hazardous waste is treated.

(6) An owner or operator designating a cover as unsafe to inspect and monitor pursuant to Section 9(6)(e) of 401 KAR 35.281 or difficult to inspect and monitor pursuant to Section 9(6)(f) of 401 KAR 35.281 shall record in a log that is kept in the facility operating record the following information:

(a) A list of identification numbers for tanks with covers that are designated as unsafe to inspect and monitor in accordance with the requirements of Section 9(6)(e) of 401 KAR 35.281, an explanation for each cover stating why the cover is unsafe to inspect and monitor, and the plan and schedule for inspecting and monitoring each cover.

(b) A list of identification numbers for tanks with covers that are designated as difficult to inspect and monitor in accordance with the requirements of Section 9(6)(f) of 401 KAR 35.281, an explanation for each cover stating why the cover is difficult to inspect and monitor, and the plan and schedule for inspecting and monitoring each cover.

(7) All records required by subsections (1) through (6) of this section except as required in subsections (1)(a) through (d) of this section shall be maintained in the operating record for a minimum of three (3) years. All records required by subsection (1)(a) through (d) of this section shall be maintained in the operating record until the air emission control equipment is replaced or otherwise no longer in service.

(8) The owner or operator of a facility that is subject to this administrative regulation and to the control device standards in 40 C.F.R. Part 60, Subpart VV or 40 C.F.R. Part 61, Subpart V may elect to demonstrate compliance with the applicable sections of this administrative regulation by documentation either pursuant to this administrative regulation, or pursuant to the provisions of 40 C.F.R. Part 60, Subpart VV or 40 C.F.R. Part 61, Subpart V, to the extent that the documentation required by 40 C.F.R. Parts 60 or 61 duplicates the documentation required by this section.

(9) For each tank or container not using air emission controls specified in Sections 4 through 7 of this administrative regulation in accordance with the conditions specified in Section 1(4) of this administrative regulation, the owner or operator shall record and maintain the following information:

(a) A list of the individual organic peroxide compounds manufactured at the facility that meet the conditions specified in Section 1(4)(a) of this administrative regulation.

(b) A description of how the hazardous waste containing the organic peroxide compounds identified in paragraph (a) of this

subsection are managed at the facility in tanks and containers. This description shall include:

1. For the tanks used at the facility to manage this hazardous waste, sufficient information shall be provided to describe for each tank: a facility identification number for the tank; the purpose and placement of this tank in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste managed in the tanks.

2. For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to describe a facility identification number for the container or group of containers; the purpose and placement of this container, or group of containers, in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste handled in the containers.

(c) An explanation of why managing the hazardous waste containing the organic peroxide compounds identified in subsection (9)(a) of this section in the tanks and containers as described in subsection (9)(b) of this section would create an undue safety hazard if the air emission controls, as required under Sections 4 through 7 of this administrative regulation, are installed and operated on these hazardous waste management units. The explanation shall include the following information:

1. For tanks used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain how use of the required air emission controls on the tanks would affect the tank design features and facility operating procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the tanks; and why installation of safety devices on the required air emission controls, as allowed under Section 4(7) of this administrative regulation, will not address those situations in which evacuation of tanks equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

2. For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain how use of the required air emission controls on the containers would affect the container design features and handling procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the containers; and why installation of safety devices on the required air emission controls, as allowed under Section 6(4) of this administrative regulation, will not address those situations in which evacuation of containers equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

Section 10. Reporting Requirements. (1) Each owner or operator managing hazardous wastes in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of Section 2(3) of this administrative regulation shall report to the cabinet each occurrence when hazardous waste is placed in the hazardous waste management unit in noncompliance with the conditions specified in Section 2(3)(a) or (b) of this administrative regulation, as applicable. Examples of such occurrences include placing in the hazardous waste management unit a hazardous waste having an average VOC concentration equal to or greater than 100 ppmw at the point of waste origination; or placing in the hazardous waste management unit a treated hazardous waste that fails to meet the applicable conditions specified in Section 2(3)(b)1 through 5 of this administrative regulation. The owner or operator shall submit a written report within fifteen (15) calendar days of the time that the owner or operator becomes aware of the occurrence. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the dates of the noncompliance, and the actions taken to correct the noncompliance and prevent recurrence of the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

(2) Each owner or operator using air emission controls on a tank in accordance with the requirements Section 4(3) of this administrative regulation shall report to the cabinet each occurrence when hazardous waste is managed in the tank in noncompliance with the conditions specified in Section 4(3)(a) through (d) of this

administrative regulation. The owner or operator shall submit a written report within fifteen (15) calendar days of the time that the owner or operator becomes aware of the occurrence. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the date of the noncompliance, and the actions taken to correct the noncompliance and prevent recurrence of the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

(3) Each owner or operator using a control device in accordance with the requirements of Section 7 of this administrative regulation shall submit a semiannual written report to the cabinet excepted as provided for in subsection (4) of this section. The report shall describe each occurrence during the previous six (6) month period when a control device is operated continuously for twenty-four (24) hours or longer in noncompliance with the applicable operating values defined in Section 6(3)(d) of 401 KAR 35:275 or when a flare is operated with visible emissions as defined in Section 4(4) of 401 KAR 35:275. The written report shall include the EPA identification number, facility name and address, and an explanation why the control device could not be returned to compliance within 24 hours, and actions taken to correct the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

(4) A report to the cabinet in accordance with the requirements of subsection (3) of this section is not required for a six (6) month period during which all control devices subject to this administrative regulation are operated by the owner or operator such that during no period of twenty-four (24) hours or longer did a control device operate continuously in noncompliance with the applicable operating values defined in Section 6(3)(d) of 401 KAR 35:275 or a flare operate with visible emissions as defined in Section 4(4) of 401 KAR 35:275.

Section 11. Alternative Control Requirements for Tanks. (1) This section applies to owners and operators of tanks electing to comply with Section 4(2)(b) or (c) of this administrative regulation.

(a) The owner or operator electing to comply with Section 4(2)(b) of this administrative regulation shall design, install, operate, and maintain a fixed roof and internal floating roof that meet the requirements specified in Section 11(1)(a)1 through 9 of 401 KAR 35:281.

(b) The owner or operator electing to comply with Section 4(2)(c) of this administrative regulation shall design, install, operate, and maintain an external floating roof that meets the requirements specified in Section 11(1)(b)1 through 3 of 401 KAR 35:281.

(2) The owner or operator shall inspect and monitor the control equipment in accordance with the following requirements:

(a) For a tank equipped with a fixed roof and internal floating roof in accordance with the requirements of subsection (1)(a) of this section, the owner or operator shall perform the inspection and monitoring requirements specified in Section 11(2)(a) of 401 KAR 35:281.

(b) For a tank equipped with an external floating roof in accordance with the requirements of subsection (1)(b) of this section, the owner or operator shall perform the inspection and monitoring requirements specified in Section 11(2)(b) of 401 KAR 35:281.

(3) The owner or operator shall record the following information in the operating record in accordance with the requirements of Section 9(1)(a) and (k) of this administrative regulation:

(a) For a tank equipped with a fixed roof and internal floating roof in accordance with the requirements of subsection (1)(a) of this section, the owner or operator shall record the information listed in Section 11(3)(a) of 401 KAR 35:281.

(b) For a tank equipped with an external floating roof in accordance with the requirements of subsection (1)(b) of this section, the owner or operator shall record the information listed in Section 11(3)(b) of 401 KAR 35:281.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 34:285. Drip pads.

RELATES TO: KRS Subchapters 224.10-224.40, 224.46, 224.70, 224.99, 40 C.F.R. 264 Subpart W
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-505, 224.46-520[40 C.F.R. 264 Subpart W]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 [implements provisions of KRS 224.46-505 and 224.46-520 by establishing] standards for drip pads. [This administrative regulation is equivalent to the corresponding federal regulations except the text of the federal regulations referenced in this administrative regulation includes dates that occurred before the effective date of the incorporation of those requirements into this administrative regulation. Such dates shall not be construed as creating a retroactive right or obligation under the Kentucky Hazardous Waste Regulations when that right or obligation did not exist in this administrative regulation prior to the date the federal regulations were referenced. If a right or obligation existed under federal regulations based on a date in federal regulations and there is a period from the date cited in the incorporated text until the date they initially took effect in this administrative regulation, nothing in this administrative regulation shall contravene or countermand the legal application of the federal regulation for that period.] [To implement provisions of KRS 224.46-505 and 224.46-520 and to establish standards for drip pads.]

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 264.570, effective July 1, 2005.

Section 2. Assessment of Existing Drip Pad Integrity. The subject matter shall be governed by 40 C.F.R. 264.571, effective July 1, 2005.

Section 3. Design and Installation [Installation] of New Drip Pads. The subject matter shall be governed by 40 C.F.R. 264.572, effective July 1, 2005.

Section 4. Design and Operating Requirements. (1) The subject matter shall be governed by 40 C.F.R. 264.573, effective July 1, 2005.

(2) The citation to Section 3010 of RCRA in the federal regulation referenced in subsection (1)(1) of this section shall be replaced with KRS 224.10-100, 224.10-440, 224.46-530, and 224.99-010.

Section 5. Inspections. The subject matter shall be governed by 40 C.F.R. 264.574, effective July 1, 2005.

Section 6. Closure. The subject matter shall be governed by 40 C.F.R. 264.575, effective July 1, 2005.

Section 7. Effective Dates. (1) Dates included in the federal regulations referenced in this administrative regulation that occurred before the effective date of this administrative regulation shall not be construed as creating a retroactive right or obligation under the Kentucky hazardous waste administrative regulations if that right or obligation did not exist in this administrative regulation prior to the date the federal regulation

were referenced.

(2) If a right or obligation existed under federal regulations based on a date in federal regulations, and there is a period from the date cited in the text until the date the requirements initially became effective in this administrative regulation, this administrative regulation shall not contravene or countermand the legal application of the federal regulation for that period.

~~(1) The requirements of this administrative regulation apply to owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation, and surface water run-on to an associated collection system. Existing drip pads are those constructed before the effective date of this administrative regulation and those for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to the effective date of this administrative regulation. All other drip pads are new drip pads. The requirements at Section 4(2)(e) of this administrative regulation to install a leak collection system applies only to those drip pads that are constructed after the effective date of this administrative regulation except for those constructed after the effective date of this administrative regulation for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to the effective date of this administrative regulation.~~

~~(2) The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither run-off nor run-on is generated is not subject to regulation under Section 4(5) or (6) of this administrative regulation as appropriate.~~

~~(3) The requirements of this administrative regulation are not applicable to the management of infrequent and incidental drip-pads in storage yards provided that:~~

~~(a) The owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of such infrequent and incidental drippage.~~

~~(b) At a minimum, the contingency plan shall describe how the owner or operator will do the following:~~

- ~~1. Clean up the drippage;~~
- ~~2. Document the cleanup of the drippage;~~
- ~~3. Retain documents regarding cleanup for three (3) years; and~~
- ~~4. Manage the contaminated media in a manner consistent with 401 KAR Chapters 31 to 38.~~

~~Section 2. Assessment of Existing Drip Pad Integrity. (1) For each existing drip pad as defined in Section 1 of this administrative regulation, the owner or operator shall evaluate the drip pad and determine that it meets all of the requirements of this administrative regulation, except the requirements for liners and leak detection systems of Section 4(2) of this administrative regulation. The owner or operator shall obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an engineer that attests to the results of the evaluation. The assessment shall be reviewed, updated and recertified annually until all upgrades, repairs, or modifications necessary to achieve compliance with all of the standards of Section 4 of this administrative regulation are complete. The evaluation shall document the extent to which the drip pad meets each of the design and operating standards of Section 4 of this administrative regulation, except the standards for liners and leak detection systems, specified in Section 4(2) of this administrative regulation.~~

~~(2) The owner or operator shall develop a written plan for upgrading, repairing, and modifying the drip pad to meet the requirements of Section 4(2) of this administrative regulation, and submit the plan to the cabinet no later than two (2) years before the date that all repairs, upgrades, and modifications will be complete. This written plan shall describe all changes to be made to the drip pad in sufficient detail to document compliance with all the requirements of Section 4 of this administrative regulation. The plan shall be reviewed and certified by an engineer.~~

~~(3) Upon completion of all upgrades, repairs, and modifications, the owner or operator shall submit to the cabinet the as-built drawings for the drip pad together with a certification by an engineer attesting that the drip pad conforms to the drawings.~~

~~(4) If the drip pad is found to be leaking or unfit for use, the~~

~~owner or operator shall comply with the provisions of Section 4(13) of this administrative regulation or close the drip pad in accordance with Section 6 of this administrative regulation.~~

~~Section 3. Design and Installation of New Drip Pads. Owners and operators of drip pads shall ensure that the pads are designed, installed, and operated in accordance with one (1) of the following:~~

~~(1) All of the requirements of Sections 4 (except Section 4(1)(d)), 5, and 6 of this administrative regulation, or~~

~~(2) All of the requirements of Sections 4 (except Section 4(2)), 5, and 6 of this administrative regulation.~~

~~Section 4. Design and Operating Requirements (1) Drip pads shall:~~

~~(a) Be constructed of nonferrous materials, excluding wood and nonstructurally supported asphalt;~~

~~(b) Be sloped to free drain treated wood drippage, rain and other waters, or solutions of drippage and water or other wastes to the associated collection system;~~

~~(c) Have a curb or berm around the perimeter;~~

~~(d) Be impermeable (concrete pads shall be sealed, coated, or covered with an impermeable material for example) such that the entire surface where drippage occurs or may run across is capable of containing such drippage and mixtures of drippage and precipitation, materials, or other wastes while being routed to an associated collection system; and~~

~~1. Have a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second, (for example, existing concrete drip pads shall be sealed, coated, or covered with a surface material with a hydraulic conductivity of less than or equal to 1×10^{-7} centimeters per second) such that the entire surface where drippage occurs or may run across is capable of containing such drippage and mixtures of drippage and precipitation, materials, or other wastes while being routed to an associated collection system. This surface material shall be maintained free of cracks and gaps that could adversely affect its hydraulic conductivity, and the material shall be chemically compatible with the preservatives that contact the drip pad. The requirements of this provision apply only to existing drip pads and those drip pads for which the owner or operator elects to comply with Section 3(1) of this administrative regulation instead of Section 3(2) of this administrative regulation.~~

~~2. The owner or operator shall obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an engineer that attests to the results of the evaluation. The assessment shall be reviewed, updated, and recertified annually. The evaluation shall document the extent to which the drip pad meets the design and operating standards of this section, except for subsection (2) of this section.~~

~~(e) Be of sufficient structural strength and thickness to prevent failure due to physical contact, climatic conditions, the stress of daily operations, (for example, variable and moving loads such as vehicle traffic, movement of wood).~~

~~(2) A new drip pad or an existing drip pad, after the deadline established in Section 2(2) of this administrative regulation, shall have:~~

~~(a) A synthetic liner installed below the drip pad that is designed, constructed, and installed to prevent leakage from the drip pad into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the drip pad. The liner shall be constructed of materials that will prevent waste from being absorbed into the liner and to prevent releases 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 drip pad leakage to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from vehicular traffic on the drip pad);~~

~~2. Placed upon a foundation or base capable of providing support to the liner and resistance 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 that could come in contact with the waste or leakage; and

(b) A leakage detection system immediately above the liner that is designed, constructed, maintained and operated to detect leakage from the drip pad. The leakage detection system shall be:

1. Constructed of materials that are:

a. Chemically resistant to the waste managed in the drip pad and the leakage that might be generated; and

b. Of sufficient strength and thickness to prevent collapse under the pressure exerted by overlying materials and by any equipment used at the drip pad;

2. Designed and operated to function without clogging through the scheduled closure of the drip pad; and

3. Designed so that it will detect the failure of the drip pad or the presence of a release of hazardous waste or accumulated liquid at the earliest practicable time.

(c) A leakage collection system immediately above the liner that is designed, constructed, maintained and operated to collect leakage from the drip pad such that it can be removed from below the drip pad. The date, time, and quantity of any leakage collected in this system and removed shall be documented in the operating log.

1. The drip pad surface shall be cleaned thoroughly in a manner and frequency such that accumulated residues of hazardous waste or other materials are removed, with residues being properly managed as hazardous waste, so as to allow weekly inspections of the entire drip pad surface without interference or hindrance from accumulated residues of hazardous waste or other material on the drip pad.

2. The owner or operator shall document the date and time of each cleaning and the cleaning procedure used in the facility's operating log. The owner or operator shall determine if the residues are hazardous under Section 3 of 401 KAR 32.030 and, if so, shall manage them under 401 KAR Chapters 31 to 38 and Section 3010 of RCRA.

(3) Drip pads shall be maintained such that they remain free of cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the drip pad.

(4) The drip pad and associated collection system shall be designed and operated to convey, drain, and collect liquid resulting from drippage or precipitation in order to prevent run-off.

(5) Unless protected by a structure, as described in Section 1(2) of this administrative regulation, the owner or operator shall design, construct, operate and maintain a run-on control system capable of preventing flow onto the drip pad during peak discharge from at least a twenty-four (24) hour, twenty-five (25) year storm, unless the system has sufficient excess capacity to contain any run-off that might enter the system.

(6) Unless protected by a structure or cover as described in Section 1(2) of this administrative regulation, 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.

(7) The drip pad shall be evaluated to determine that it meets the requirements of subsections (1) to (6) of this section and the owner or operator shall obtain a statement from an engineer certifying that the drip pad design meets the requirements of this section.

(8) Drippage and accumulated precipitation shall be removed from the associated collection system as necessary to prevent overflow onto the drip pad.

(9) The drip pad surface shall be cleaned thoroughly at least once every seven (7) days such that accumulated residues of hazardous waste or other materials are removed, using an appropriate and effective cleaning technique, including but not limited to, rinsing, washing with detergents or other appropriate solvents, or steam cleaning. The owner or operator shall document the date and time of each cleaning and the cleaning procedure used in the facility's operating log.

(10) Drip pads shall be operated and maintained in a manner to minimize tracking of hazardous waste or hazardous waste constituents off the drip pad as a result of activities by personnel or equipment.

(11) After being removed from the treatment vessel, treated

wood from pressure and nonpressure processes shall be held on the drip pad until drippage has ceased. The owner or operator shall maintain records sufficient to document that all treated wood is held on the pad following treatment in accordance with this requirement.

(12) Collection and holding units associated with run-on and run-off control systems shall be emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system.

(13) Throughout the active life of the drip pad and as specified in the permit, if the owner or operator detects a condition that may have caused or has caused a release of hazardous waste, the condition shall be repaired within a reasonably prompt period of time following discovery, in accordance with the following procedures:

(a) Upon detection of a condition that may have caused or has caused a release of hazardous waste (for example, upon detection of leakage in the leak detection system), the owner or operator shall:

1. Enter a record of the discovery in the facility operating log;

2. Immediately remove the portion of the drip pad affected by the condition from service;

3. Determine what steps shall be taken to repair the drip pad and clean up any leakage from below the drip pad, and establish a schedule for accomplishing the repairs;

4. Within twenty-four (24) hours after discovery of the condition, notify the cabinet of the condition and, within ten (10) working days, provide written notice to the cabinet with a description of the steps that will be taken to repair the drip pad and clean up any leakage, and the schedule for accomplishing this work.

(b) The cabinet shall review the information submitted, make a determination regarding whether the pad will be removed from service completely or partially until repairs and clean up are complete and notify the owner or operator of the determination and the underlying rationale in writing.

(c) Upon completing all repairs and clean up, the owner or operator shall notify the cabinet in writing and provide a certification signed by an engineer that the repairs and clean up have been completed according to the written plan submitted in accordance with paragraph (a) 4 of this subsection.

(14) If a permit is necessary, 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.

(15) The owner or operator shall maintain, as part of the facility operating log, documentation of past operating and waste handling practices. This shall include identification of preservative formulations used in the past, a description of drippage management practices, and a description of treated wood storage and handling practices.

Section 5. Inspections. (1) During construction or installation, liners 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, liners shall be inspected and certified as meeting the requirements of Section 4 of this administrative regulation by an engineer. This certification shall be maintained at the facility as part of the facility operating record. After installation, liners and covers shall be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters.

(2) While a drip pad 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) The presence of leakage in and proper functioning of leak detection system.

(c) Deterioration or cracking of the drip pad surface.

Section 6. Closure. (1) At closure, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components (examples are, pad, liners), contaminated subsoils, and structures and equipment contaminated with waste and leakage, and manage them as hazardous waste.

(2) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subcells, structures, and equipment as required in subsection (1) of this section, the owner or operator finds that not all contaminated subcells can be practicably removed or decontaminated, he shall close the facility and perform postclosure care in accordance with closure and postclosure care requirements that apply to landfills (Section 6 of 401 KAR 34:230). For permitted units, the requirement to have a permit continues throughout the postclosure period. In addition, for the purpose of closure, postclosure, and financial responsibility, such a drip pad 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 and 34:080.

(3)(a) The owner or operator of an existing drip pad, as defined in Section 1 of this administrative regulation, that does not comply with the liner requirements of Section 4(2)(a) of this administrative regulation shall:

1. Include in the closure plan for the drip pad 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 in case not all contaminated subcells can be practicably removed at closure; and

2. Prepare a contingent postclosure plan under of Section 9 of 401 KAR 34:070 for complying with subsection (2) of this section in case not all contaminated subcells can be practicably removed at closure.

(b) The cost estimates calculated under Section 3 of 401 KAR 34:070 and Section 1 of 401 KAR 34:100 for closure and postclosure care of a drip pad subject to this section shall include the cost of complying with the contingent closure plan and the contingent postclosure plan, but are not required to include the cost of expected closure under subsection (1) of this section.

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Department for Environmental Protection

Division of Waste Management

(As Amended at ARRS, May 8, 2007)

401 KAR 34:287. Special provisions for cleanup. [Corrective action for waste management units].

RELATES TO: KRS Subchapters 224.01, 224.10, 224.46, 40 C.F.R. 264 Subpart S

STATUTORY AUTHORITY: KRS 224 01-400, 224.10-100, 224.46-520, 224.46-530[~~40 C.F.R. 264 Subpart S~~]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 standards for new hazardous waste sites or facilities, as required by KRS 224 46-520 and 224.46-530.] This administrative regulation establishes standards for owners and operators of hazardous waste sites or facilities that manage hazardous waste in corrective action management units

Section 1. Applicability of Corrective Action Management Unit (CAMU) Regulations The subject matter shall be governed by 40 C.F.R. 264 550, effective July 1, 2005.

Section 2. Grandfathered Corrective Action Management

Units. (1) The subject matter shall be governed by 40 C.F.R. 264 551, effective July 1, 2005.

(2) The citation to Section 3008(h) of RCRA in the federal regulation referenced in subsection (1)[1] of this section shall be replaced with KRS 224 46-580.

Section 3. Corrective Action Management Units (1) The subject matter shall be governed by 40 C.F.R. 264 552, effective July 1, 2005.

(2) The citation to Section 3008(h) of RCRA in the federal regulation referenced in subsection (1)[1] of this section shall be replaced with KRS 224 46-530.

Section 4. Temporary Units. (1) The subject matter shall be governed by 40 C.F.R. 264,553, effective July 1, 2005.

(2) The citation to Section 3008(h) of RCRA in the federal regulation referenced in subsection (1)[1] of this section shall be replaced with KRS 224 46-530.

Section 5 Staging Piles. (1) The subject matter shall be governed by 40 C.F.R. 264.554, effective July 1, 2005.

(2) The citation to Section 3004(o) of RCRA in the federal regulation referenced in subsection (1)[1] of this section shall be replaced with 401 KAR 34:060, Section 12.

Section 6. Disposal of CAMU-Eligible Wastes in Permitted Hazardous Waste Landfills. The subject matter shall be governed by 40 C.F.R. 264.555, effective July 1, 2005. [Corrective Action Management Units (CAMU). (1) For the purpose of implementing remedies under Section 12 of 401 KAR 34:060 or KRS 224.46-530, the cabinet may designate an area at the facility as a corrective action management unit (CAMU) in accordance with the requirements of this section. One (1) or more CAMUs may be designated at a facility.

(a) Placement of remediation wastes into or within a CAMU does not constitute land disposal of hazardous wastes.

(b) Consolidation or placement of remediation wastes into or within a CAMU does not constitute creation of a unit subject to minimum technology requirements.

(2)(a) The cabinet may designate a regulated unit (as identified in Section 1(1)(b) of 401 KAR 34:060) as a CAMU, or may incorporate a regulated unit into a CAMU, if:

1. The regulated unit is closed or closing, meaning it has begun the closure process under Section 4 of 401 KAR 34:070 or Section 4 of 401 KAR 35:070, and

2. Inclusion of the regulated unit will enhance implementation of effective, protective and reliable remedial actions for the facility.

(b) The requirements of 401 KAR 34:060, 34:070, 34:080, 35:060, 35:070, and 35:080 and the unit specific requirements of 401 KAR Chapters 34 or 35 that applied to that regulated unit will continue to apply to that portion of the CAMU after incorporation into the CAMU.

(3) The cabinet shall designate a CAMU in accordance with the following criteria:

(a) The CAMU will facilitate the implementation of reliable, effective, protective, and cost-effective remedies;

(b) Waste management activities associated with the CAMU will not create unacceptable risks to humans or to the environment resulting from exposure to hazardous wastes or hazardous constituents;

(c) The CAMU will include uncontaminated areas of the facility, only if including such areas for the purpose of managing remediation waste is more protective than management of such wastes at contaminated areas of the facility;

(d) Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases, to the extent practicable;

(e) The CAMU will expedite the timing of remedial activity implementation, when appropriate and practicable;

(f) The CAMU will enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long term effectiveness of remedial actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure of the CAMU; and

(g) The CAMU will, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU.

(4) The owner or operator shall provide sufficient information to enable the cabinet to designate a CAMU in accordance with the criteria in this section.

(5) The cabinet shall specify, in the permit or order, requirements for CAMUs to include the following:

(a) The areal configuration of the CAMU.

(b) Requirements for remediation waste management to include the specification of applicable design, operation and closure requirements.

(c) Requirements for groundwater monitoring that are sufficient to:

1. Continue to detect and to characterize the nature, extent, concentration, direction, and movement of existing releases of hazardous constituents in groundwater from sources located within the CAMU; and

2. Detect and subsequently characterize releases of hazardous constituents to groundwater that may occur from areas of the CAMU in which wastes will remain in place after closure of the CAMU.

(d) Closure and postclosure requirements.

1. Closure of CAMUs will:

a. Minimize the need for further maintenance, and

b. Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, for areas where wastes remain in place, postclosure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the soils, to groundwater, to surface waters, or to the atmosphere.

2. Requirements for closure of CAMUs shall include the following, as appropriate and as deemed necessary by the cabinet for a given CAMU:

a. Requirements for excavation, removal, treatment or containment of wastes,

b. For areas in which wastes will remain after closure of the CAMU, requirements for capping of such areas; and

c. Requirements for removal and decontamination of equipment, devices, and structures used in remediation waste management activities within the CAMU.

3. In establishing specific closure requirements for CAMUs under this subsection, the cabinet shall consider the following factors:

a. CAMU characteristics;

b. Volume of wastes that remain in place after closure;

c. Potential for releases from the CAMU;

d. Physical and chemical characteristics of the waste;

e. Hydrological and other relevant environmental conditions at the facility that may influence the migration of any potential or actual releases; and

f. Potential for exposure of humans and environmental receptors if releases were to occur from the CAMU.

4. The owner or operator shall perform postclosure requirements as necessary to protect human health and the environment. These shall include, for areas where wastes will remain in place, monitoring and maintenance activities, and the frequency with which such activities shall be performed to ensure the integrity of any cap, final cover, or other containment system.

(6) The cabinet shall document the rationale for designating CAMUs and shall make such documentation available to the public.

(7) Incorporation of a CAMU into an existing permit shall be approved by the cabinet according to the procedures for cabinet initiated permit modifications under Section 3 of 401 KAR 38.040, or according to the permit modification procedures of Section 2 of 401 KAR 38.040.

(8) The designation of a CAMU does not change the cabinet's existing authority to address clean-up levels, media-specific points of compliance to be applied to remediation at a facility, or other remedy selection decisions.

Section 2 Temporary Units (TU). (1) For temporary tanks and container storage areas used for treatment or storage of hazardous

remediation wastes, during remedial activities required under Section 12 of 401 KAR 34.060 or KRS 224.46-530, the cabinet may determine that a design, operating, or closure standard applicable to such units may be replaced by alternative requirements that are protective of human health and the environment.

(2) Any temporary unit to which alternative requirements are applied in accordance with subsection (1) of this section shall be:

(a) Located within the facility boundary; and

(b) Used only for treatment or storage of remediation wastes.

(3) In establishing standards to be applied to a temporary unit, the cabinet shall consider the following factors:

(a) Length of time such unit will be in operation;

(b) Type of unit;

(c) Volumes of wastes to be managed;

(d) Physical and chemical characteristics of the wastes to be managed in the unit;

(e) Potential for releases from the unit;

(f) Hydrogeological and other relevant environmental conditions at the facility that may influence the migration of any potential releases; and

(g) Potential for exposure of humans and environmental receptors if releases were to occur from the unit.

(4) The cabinet shall specify in the permit or order the length of time a temporary unit will be allowed to operate, to be no longer than a period of one (1) year. The cabinet shall also specify the design, operating, and closure requirements for the unit.

(5) The cabinet may extend the operational period of a temporary unit once for no longer than a period of one (1) year beyond that originally specified in the permit or order, if the cabinet determines that:

(a) Continued operation of the unit will not pose a threat to human health and the environment; and

(b) Continued operation of the unit is necessary to ensure timely and efficient implementation of remedial actions at the facility.

(6) Incorporation of a temporary unit or a time extension for a temporary unit into an existing permit shall be:

(a) Approved in accordance with the procedures for cabinet initiated permit modifications under Section 2 or 3 of 401 KAR 38.040, or

(b) Requested by the owner or operator as a major modification according to the procedures under Section 2 of 401 KAR 38.040.

(7) The cabinet shall document the rationale for designating a temporary unit and for granting time extensions for temporary units and shall make such documentation available to the public.]

TERESA J HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 34:290. [Appendix on] Recordkeeping Instructions.

RELATES TO: KRS Subchapters 224.10, 224.40, 224.46, 40 C.F.R. 264 Appendix I

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-505, 224.46-520[, 40 C.F.R. 264 Appendix I]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 subject matter shall be governed by 40 C.F.R. 264 Appendix I, effective July 1, 2005, [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.

Unit of Measure	Code ^a
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-foot	A
Hectares	Q
Hectare meter	F
BTU's per Hour	I

^aSingle 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.

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.)
S02	Tank

S03	Waste pile
S04	Surface impoundment
S05	Drum pad
S06	Containment building (storage)
S09	Other storage (specify)
2. Treatment	
(a) Thermal treatment	
T06	Liquid injection incinerator
T07	Rotary kiln incinerator
T08	Fluidized bed incinerator
T09	Multiple hearth incinerator
T10	Infrared furnace incinerator
T11	Molten salt destructor
T12	Pyrolysis
T13	Wet air oxidation
T14	Calcination
T15	Microwave discharge
T18	Other (specify)
(b) Chemical treatment	
T19	Absorption mound
T20	Absorption field
T21	Chemical fixation
T22	Chemical oxidation
T23	Chemical precipitation
T24	Chemical reduction
T25	Chlorination
T26	Chlorinolysis
T27	Cyanide destruction
T28	Degradation
T29	Detoxification
T30	Ion-exchange
T31	Neutralization
T32	Ozonation
T33	Photolysis
T34	Other (specify)
(c) Physical treatment	
(1) Separation of components	
T35	Centrifugation
T36	Clarification
T37	Coagulation
T38	Decanting
T39	Encapsulation
T40	Filtration
T41	Flocculation
T42	Flotation
T43	Foaming
T44	Sedimentation
T45	Thickening
T46	Ultrafiltration
T47	Other (specify)
(2) Removal of Specific Components	
T48	Absorption-molecular sieve
T49	Activated carbon
T50	Blending
T51	Catalysis
T52	Crystallization
T53	Dialysis
T54	Distillation
T55	Electrodialysis
T56	Electrolysis
T57	Evaporation
T58	High gradient magnetic separation
T59	Leaching
T60	Liquid ion exchange
T61	Liquid-liquid extraction
T62	Reverse osmosis
T63	Solvent recovery
T64	Stripping
T65	Sand filter
T66	Other (specify)

(d) Biological treatment	
T67	Activated sludge
T68	Aerobic lagoon
T69	Aerobic tank
T70	Anaerobic tank
T71	Composting
T72	Septic tank
T73	Spray irrigation
T74	Thickening filter
T75	Trickling filter
T76	Waste stabilization pond
T77	Other (specify)
(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 value from spent sulfuric acid
T92	Halogen acid furnaces
T93	Other industrial furnaces listed in 401 KAR 30:010 (specify)
(f) Other treatment	
T94	Containment building (treatment)
3- Disposal	
D79	Underground injection
D80	Landfill
D81	Land treatment
D82	Ocean disposal
D83	Surface impoundment (to be closed as a landfill)
D89	Other (specify)
4- Miscellaneous	
X01	Open burning or open detonation
X02	Mechanical processing
X03	Thermal unit
X04	Geologic repository
X99	Other (specify)

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: November 28, 2006 at 10 a.m.
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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:320. Chochran's approximation to the Behrens-Fisher Student's T-Test [Appendix on statistical testing].

RELATES TO: KRS Subchapters 224.10, 224.40, 224.46, 40 C.F.R. 264 Appendix IV

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-505, 224.46-520 [40 C.F.R. 264 Appendix IV]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 the method for calculating the Cochran's Approximation to the Behrens-Fisher Student's t-test.

Section 1. Cochran's Approximation to the Behrens-Fisher Student's T-Test. The subject matter shall be governed by 40 C.F.R. 264 Appendix IV, effective July 1, 2005. [Using all the available background data (N_B readings), calculate the background mean (X_B) and background variance (S_B^2). For the single monitoring well under investigation (n_m reading), calculate the monitoring mean (X_m) and monitoring variance (S_m^2).

For any set of data (X_1, X_2, \dots, X_n) the mean is calculated by:

$$\bar{X} = \frac{X_1 + X_2 + \dots + X_n}{n}$$

and the variance is calculated by:

$$S^2 = \frac{(X_1 - \bar{X})^2 + (X_2 - \bar{X})^2 + \dots + (X_n - \bar{X})^2}{n - 1}$$

where "n" denotes the number of observations in the set of data.

The t-test uses these data summary measures to calculate a t-statistic (t^*) and a comparison t-statistic (t_c). The t^* value is compared to the t_c value and a conclusion reached as to whether there has been a statistically significant change in any indicator parameter.

The t-statistic for all parameters except pH and similar monitoring parameters is:

$$t^* = \frac{X_m - X_B}{\sqrt{\frac{S_B^2}{n_B} + \frac{S_m^2}{n_m}}}$$

If the value of this t-statistic is negative then there is no significant difference between the monitoring data and background data. It should be noted that significantly small negative values may be indicative of a failure of the assumption made for test validity or that errors have been made in collecting the background data.

The t-statistic (t^*), against which t_c will be compared, necessitates finding t_B and t_m from standard (one-tailed) tables where, t_B = t-tables with ($n_B - 1$) degrees of freedom, at the 0.05 level of significance.

t_m = t-tables with ($n_m - 1$) degrees of freedom, at the 0.05 level of significance.

Finally, the special weightings W_B and W_m are defined as:

$$W_B = \frac{S_B^2}{n_B} \text{ and } W_m = \frac{S_m^2}{n_m}$$

and so the comparison t-statistic is:

$$t_c = \frac{W_B t_B + W_m t_m}{W_B + W_m}$$

The t-statistic (t^*) is now compared with the comparison t-statistic (t_c) using the following decision rule:

If t^* is equal to or larger than t_c , then conclude that there most likely has been a significant increase in this specific parameter.

If t^* is less than t_c , then conclude that most likely there has not been a change in this specific parameter.

The t-statistic for testing pH and similar monitoring parameters is constructed in the same manner as previously described except the negative sign (if any) is discarded and the caveat concerning the negative value is ignored. The standard (two (2)-tailed) tables are used in the construction for pH and similar monitoring parameters.

If t^* is equal to or larger than t_c , then conclude that there most likely has been a significant increase (if the initial t^* had been negative, this would imply a significant decrease). If t^* is less than t_c then conclude that there most likely has been no change.

Section 2- Additional Sources of Information. A further discussion of the test may be found in Statistical Methods (6th Edition,

Section 4-14) by G.W. Snodgrass and W.G. Cochran, or "Principles and Procedures of Statistics" (1st Edition, Section 5.8) by R.G.D. Steel and J.H. Torrie.

Section 3- Standard T-Tables 0.05 Level of Significance.

Degree of freedom	t-values (one (1) tail)	t-values (two (2) tail)
1	6.314	12.706
2	2.920	4.303
3	2.353	3.182
4	2.132	2.776
5	2.015	2.571
6	1.943	2.447
7	1.895	2.365
8	1.860	2.306
9	1.833	2.262
10	1.812	2.228
11	1.796	2.201
12	1.782	2.179
13	1.771	2.160
14	1.761	2.145
15	1.753	2.131
16	1.746	2.120
17	1.740	2.110
18	1.734	2.101
19	1.729	2.093
20	1.725	2.086
21	1.721	2.080
22	1.717	2.074
23	1.714	2.069
24	1.711	2.064
25	1.708	2.060
30	1.697	2.042
40	1.684	2.021

Adopted from Table III of "Statistical Tables for Biological, Agricultural, and Medical Research" (1947, R.A. Fisher and F. Yates).

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:330. [Appendix on] Examples of potentially incompatible waste.

RELATES TO: KRS Subchapters 224.10, 224.40, 224.46, 40 C.F.R. 264 Appendix V

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-505, 224.46-520[, 40 C.F.R. 264 Appendix V]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 examples of potentially incompatible wastes.

Section 1. Examples of Potentially Incompatible Waste. The subject matter shall be governed by 40 C.F.R. 264 Appendix V, effective July 1, 2005. [Many hazardous wastes, when mixed with other waste or materials at a hazardous waste site or facility, can produce effects which are harmful to human health and the environment, such as:

- (1) Heat or pressure;
- (2) Fire or explosion;
- (3) Violent reaction;
- (4) Toxic dusts, mists, fumes, or gases; or
- (5) Flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one (1) group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit-granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components. This list is not intended to be exhaustive. An owner or operator must, as the administrative regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not. It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator). In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted:

Group 1-A	Group 1-B
Acetylene sludge	Acid sludge
Alkaline caustic liquids	Acid and water
Alkaline cleaner	Battery acid
Alkaline corrosive liquids	Chemical cleaners
Alkaline corrosive battery fluid	Electrolyte, acid
Caustic wastewater	Etching acid liquid or solvent
Lime sludge and other corrosive alkalies	Pickling liquor and other corrosive acids
Lime wastewater	Spent acid
Lime and water	Spent mixed acid
Spent caustic	Spent sulfuric acid
Potential consequences: Heat generation; violent reaction-	
Group 2-A	Group 2-B
Aluminum	Any waste in Group 1-A or 1-B
Beryllium	
Calcium	
Lithium	
Magnesium	
Potassium	
Sodium	
Zinc powder	
Other reactive metals and metal hydrides	
Potential consequences: Fire or explosion; generation of flammable hydrogen gas-	
Group 3-A	Group 3-B
Alcohols	Any concentrated waste in Groups 1-A or 1-B
Water	
Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases-	
Group 4-A	Group 4-B
Alcohols	Concentrated Group 1-A

Aldehydes	or 1-B wastes
Halogenated hydrocarbons	Group 2-A wastes
Nitrated hydrocarbons	
Unsaturated hydrocarbons	
Other reactive organic compounds and solvents	
Potential consequences: Fire, explosion, or violent reaction.	
Group 5-A	Group 5-B
Spont cyanide and sulfide solutions	Group 1-B wastes
Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.	
Group 6-A	Group 6-B
Chlorates	Acetic acid and other organic acids
Chlorine	Concentrated mineral acids
Chlorites	Group 2-A wastes
Chromic acid	Group 4-A wastes
Hypochlorites	Other flammable and combustible wastes
Nitrates	
Nitric acid, fuming	
Perchlorates	
Permanganates	
Peroxides	
Other strong oxidizers	
Potential consequences: Fire, explosion, or violent reaction.]	

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: November 28, 2006 at 10 a.m.
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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:360. [Appendix on the] List of hazardous constituents for groundwater monitoring.

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.99, 40 C.F.R. 264 Appendix IX
 STATUTORY AUTHORITY: KRS Chapter 224.10-100, 224.46-510, 40 C.F.R. 264 Appendix IX]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 if [when] contamination is suspected at RCRA land based hazardous waste treatment, storage, and disposal facilities.

Section 1. List of Hazardous Waste Constituents for Groundwater Monitoring. The subject matter shall be governed by 40 C.F.R. 264 Appendix IX, effective July 1, 2005, [list of hazardous waste constituents for groundwater monitoring in this chapter is:

GROUNDWATER MONITORING LIST	
Common Name ¹	Chemical Abstract Service Index Name ²
Acenaphthene	Acenaphthylene, 1,2-dihydro-

Acenaphthylene	Acenaphthylene
Acetone	2-Propanone
Acetophenone	Ethanone, 1-phenyl
Acetonitrile; — Methyl cyanide	Acetonitrile
2-Acetylaminofluorene; 2-AAF	Acetamide, N-OH fluoren-2-yl-
Acrolein	2-Propenal
Acrylonitrile	2-Propenenitrile
Aldrin	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1alpha, 4alpha, 4beta, 5alpha, 8alpha, 8beta)-
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(b)acophenanthrylene
Benzo(k)fluoranthene	Benzo(k)fluoranthene
Benzo(ghi)perylene	Benzo(ghi)perylene
Benzo(a)pyrene	Benzo(a)pyrene
Benzyl alcohol	Benzenomethanol
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, 3alpha, 4beta, 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'-Dichlorodisopropyl 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-indeno, 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	Benzoic 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-
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-, (1a,2beta,2beta,3alpha,6alpha,6beta,7beta,7a-alpha)-

Diethyl phthalate	1,2-Benzenedicarboxylic acid, diethyl ester
O,O-Diethyl ——— O-2-pyrazinyl ——— phosphorothioic acid; Thionazin	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
Dimethoate	Phosphorodithioic acid, O,O-dimethyl S-(2-(methylamino)-2-oxoethyl)ester
p-(Dimethylamino)azobenzene	Benzonamine, ——— 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-Dimethylphenethylamine	Benzonathanamine, — 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	Benzonamine, N-phenyl-
Disulfoton	Phosphorodithioic acid, O,O-diethyl S-(2-(ethylthio)ethyl)ester
Endosulfan-I	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-ex-ido-, (3alpha,5alpha,6alpha,9alpha,9a-beta)-
Endosulfan-II	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-ex-ido-, (3alpha,5alpha,6beta,9beta,9alpha)-
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-, (1a,2beta,2beta,3alpha,6alpha,6beta,7beta,7a-alpha)-
Endrin-aldehyde	1,2,4-Methanocyclopenta(oc)pentalene-5-carboxaldehyde, ——— 2,2a,3,3,4,7-hexachlorodecahydro-, (1alpha,2beta,2beta,4beta,4beta,5beta,6beta,6beta,7R)-
Ethylbenzene	Benzene, ethyl
Ethyl methacrylate	2-Propenoic acid, 2-methyl-, ethyl ester
Ethyl ——— methanesulfonate	Methanesulfonic acid, ethyl ester
Famphur	Phosphorothioic ——— acid, ——— O-(1-((dimethylamino)sulfonyl)phenyl)O,O-

	dimethyl ester
Fluoranthene	Fluoranthene
Fluorene	9H-Fluorene
Heptachlor	4,7-Methano-1H-indeno, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a- tetrahydro-
Heptachlor epoxide	2,5-Methano-2H- indeno(1,2b)oxireno,2,3,4,5,6,7,7- heptachloro-1a,1b,5,5a,6,6a- hexahydro- -1a,1b,2a,2b,5a,5b,6a,6b,6a,6a)-
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'-Methylenobis(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-Dimethanonaphtha- lene,1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a-hexahydro- (1alpha,4alpha,4abeta,5beta,8beta,8 abeta)-
Isophorone	2-Cyclohexen-1-one,3,5,5-trimethyl-
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- decachlorooctahydro-
Lead	Lead
Mercury	Mercury
Methacrylonitrile	2-Propenenitrile, 2-methyl-
Methapyrene	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; Iodo- methane	Methane, iodo-
Methyl methacrylate	2-Propenoic acid, 2-methyl-, methyl ester
Methyl methanesul- fonate	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-Nitrosodimethylamine	Ethanamine, N-ethyl-N-nitroso- Methanamine, N-methyl-N-nitroso-
N-Nitrosodiphenylamine	Benzenamine, N-nitroso-N-phenyl-
N-Nitrosodipropylamine; Di-n- Propylnitrosamine	1-Propanamine, N-nitroso-N-propyl-
N-Nitrosomethylethyl- amine	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 bi- phenyls; PCBs	1,1'-Biphenyl, chloro-derivatives
Polychlorinated di- benzo-p-dioxine; PCDDs	Dibenzo(b,e)(1,4)dioxin, chloro- derivatives
Polychlorinated di- benzofurane; PCDFs	Dibenzofuran, chloro-derivatives
Pentachlorobenzene	Benzene, pentachloro-
Pentachloroethane	Ethane, pentachloro-
Pentachloronitroben- zene	Benzene, pentachloronitro-
Pentachlorophenol	Phenol, pentachloro-
Phenacetin	Acetamide, N-(4-ethoxyphenyl)
Phenanthrene	Phenanthrene
Phenol	Phenol
p-Phenylenediamine	1,4-Benzenediamine
Phorate	Phosphorothioic 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-
Sulfide	Sulfide
2,4,5-T; 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-

Tetrachloroethane	
Tetrachloroethylene; Perchloroethylene; Tetrachloroethene	Ethene, tetrachloro-
2,3,4,6-Tetrachlorophenol	Phenol, 2,3,4,6-tetrachloro-
Tetraethyl-dithiopyrophosphate; Sulfotopp	Thiodiphosphoric acid (((HO) ₂ P(S)) ₂ 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
oym-Trinitrobenzene	Benzene, 1,3,5-trinitro-
Vanadium	Vanadium
Vinyl acetate	Acetic acid, ethenyl ester
Vinyl chloride	Ethene, chloro-
Xylene (total)	Benzene, dimethyl-
Zinc	Zinc

*Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

²CAS 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 ¹	CAS RN ²	Suggested ³ Methods
Acenaphthene	83-32-9	8100 8270
Acenaphthylene	208-96-8	8100 8270
Acetone	67-64-1	8240
Acetophenone	98-86-2	8270
Acetonitrile; Methyl cyanide	75-05-8	8015
2-Acetylaminofluorane; 2-AAF	53-96-3	8270
Acrelein	107-02-8	8030 8240
Acrylonitrile	107-13-1	8240 8030
Aldrin	309-00-2	8080 8270
Allyl chloride	107-05-1	8010 8240
4-Aminobiphenyl	92-67-1	8270
Aniline	62-53-3	8270
Anthracene	120-12-7	8100 8270
Antimony	(Total)	6010 7040 7041
Aramite	140-57-8	8270
Arsenic	(Total)	6010 7060

Barium	(Total)	7061 6010 7080
Benzene	71-43-2	8020 8240
Benzo(a)anthracene;—Benzanthracene-	54-55-3	8100
Benzo(b)fluoranthene	206-00-2	8100 8270
Benzo(k)fluoranthene	207-08-0	8100 8270
Benzo(ghi)perylene	191-24-2	8100 8270
Benzo(a)pyrene	50-32-8	8100 8270
Benzyl alcohol	100-51-6	8270
Beryllium	(Total)	6010 7090 7091
alpha-BHC	310-84-6	8080 8250
beta-BHC	310-85-7	8080 8250
delta-BHC	310-86-8	8080 8250
gamma-BHC, Lindane	68-80-91	8080 8250
Bis(2-chloroethoxy)methane	111-91-1	8270
Bis(2-chloroethyl)ether	111-44-4	8270
Bis(2-chloro-1-methylethyl) ether; 2,2'-Di-chlorodiisopropyl ether	108-60-1	8010 8270
Bis(2-ethylhexyl)phthalate	117-81-7	8060 8270
Bromodichloromethane	75-27-4	8010 8240
Bromoform; Tribromomethane	75-25-2	8010 8240
4-Bromophenyl phenyl ether	101-55-3	8270
Butyl-benzyl-phthalate;—Benzyl butylphthalate	85-68-7	8060 8270
Cadmium	(Total)	6010 7130 7131
Carbon disulfide	75-15-0	8240
Carbon tetrachloride	66-23-5	8010 8240
Chlordane	67-74-9	8080 8250
p-Chloroaniline	106-47-8	8270
Chlorobenzene	108-00-7	8010 8020 8240
Chlorobenzilate	610-15-6	8270
p-Chloro-m-cresol	60-60-7	8040 8270
Chloroethane; Ethyl chloride	75-00-3	8010 8240
Chloroform	67-66-3	8010 8240
2-Chloronaphthalene	91-58-7	8120 8270
2-Chlorophenol	95-67-8	8040 8270
4-Chlorophenyl phenyl ether	7005-72-3	8270
Chloroprene	126-99-8	8010 8240
Chromium	(Total)	6010 7190
Chrysene	218-01-9	8100 8270
Cobalt	(Total)	6010 7200

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		7201
Copper	(Total)	6040 7210
m-Cresol	108-39-4	8270
o-Cresol	95-48-7	8270
p-Cresol	106-44-5	8270
Cyanide	57-12-5	9040
2,4-D, -2,4-Dichlorophenoxy-acetic acid	94-75-7	8160
4,4'-DDD	72-54-8	8080 8270
4,4'-DDE	72-55-9	8080 8270
4,4'-DDT	50-29-3	8080 8270
Diallate	2303-16-4	8270
Dibenz(a,h)anthracene	53-70-3	8100 8270
Dibenzofuran	132-64-9	8270
Dibromochloromethane, -Chlorodibromomethane	124-48-1	8040 8240
1,2-Dibromo-3-chloropropane; DBCP	96-12-8	8040 8240 8270
1,2-Dibromoethane; Ethylene Dibromide	106-93-4	8040 8240
Di-n-butyl phthalate	84-74-2	8060 8270
o-Dichlorobenzene	95-50-1	8040 8020 8120 8270
m-Dichlorobenzene	541-73-1	8080 8020 8120 8270
p-Dichlorobenzene	106-46-7	8040 8020 8120 8270
3,3'-Dichlorobenzidine	91-04-1	8270
trans-1,4-Dichloro-2-butene	110-57-6	8240
Dichlorodifluoromethane	76-71-8	8040 8240
1,1-Dichloroethane	75-34-3	8040 8240
1,2-Dichloroethane; Ethylene Dichloride	107-06-2	8040 8240
1,1-Dichloroethylene; Vinylidene Chloride	75-35-4	8040 8240
trans-1,2, Dichloroethylene	156-60-5	8040 8240
2,4-Dichlorophenol	120-83-2	8040 8270
2,6-Dichlorophenol	87-65-0	8270
1,2-Dichloropropane	78-87-5	8040 8240
cis-1,3-Dichloropropene	10061-01-05	8040 8240
trans-1,3-Dichloropropene	10061-02-6	8040 8240
Dioldnn	60-57-1	8080 8270
Diethyl phthalate	84-66-2	8060 8270
O,O-Diethyl -O-2-pyrazinyl -Phosphorothioate; Thionazin	297-97-2	8270
Dimethoate	60-51-5	8270
p-(Dimethylamino)azobenzene	60-11-7	8270
7,12-Dimethylbenz(a)anthracene	57-97-6	8270
3,3'-Dimethylbenzidine	110-93-7	8270
alpha, alpha-Dimethylpheno-	122-09-8	8270

thylamine		
2,4-Dimethylphenol	105-67-9	8040
Dimethyl-phthalate	131-11-3	8060 8270
m-Dinitrobenzene	99-66-0	8270
4,6-Dinitro-o-cresol	534-52-1	8040 8270
2,4-Dinitrophenol	51-28-5	8040 8270
2,4-Dinitrotoluene	121-14-2	8090 8270
2,6-Dinitrotoluene	606-20-2	8090 8270
Dinoseb; DNBP, -2-sec-Butyl-4,6-dinitrophenol	88-85-7	8150 8270
Di-n-octyl-phthalate	117-84-0	8060 8270
1,4-Dioxane	123-91-1	8015
Diphenylamine	122-39-4	8270
Disulfoton	298-04-4	8140 8270
Endosulfan I	959-98-8	8080 8250
Endosulfan II	33213-65-9	8080
Endosulfan-sulfate	1031-07-8	8080
Endnn	72-20-8	8080 8250
Endnn-aldehyde	7421-93-4	8080 8270
Ethylbenzene	100-41-4	8020 8240
Ethyl methacrylate	97-63-2	8015 8240 8270
Ethyl-methanesulfonate	62-50-0	8270
Famphur	62-95-7	8270
Fluoranthene	206-44-0	8100 8270
Fluorene	86-73-7	8100 8270
Heptachlor	76-44-8	8080 8270
Heptachlor-epoxide	1024-57-3	8080 8270
Hexachlorobenzene	118-74-1	8120 8270
Hexachlorobutadiene	87-68-3	8120 8270
Hexachlorocyclopentadiene	77-47-4	8120 8270
Hexachloroethane	67-72-1	8120 8270
Hexachlorophene	70-30-4	8270
Hexachloropropene	1888-71-7	8270
2-Hexanone	691-78-6	8240
Indeno(1,2,3-cd)pyrene	193-39-5	8100 8270
Isobutyl-alcohol	78-83-1	8015
Isodnn	466-73-6	8270
Isophorene	78-69-1	8090 8270
Isosafrole	120-58-1	8270
Kepon	143-50-0	8270
Lead	(Total)	6010 7420 7421
Mercury	(Total)	7470
Methacrylonitrile	126-98-7	8015 8240
Methapyrione	91-80-5	8270
Methoxychlor	72-43-5	8080

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Methyl bromide; Bromomethane	74-83-0	8010 8240
Methyl chloride; Chloromethane	74-87-3	8010 8240
2-Methylcholanthrene	56-40-5	8270
Methylene bromide; Di-bromomethane	74-95-3	8010 8240
Methylene chloride; Dichloromethane	75-09-2	8010 8240
Methyl ethyl ketone; MEK	78-03-3	8015 8240
Methyl iodide; Iodomethane	74-88-4	8010 8240
Methyl methacrylate	80-62-6	8015 8240
Methyl methanesulfonate	66-27-3	8270
2-Methylnaphthalene	81-57-6	8270
Methyl parathion; Parathion-methyl	298-00-0	8140 8270
4-Methyl-2-pentanone; methyl-isobutyl ketone	108-10-1	8015 8240
Naphthalene	81-20-3	8100 8270
1,4-Naphthoquinone	130-15-4	8270
1-Naphthylamine	134-32-7	8270
2-Naphthylamine	81-59-8	8270
Nickel	(Total)	6010 7520
o-Nitroaniline	88-74-4	8270
m-Nitroaniline	90-00-2	8270
p-Nitroaniline	100-01-6	8270
Nitrobenzene	88-05-3	8090 8270
o-Nitrophenol	88-75-5	8040 8270
p-Nitrophenol	100-02-7	8040 8270
4-Nitroquinoline 1-oxide	56-57-5	8270
N-Nitrosodi-n-butylamine	924-16-3	8270
N-Nitrosodiethylamine	55-18-5	8270
N-Nitrosodimethylamine	62-75-0	8270
N-Nitrosodiphenylamine	86-30-6	8270
N-Nitrosodipropylamine; di-n-propylnitrosamine	621-64-7	8270
N-Nitrosomethylethylamine;	10595-95-5	8270
N-Nitrosomorpholine	59-89-2	8270
N-Nitrosopiperidine	100-75-4	8270
N-Nitrosopyrrolidine	830-55-2	8270
5-Nitro-o-toluidine	90-55-8	8270
Parathion	56-38-2	8270
Polychlorinated biphenyls; PCBs	See Note 4	8080 8250
Polychlorinated dibenzo-p-dioxins; PCDDs	See Note 5	8280
Polychlorinated dibenzo-furans; PCDFs	See Note 6	8280
Pentachlorobenzene	608-03-5	8270
Pentachloroethane	76-01-7	8240 8270
Pentachloronitrobenzene	82-68-8	8270
Pentachlorophenol	87-86-5	8040 8270
Phenacetin	62-44-2	8270
Phenanthrene	85-01-8	8100 8270
Phenol	108-95-2	8040 8270
p-Phenylenediamine	106-50-3	8270
Phorate	298-02-2	8140 8270
2-Picoline	100-06-8	8240

		8270
Pronamide	23960-58-5	8270
Propionitrile; Ethyl cyanide	107-12-0	8015 8240
Pyrene	129-00-0	8100 8270
Pyridine	110-86-1	8240 8270
Safrole	94-59-7	8270
Selenium	(Total)	6010 7740 7741
Silver	(Total)	6010 7760
Silvex; 2,4,5-TP	93-72-1	8150
Styrene	100-42-5	8080 8240
Sulfide	18496-25-8	9030
2,4,6-T; 2,4,5-Trichlorophenoxy-acetic acid-	93-76-5	8150
2,3,7,8-TCDD; 2,3,7,8-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; Perchloroethylene; tetrachloroethene	127-18-4	8010 8240
2,3,4,6-Tetrachlorophenol	69-00-2	8270
Tetraethyl dithiopyrophosphate; Sulfotopp	3689-24-5	8270
Thallium	(Total)	6010 7840 7841
Tin	(Total)	7870
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; methylchloroform	71-55-8	8240
1,1,2-Trichloroethane	79-00-5	8010 8240
Trichloroethylene; Trichloroethene	79-01-6	8010
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-Tri-nitrobenzene	99-36-4	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

*Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

²CAS index names are those used in the 9th Cumulative Index.

³Suggested 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.

*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 53460-21-0), Aroclor-1248 (CAS RN 12672-20-6), Aroclor-1254 (CAS RN 11097-60-1), and Aroclor-1260 (CAS RN 11096-82-5).

*This category contains congener chemicals, including tetra-chlorodibenzo-p-dioxins (see also 2,3,7,8 TCDD), pentachlorodibenzo-p-dioxins, and hexachlorodibenzo-p-dioxins.

*This category contains congener chemicals, including tetra-chlorodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 34:370. Hazardous waste munitions and explosive storage.

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.99, 224.50-130(3), 40 C.F.R. 264 Subpart EE

STATUTORY AUTHORITY: KRS 224.10-100, 224 46-510, 224.50-130 [40 C.F.R. 264 Subpart EE]

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.50-130 requires the Environmental and Public Protection Cabinet to consider the criteria while making a determination to issue, deny, or condition a permit for any person desiring a permit to construct or operate a hazardous-waste site or facility for treatment or disposal of any of the chemical munitions. This administrative regulation establishes requirements for hazardous waste munitions and explosives storage. This administrative regulation is equivalent to federal standards established in 40 C.F.R. 264 Subpart EE, except the compounds listed in 401 KAR 31:040, Section 7 shall [will] be subject to the requirements of 401 KAR 34:180.

Section 1. Applicability. (1) The requirements of this section shall apply to owners or operators who store munitions and explosive hazardous wastes, except for munitions or explosive hazardous wastes that contain the substances specified in 401 KAR 31:040, Section 7.

(2) Owners or operators who store munitions or explosive hazardous wastes that contain the substances specified in 401 KAR 31:040, Section 7, shall be [are] subject to the requirements of 401 KAR 34:180.

Section 2. Design and Operating Standards. The subject matter shall be governed by 40 C.F.R. 264.1201, effective July 1, 2005.

Section 3. Closure and Postclosure Care. The subject matter shall be governed by 40 C.F.R. 264.1202, effective July 1, 2005.

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: November 28, 2006 at 10 a.m.

CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049, email Bruce.Scott@ky.gov.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 35:005. Definitions for [Related to] 401 KAR Chapter 35.

RELATES TO: KRS Subchapters 224.01, 224.10, 224.46, 40 C.F.R. 260.10, [265-141, 265-1031, 265-1051, 265-1081]

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(30) authorizes the Environmental and Public Protection Cabinet to promulgate administrative regulations [This chapter implements provisions of KRS 224.46-510 and establishes the general provisions applicable to generators of hazardous waste]. This administrative regulation defines essential terms that are used in 401 KAR Chapter 35 [this chapter]. [The majority of terms defined in this administrative regulation are equivalent to federal terms contained in 40 C.F.R. Parts 260 through 299.] Some terms have been clarified to eliminate federal ambiguities and to conform to Kentucky statutory mandates. Definitions contained in KRS Chapter 224 have been referenced to the appropriate statutory citation. Some terms do not have a federal counterpart. These terms have been added to clarify requirements and provisions of KRS Chapter 224 and 401 KAR Chapter 35 [this chapter].

Section 1. Definitions. Except as provided in this section, the definitions established in 40 C.F.R. 260.10, effective September 9, 2005, shall apply [The subject matter shall be governed by 40 C.F.R. 260.10, effective September 9, 2005. The following modifications, exceptions, and additions set forth in this section shall amend 40 C.F.R. 260.10].

(1) "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.

(2) "Administrator", "agency", "assistant administrator", "assistant administrator for solid waste and emergency response", "regional administrator", "director", or "regional director" means cabinet as defined in KRS 224.01-010(9).

[2] "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.]

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

(4) "Bodily injury" is defined by 40 C.F.R. 264.141(a) [shall have the meaning given by applicable Kentucky statutes. Bodily injury does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for bodily injury].

(5) "Cabinet" is defined by KRS 224 01-010(9).

(6) "Certificate" is defined by KRS 224.46-810(2).

(7) "Closure" is defined by KRS 224 01-010(4).

(8) "Closure plan" means the plan for closure prepared in accordance with the requirements of 401 KAR 34-070, Section 3, or 401 KAR 35 070, Section 3.

(9) "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.

(10) "Contamination" means the degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.

(11) "Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed if [in the event of] a fire, explosion, or release of waste or waste constituents into the environment [which] has the potential for endangering human health and the environment and includes [] financial planning to identify resources for initiation of the course of action [such action is a part of contingency plan devel-

ement].

(12) "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.

(13) "Current closure cost estimates" means the most recent of the estimates prepared in accordance with 401 KAR 34.090, Section 1(1), (2), and (3), or 401 KAR 35.090, Section 1(1), (2), or (3).

(14) "Current liabilities" is defined by 40 C.F.R. 264.141(f) [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].

(15) "Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with 40 C.F.R. 144.62(a), (b), and (c).

(16) "Current postclosure cost estimate" means the most recent of the estimates prepared in accordance with 401 KAR 34.100, Section 1(1), (2), and (3), or 401 KAR 35.100, Section 1(1), (2), or (3).

(17) "Disposal" is defined by KRS 224.01-010(10).

(18) "Environmental Protection Agency" or "EPA" means the Kentucky Department for Environmental Protection except if [when] used in the phrases "EPA hazardous waste number", "EPA identification number", "EPA Region", "EPA Acknowledgment of Consent", "EPA Test Methods", and "EPA publications".

(19) "Existing" means [indicates] a boiler or industrial furnace that on or before August 21, 1991, was [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.

(20) "Federal Register" means the "Administrative Register of Kentucky" as described in KRS 13A.050, for those areas applicable and delegable to the state.

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

(22) "Generator" is defined by KRS 224.01-010(13).

(23) "Hazardous constituent" is defined by KRS 224.01-010(42).

(24) "Hazardous waste" is defined by KRS 224.01-010(31)(b).

(25) "Independently audited" means [refers to] an audit was performed by an independent certified public accountant in accordance with generally accepted auditing standards.

(26) "Industrial solid waste" is defined by KRS 224.01-010(31)(a)(3).

(27) "Interim status" means the designation of a hazardous waste site or facility which was in existence on November 19, 1980, and has submitted a Part A application under 401 KAR Chapter 38 and is treated as having a permit until final administrative disposition of the application is made.

(28) "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.

(29) "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.

(30) "Manifest" is defined by KRS 224.01-010(37).

(31) "Monitoring" means the act of systematically inspecting and collecting data on operational parameters or on the quality of the air, soil, groundwater, or surface water.

(32) "Monitoring well" means a well used to obtain water samples for water quality and quantity analysis and groundwater levels.

(33) "Municipal solid waste" is defined by KRS 224.01-010(31)(a)(4).

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

(35) "Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

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

(37) "Operator" means any person responsible for overall operation of an on-site or off-site waste facility, including any private contractor conducting operational activities at a federal facility.

(38) "Owner" means any person who owns an on-site or off-

site waste facility, or any part of a facility.

(39) "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.

(40) "Permit" means the authorization or other control document that:

(a) Is issued by the cabinet to implement the requirements of the waste management administrative regulations;

(b) [The term permit] includes permit-by-rule, registered permit-by-rule, research, development, and demonstration permit, and emergency permit; and

(c) [However, the term permit] Does not include draft permit or proposed permit.

(41) "Person" is defined by KRS 224.01-010(17).

(42) "Postclosure care" means the manner in which a facility shall be maintained if [when] it no longer accepts waste for disposal.

(43) "Postclosure monitoring and maintenance" is defined by KRS 224.01-010(18).

(44) "Postclosure plan" means the plan for postclosure care prepared in accordance with the requirements of 401 KAR 34.070, Sections 8 to 11, or 401 KAR 35.070, Sections 8 to 11.

(45) "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.

(46) "Professional engineer" is defined by KRS 322.010(3).

(47) "Professional land surveyor" is defined by KRS 322.010(9).

(48) "Property damage" is defined by 40 C.F.R. 264.141(g) [shall have the meaning given by applicable Kentucky statutes. Property damage does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for property damage].

(49) "Publicly owned treatment works" or "POTW" is defined by KRS 224.01-010(19).

(50) "Regulated unit" means hazardous waste land disposal sites or facilities, or portions of existing hazardous waste land disposal sites or facilities that continued to receive waste after January 26, 1983.

(51) "Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the waste facility or activity.

(52) "Solid waste" is [means "waste" as] defined in KRS 224.01-010(31)(a).

(53) "State" means the Commonwealth of Kentucky.

(54) "Storage" is defined by KRS 224.01-010(28).

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

(56) "Tangible net worth" means the tangible assets that:

(a) Remain after deducting liabilities; and

(b) Do [these assets would] not include intangibles such as goodwill and rights to patents or royalties.

(57) "Termination" is defined by KRS 224.01-010(26).

(58) "Transfer facility" is defined by KRS 224.01-010(48).

(59) "Transportation" is defined by KRS 224.01-010(29).

(60) "Treatment" is defined by KRS 224.01-010(30).

(61) "United States" means the Commonwealth of Kentucky.

(62) "Used oil" is defined by KRS 224.50-545(2)(a).

(63) "Waste boundary" means the outermost perimeter of the waste (projected in the horizontal plane) as it would exist at completion of the disposal activity.

(64) "Waste pile" or "pile" means any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage and that is not a containment building [shall have the same meaning as "pile" specified in 40 C.F.R. 260.10].

(65) "Water" [Waters-] or "Waters of the Commonwealth" is defined by KRS 224.01-010(33).

Section 2. Substitution of Federal References. (1) The follow-

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ing federal parts and subparts, which are cited by federal regulations referenced in 401 KAR Chapter 35, shall be substituted with the state administrative regulations listed below

Federal Regulation	State Regulation
40 C F R Part 260	401 KAR Chapter 30
40 C F R 260 Subpart A	401 KAR 30-020
40 C.F.R. 260 Subpart B	401 KAR 30 005, 401 KAR 30-020, 401 KAR 31-005, 401 KAR 32 005, 401 KAR 33 005, 401 KAR 34.005, 401 KAR 35 005, 401 KAR 36 005, 401 KAR 37.005, 401 KAR 38-005, 401 KAR 43 005, and 401 KAR 44:005
40 C F R 260 Subpart C	401 KAR 30-035
40 C F R Part 261	401 KAR Chapter 31
40 C F R 261 Subpart A	401 KAR 31-010
40 C F R 261 Subpart B	401 KAR 31-020
40 C F R 261 Subpart C	401 KAR 31 030
40 C F R 261 Subpart D	401 KAR 31-040
40 C.F.R. Part 262	401 KAR Chapter 32
40 C F R 262 Subpart A	401 KAR 32-010
40 C F R 262 Subpart B	401 KAR 32-020
40 C F R 262 Subpart C	401 KAR 32-030
40 C.F.R. 262 Subpart D	401 KAR 32-040
40 C F R. 262 Subpart E	401 KAR 32 050, Sections 1-9
40 C F R 262 Subpart F	401 KAR 32-050, Section 10
40 C.F.R. 262 Subpart G	401 KAR 32 060
40 C F R 262 Subpart H	401 KAR 32-065
40 C F R Part 263	401 KAR Chapter 33
40 C.F.R. 263 Subpart A	401 KAR 33-010
40 C F R 263 Subpart B	401 KAR 33-020
40 C F R 263 Subpart C	401 KAR 33-030
40 C.F.R. Part 264	401 KAR Chapter 34
40 C.F.R. 264 Subpart A	401 KAR 34-010
40 C F R. 264 Subpart B	401 KAR 34 020
40 C F R. 264 Subpart C	401 KAR 34 030
40 C.F.R. 264 Subpart D	401 KAR 34 040
40 C F R 264 Subpart E	401 KAR 34 050
40 C F R. 264 Subpart F	401 KAR 34 060
40 C F R. 264 Subpart G	401 KAR 34 070
40 C.F.R. 264 Subpart H	401 KAR 34 080, 401 KAR 34:090, 401 KAR 34-100, 401 KAR 34:110, 401 KAR 34-120, 401 KAR 34-130
40 C F R 264 Subpart I	401 KAR 34-180
40 C F R 264 Subpart J	401 KAR 34-190
40 C F R 264 Subpart K	401 KAR 34-200
40 C F R 264 Subpart L	401 KAR 34-210
40 C.F.R. 264 Subpart M	401 KAR 34-220
40 C F R. 264 Subpart N	401 KAR 34-230
40 C F R. 264 Subpart O	401 KAR 34-240
40 C F R 264 Subpart S	401 KAR 34 287
40 C F R 264 Subpart W	401 KAR 34 285
40 C F R 264 Subpart X	401 KAR 34 250
40 C.F.R. 264 Subpart AA	401 KAR 34 275
40 C.F.R. 264 Subpart BB	401 KAR 34-280
40 C.F.R. 264 Subpart CC	401 KAR 34-281
40 C.F.R. 264 Subpart DD	401 KAR 34-245
40 C.F.R. 264 Subpart EE	401 KAR 34-370
40 C F R Part 265	401 KAR Chapter 35
40 C F R 265 Subpart A	401 KAR 35 010
40 C F R 265 Subpart B	401 KAR 35 020
40 C.F.R. 265 Subpart C	401 KAR 35-030
40 C F R 265 Subpart D	401 KAR 35-040
40 C F R 265 Subpart E	401 KAR 35 050
40 C.F.R. 265 Subpart F	401 KAR 35 060
40 C.F.R. 265 Subpart G	401 KAR 35 070

40 C F R 265 Subpart H	401 KAR 35-080, 401 KAR 35-090, 401 KAR 35:100, 401 KAR 35-110, 401 KAR 35-120, 401 KAR 35-130
40 C F R 265 Subpart I	401 KAR 35-180
40 C F R 265 Subpart J	401 KAR 35-190
40 C F R 265 Subpart K	401 KAR 35-200
40 C F R. 265 Subpart L	401 KAR 35-210
40 C.F.R. 265 Subpart M	401 KAR 35 220
40 C.F.R. 265 Subpart N	401 KAR 35-230
40 C F R 265 Subpart O	401 KAR 35 240
40 C F R. 265 Subpart P	401 KAR 35 250
40 C F R 265 Subpart Q	401 KAR 35 260
40 C F R 265 Subpart R	401 KAR 35 270
40 C F R 265 Subpart W	401 KAR 35-285
40 C F R. 265 Subpart AA	401 KAR 35-275
40 C F R. 265 Subpart BB	401 KAR 35-280
40 C.F.R. 265 Subpart CC	401 KAR 35-281
40 C F R. 265 Subpart DD	401 KAR 35 245
40 C F R 265 Subpart EE	401 KAR 35 350
40 C F R Part 266	401 KAR Chapter 36
40 C F R 266 Subpart C	401 KAR 36-030
40 C F R 266 Subpart F	401 KAR 36-060
40 C F R 266 Subpart G	401 KAR 36-070
40 C F R 266 Subpart H	401 KAR 36-020
40 C F R 266 Subpart M	401 KAR 36-080
40 C F R 266 Subpart N	401 KAR 36-090
40 C F R. Part 268	401 KAR Chapter 37
40 C F R 268 Subpart A	401 KAR 37-010
40 C F R 268 Subpart B	401 KAR 37 020
40 C F R 268 Subpart C	401 KAR 37 030
40 C F R 268 Subpart D	401 KAR 37-040
40 C F R 268 Subpart E	401 KAR 37-050
40 C F R Part 270	401 KAR Chapter 38
40 C F R 270 Subpart A	401 KAR 38-010
40 C.F.R. 270 Subpart B	401 KAR 38-070, 401 KAR 38-080, 401 KAR 38-090, 401 KAR 38-150 through 401 KAR 38 310
40 C F R 270 Subpart C	401 KAR 38-030
40 C.F.R. 270 Subpart D	401 KAR 38 040, Sections 1 through 4, 7
40 C F R 270 Subpart E	401 KAR 38-040, Sections 5 and 6
40 C F R 270 Subpart F	401 KAR 38-060
40 C F R 270 Subpart G	401 KAR 38-020
40 C F R 270 Subpart H	401 KAR 38-320
40 C F R 270 Subpart I	401 KAR 38-330
[40 C.F.R. 270 Subpart J	401 KAR 38-340]
40 C F R Part 124	401 KAR 38-050
40 C F R Part 273	401 KAR Chapter 43
40 C F R 273 Subpart A	401 KAR 43-010
40 C.F.R. 273 Subpart B	401 KAR 43 020
40 C.F.R. 273 Subpart C	401 KAR 43-030
40 C.F.R. 273 Subpart D	401 KAR 43 040
40 C.F.R. 273 Subpart E	401 KAR 43-050
40 C F R 273 Subpart F	401 KAR 43:060 [43-070]
40 C F R 273 Subpart G	401 KAR 43:070 [43-080]
40 C F R Part 279	401 KAR Chapter 44
40 C F R 279 Subpart A	401 KAR 44 005
40 C F R 279 Subpart B	401 KAR 44-010
40 C F R 279 Subpart C	401 KAR 44-020
40 C F R 279 Subpart D	401 KAR 44-030
40 C F R 279 Subpart E	401 KAR 44-040
40 C F R 279 Subpart F	401 KAR 44-050
40 C.F.R. 279 Subpart G	401 KAR 44-060
40 C.F.R. 279 Subpart H	401 KAR 44-070
40 C.F.R. 279 Subpart I	401 KAR 44 080

(2) The requirements of the following federal regulations, which

are referenced in 401 KAR Chapter 35, shall include the modifications, exceptions, and additions that are specific to the Commonwealth of Kentucky set forth in the following state administrative regulations referenced in the table below.

Federal Regulation	State Regulation
40 C.F.R. 260.10	401 KAR 30:005, 401 KAR 30 020, 401 KAR 31:005, 401 KAR 32.005, 401 KAR 33:005, 401 KAR 34 005, 401 KAR 35:005, 401 KAR 36 005, 401 KAR 37:005, 401 KAR 38 005, 401 KAR 43:005, and 401 KAR 44:005
40 C.F.R. 260.22	401 KAR 30:035, Section 3(2) and (3)
40 C.F.R. 261.6	401 KAR 31:010, Section 6
40 C.F.R. 264.101	401 KAR 34:060, Section 12
40 C.F.R. 264.221	401 KAR 34:200, Section 2
40 C.F.R. 264.251	401 KAR 34:210, Section 2
40 C.F.R. 264.301	401 KAR 34:230, Section 2
40 C.F.R. 264.1082	401 KAR 34:281, Section 2
40 C.F.R. 265.94	401 KAR 35:060, Section 5
40 C.F.R. 265.111	401 KAR 35:070, Section 2
40 C.F.R. 265.143	401 KAR 35:080
40 C.F.R. 265.145	401 KAR 35:080
40 C.F.R. 266.202	401 KAR 36:080, Section 3
40 C.F.R. 266.205	401 KAR 36 080, Section 6
40 C.F.R. 270.10	401 KAR 38 070, Section 1
40 C.F.R. 270.61	401 KAR 38 060, Section 2
40 C.F.R. 270.62	401 KAR 38 060, Section 3
40 C.F.R. 270.50	401 KAR 38 040, Section 5

(3) The following federal regulations, which are cited by the federal regulations referenced in 401 KAR Chapter 35, shall be replaced with the corresponding state administrative regulations identified in the table below.

Federal Regulation	State Regulation
40 C.F.R. Part 60 Appendix A	401 KAR 59 020
[40 C.F.R. Part 124	401 KAR 39 050]
40 C.F.R. Part 257	401 KAR Chapter 47
40 C.F.R. Part 258	401 KAR Chapter 48
40 C.F.R. 264.140	401 KAR 34 080, Section 2
40 C.F.R. 264.141	401 KAR 34 080, Section 1 [3]
40 C.F.R. 264.142	401 KAR 34 090, Section 1
40 C.F.R. 264.143	401 KAR 34 090, Sections 2 through 12
40 C.F.R. 264.144	401 KAR 34 100, Section 1
40 C.F.R. 264.145	401 KAR 34:100, Sections 2 through 12
40 C.F.R. 264.146	401 KAR 34 110
40 C.F.R. 264.147	401 KAR 34:120
40 C.F.R. 264.148	401 KAR 34 130
40 C.F.R. 265.140	401 KAR 35 080, Section 2
40 C.F.R. 265.141	401 KAR 35:080, Section 1
40 C.F.R. 265.142	401 KAR 35:090, Section 1
40 C.F.R. 265.143	401 KAR 35:090, Sections 2 through 11
40 C.F.R. 265.144	401 KAR 35:100, Section 1
40 C.F.R. 265.145	401 KAR 35:100, Sections 2 through 11
40 C.F.R. 265.146	401 KAR 35 110
40 C.F.R. 265.147	401 KAR 35 120
40 C.F.R. 265.148	401 KAR 35:130
40 C.F.R. 265.1083	401 KAR 35 281, Section 4
40 C.F.R. 268.42	401 KAR 37 040, Section 3
40 C.F.R. 266 Appendix I, Table I-D	401 KAR 36:025, Section 1(2)(a)
40 C.F.R. 266 Appendix I, Table I-E	401 KAR 36:025, Section 1(2)(b)
40 C.F.R. 270.51	401 KAR 38:040, Section 6
40 C.F.R. Part 280	401 KAR Chapter 42

[Unless otherwise specifically defined in KRS Chapter 224 or otherwise specifically indicated by context, terms in 401 KAR Chapter 35 shall have the meanings given in this section.

(1) "100-year floodplain" means any land area which is subject to a one (1) percent or greater chance of flooding in any given year from any source.

(2) "100-year flood" means a flood that has a one (1) percent chance of being equaled or exceeded in any given year.

(3) "Aboveground tank" means a device meeting the definition of "tank" and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

(4) "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.

(5) "Accumulated speculatively" means that a material is accumulated before being recycled.

(a) A material is not accumulated speculatively, if the person accumulating it can show:

1. That the material is potentially recyclable and has a feasible means of being recycled; and

2. That during the calendar year (commencing on January 1) the amount of material that is recycled, or transferred to a different site for recycling, equals at least seventy-five (75) percent by weight or volume of the amount of that material accumulated at the beginning of the calendar year (including any material accumulated from previous years).

(b) In calculating the percentage of turnover, the seventy-five (75) percent requirement is to be applied to each material of the same type that is recycled in the same way. Materials accumulating in units that would be exempt from administrative regulation under Section 4(3) of 401 KAR 31-010 are not to be included in making the calculation. (Materials that are already defined as wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling.

(6) "Active fault" means a land area which, according to the weight of geological evidence, has a reasonable probability of being affected by movement along a fault to the extent that a waste site or facility would be damaged and thereby pose a threat to human health and the environment.

(7) "Active life" of a facility means the period from the initial receipt of waste at a waste site or facility until the cabinet receives certification of final closure.

(8) "Active portion" means any area of a facility where treatment, storage, or disposal operations are being or have been conducted and which have not been closed. It includes the treated area of a landfill and the active face of a landfill. Covered, closed, or inactive portions of landfills, building roofs, and roads are excluded unless designated as "active portions" by the cabinet.

(9) "Admixed liner" means a liner made from a mixture of any of a multitude of materials, often asphalt or cement, with widely varying physical and chemical properties. Admixed liners shall be demonstrated to be structurally sound and chemically resistant to the waste placed in it so as to be capable of supporting the waste without cracking or disintegrating or allowing waste or leachate to escape.

(10) "Agricultural waste" means any nonhazardous waste resulting from the production and processing of on-the-farm agricultural products, including manures, prunings and crop residues.

(11) "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.

(12) "Ampule" means a small sealed glass container for one (1) dose of sterile medicine.

(13) "Ancillary 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 from its point of generation to hazardous waste management units including tanks between hazardous waste stor-

ago and treatment tanks to a point of disposal on site, or to a point of shipment for disposal off site.

(14) "Application" means the form approved by the cabinet for applying for a permit, including any additions, revisions or modifications and any narrative and drawings required by 401 KAR Chapters 30 to 48. The term includes: Part A of the application (Part A); Part B of the application (Part B); notice of intent; administration application; special waste application; or technical application.

(15) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs.

(16) "As received waste" refers to the waste as received in the shipment from the generator or sample collector.

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

(18) "Attenuation" means any decrease in the maximum concentration or total quantity of an applied chemical or biological constituent in a fixed time or distance traveled resulting from a physical, chemical, or biological reaction or transformation occurring in the zone of aeration or zone of saturation.

(19) "Authorized representative" means the person responsible for the overall operation of a facility or an operational unit or part of a facility, such as the plant manager, superintendent, or person of equivalent responsibility.

(20) "Average volatile organic concentration" or "average VO concentration" means the mass-weighted average volatile organic concentration of a hazardous waste as determined in accordance with the requirements of Section 4 of 401 KAR 35.281.

(21) "Base flood" means a flood that has a one (1) percent or greater chance of recurring in any year, or a flood of a magnitude equalled or exceeded once in 100 years on the average over a significantly long period.

(22) "Battery" means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

(23) "Board" shall have the meaning specified in KRS 224.46-810.

(24) "Bodily injury" shall have the meaning given by applicable Kentucky statutes. Bodily injury does not include those liabilities which, consistent with the standard industry practices, are excluded from coverage in liability policies for bodily injury.

(25) "Boiler" means an enclosed device using central flame combustion and having the following characteristics:

(a) 1. The unit shall have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

2. The unit's combustion chamber and primary energy recovery section(s) shall be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section (such as water walls and superheaters) shall be physically formed into one (1) manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters (units that transfer energy directly to a process stream) and fluidized bed combustion units; and

3. While in operation, the unit shall maintain a thermal energy recovery efficiency of at least sixty (60) percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

4. The unit shall export and utilize at least seventy-five (75) percent of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or

forced draft fans or feedwater pumps); or

(b) The unit is one (1) which the cabinet has determined, on a case-by-case basis, to be a boiler, after considering the standards in 401 KAR 30.080.

(26) "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.

(27) "Burn" means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient.

(28) "By-product" is a material that is not one (1) of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as sludge or distillation column bottoms. The term does not include a coproduct that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

(29) "Cabinet" shall have the meaning specified in KRS 224.01-010.

(30) "Carbon regeneration unit" means any enclosed thermal treatment device used to regenerate spent activated carbon.

(31) "Cation exchange capacity" means the sum of exchangeable cations a soil can absorb expressed in milliequivalents per 100 grams of soil as determined by sampling the soil to the depth of cultivation or solid waste placement, whichever is greater, and analyzing by the summation method for distinctly acid soils or the sodium acetate method for neutral, calcareous, or saline soils.

(32) "Certificate" shall have the meaning specified in KRS 224.46-810.

(33) "Certification" means a statement of professional opinion based upon knowledge and belief.

(34) "Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements.

(35) "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.

(36) "Closure plan" means the plan for closure prepared in accordance with the requirements of Section 3 of 401 KAR 34.070 or Section 3 of 401 KAR 35.070.

(37) "Closure" shall have the meaning specified in KRS 224.01-010.

(38) "Component" means either the tank or ancillary equipment of a tank system.

(39) "Condenser" means a heat transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

(40) "Conditionally exempt small quantity generator" means:

(a) A generator who generates no more than 100 kilograms of hazardous waste in a calendar month; or

(b) A generator who generates acutely hazardous waste listed in Sections 2, 3, and 4(5) of 401 KAR 31.040 in a calendar month in quantities no greater than one (1) kilogram. All quantities of that acutely hazardous waste are subject to administrative regulation under 401 KAR Chapters 32 through 39, and the notification and permitting requirements of KRS 224.01-400, 224.40-310, 224.46-510, 224.46-580, and 224.50-130 to 224.50-413.

(41) "Confined aquifer" means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself, an aquifer containing confined groundwater.

(42) "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.

(43) "Consignee" means the ultimate treatment, storage or disposal facility in a receiving country to which the hazardous waste is sent.

(44) "Constituent" shall have the same meaning as "hazardous waste constituent."

(45) "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.

(46) "Containment building" means a hazardous waste management unit that is used to store or treat hazardous waste under the provisions of 401 KAR 34:245 or 35:245.

(47) "Contaminate" means introduce a substance that would cause:

(a) The concentration of that substance in the groundwater to exceed the maximum contaminant level specified in 401 KAR 30:031, Sections 5 and 6 of 401 KAR 47:030, or Section 8 of 401 KAR 34:060;

(b) An increase in the concentration of that substance in the groundwater where the existing concentration of that substance exceeds the maximum contaminant level specified in 401 KAR 30:031, 401 KAR 47:030, or Section 8 of 401 KAR 34:060, or

(c) A significant increase above established background levels, for substances that do not have an established maximum contamination level.

(48) "Contamination" means the degradation of naturally occurring water, air, or soil quality either directly or indirectly as a result of human activities.

(49) "Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in the event of a fire, explosion, or release of waste or waste constituents into the environment which has the potential for endangering human health and the environment. Financial planning to identify resources for initiation of such action is a part of contingency plan development.

(50) "Continuous recorder" means a data recording device recording an instantaneous data value at least once every 15 minutes.

(51) "Control device shutdown" means the cessation of operation of a control device for any purpose.

(52) "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.

(53) "Corrective action management unit" or "CAMU" means an area within a facility that is designated by the cabinet under 401 KAR 34:297, for the purpose of implementing corrective action requirements under Section 12 of 401 KAR 34:060 and KRS 224.46-620. A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility.

(54) "Cover" means a device or system which is placed on or over a hazardous waste such that the entire hazardous waste surface area is enclosed and sealed to reduce air emissions to the atmosphere. A cover may have openings such as access hatches, sampling ports, and gauge wells that are necessary for operation, inspection, maintenance, or repair of the unit on which the cover is installed provided that each opening is closed and sealed when not in use. Examples of covers include a fixed roof installed on a tank, a floating membrane cover installed on a surface impoundment, a lid installed on a drum, and an enclosure in which an open container is placed during waste treatment.

(55) "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.

(56) "Current closure cost estimates" means the most recent of the estimates prepared in accordance with Section 1(1), (2) and (3) of 401 KAR 34:000 or Section 1(1), (2) and (3) of 401 KAR 35:000.

(57) "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.

(58) "Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with 40 C.F.R. 144.62(a), (b), and (c).

(59) "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 or Section 1(1), (2) and (3) of 401 KAR 35:100.

(60) "Debris" means solid material exceeding a 60mm particle size that is intended for disposal and that is: a manufactured ob-

ject, plant or animal matter; or natural geologic material. However, the following materials are not debris: Any material for which a specific treatment standard is provided in 401 KAR 37:040, namely lead acid batteries, cadmium batteries, and radioactive lead solids; Process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by Section 6 of 401 KAR 37:040 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection.

(61) "Designated facility" means a hazardous waste treatment, storage, or disposal facility which:

(a) Has received a hazardous waste site or facility permit (or a facility with interim status) in accordance with the requirements of 401 KAR Chapter 38;

(b) Has received a permit from a state authorized in accordance with 40 C.F.R. Part 271, and EPA permit (or a facility with interim status) in accordance with 40 C.F.R. Parts 270 and 124; or

(c) Is regulated under Section 6(3)(b) of 401 KAR 31:010 or 401 KAR Chapter 36, 40 C.F.R. 261.6(c)(2) or 40 C.F.R. Part 266; and

(d) That has been designated on the manifest by the generator pursuant to Section 1 of 401 KAR 32:020. If a waste is destined to a hazardous waste site or facility in an authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, then the designated facility shall be a facility allowed by the receiving state to accept that waste.

(62) "Destination facility" means a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in Section 4(1) and (3) of 401 KAR 43:020 and Section 4(1) and (3) of 401 KAR 43:030. A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

(63) "Destruction or adverse modification" means an alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.

(64) "Dike" means an embankment or ridge of either natural or manmade materials used to prevent the movement of liquids, sludges, solids, or other materials.

(65) "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.

(66) "Disposal" shall have the meaning specified in KRS 224.01-010.

(67) "Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed.

(68) "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.

(69) "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.

(70) "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(71) "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.

(72) "Draft permit" shall have the same meaning as "proposed permit".

(73) "Drip pad" means an engineered structure consisting of a

curbed, free draining base, constructed of noncarbon materials and designed to convey preservative kick-back or dripage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants.

(74) "Effluent Limitations" shall have the same meaning as KRS 224.01-010.

(75) "Elementary neutralization unit" means a device which:

(a) Is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in Section 3 of 401 KAR 31.030, or they are listed in 401 KAR 31.040 only for this reason; and

(b) Meets the definition of tank, tank system, container, transport vehicle, or vessel in this section.

(76) "Emergency permit" means a permit issued by the cabinet to temporarily store, treat or dispose of hazardous waste in accordance with the provisions of Section 2 of 401 KAR 38.060, to temporarily manage, process, or dispose of a solid waste in accordance with the provisions of Section 2 of 401 KAR 47.150 or to temporarily store, treat, or dispose of special waste in accordance with the provisions of Section 1 of 401 KAR 45.135.

(77) "Endangered or threatened species" means any species listed as such pursuant to Section 4 of the Endangered Species Act, as amended, 16 U.S.C. 1536.

(78) "Engineer" shall have the meaning specified in KRS 322.010. An independent, professional engineer shall be registered in Kentucky pursuant to KRS 322.040 and shall be qualified to engage in waste management engineering practices.

(79) "EPA acknowledgment of consent" means the cable sent to EPA from the U.S. Embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment.

(80) "EPA hazardous waste number" means the number assigned by EPA and the cabinet to each hazardous waste listed in 401 KAR 31.040, and to each characteristic identified in 401 KAR 31.030.

(81) "EPA identification number" means the number assigned by EPA or the cabinet to each generator, transporter, or treatment, storage, or disposal facility.

(82) "Ephemeral stream" means a stream which flows only in direct response to precipitation in the immediate watershed or in response to the melting of a cover of snow and ice and which has a channel bottom that is always above the local water table.

(83) "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 401 KAR 34.275.

(84) "Equivalent method" means any testing or analytical method, approved jointly by the administrator and the secretary under 401 KAR Chapter 31, or methods in 401 KAR Chapters 47 and 48, approved by the secretary of the cabinet.

(85) "Existing" 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.

(86) "Existing component" shall have the same meaning as "existing tank system."

(87) "Existing facility" shall have the same meaning as "existing hazardous waste site or facility".

(88) "Existing hazardous waste site or facility" means a hazardous waste facility which was in operation, or for which continuous construction had commenced, on or before November 19, 1980. A facility has commenced construction if:

(a) The owner or operator had obtained the federal, state and local approvals or permits necessary to begin physical construction; and

(b) Either:

1. A continuous on-site, physical construction program has begun; or

2. 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.

(89) "Existing portion" means that land surface area of an existing hazardous waste management unit, included in the original Part A permit application, on which wastes have been placed prior to the issuance of a permit.

(90) "Existing tank system" means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation commenced on or prior to July 14, 1986. Installation will be considered to have commenced if the owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either:

(a) A continuous on-site physical construction or installation 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 site or installation of the tank system to be completed within a reasonable time.

(91) "External floating roof" means a pontoon or double deck type floating roof that rests on the surface of a hazardous waste being managed in a tank that has no fixed roof.

(92) "Face amount" means the total amount the insurer is obligated to pay under the policy.

(93) "Facility" means:

(a) All contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one (1) or more landfills, surface impoundments, or combinations of them).

(b) For the purpose of implementing corrective action under Section 12 of 401 KAR 34.060, all contiguous property under the control of the owner or operator seeking a hazardous waste permit. This definition also applies to facilities implementing corrective action under KRS 224.46-520.

(94) "Facility mailing list" means the mailing list for a facility maintained in accordance with Section 7(3)(a)4c of 401 KAR 38.060.

(95) "Federal agency" means any department, agency, or other instrumentality of the federal government, any independent agency or establishment of the federal government including any government corporation, and the United States Government Printing Office.

(96) "Federal, state, and local approvals or permits necessary to begin physical construction" means permits and approvals required under federal, state, or local hazardous waste control statutes, administrative regulations, or ordinances.

(97) "Final closure" of a hazardous waste site or facility means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under 401 KAR Chapters 34 and 35 are no longer conducted at the facility unless subject to the provisions in Section 5 of 401 KAR 32.030.

(98) "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.

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

(100) "Fixed roof" means a rigid cover that is installed in a stationary position so that it does not move with fluctuations in the level of the hazardous waste placed in a tank.

(101) "Flame zone" means the portion of the combustion chamber in a boiler occupied by the flame envelope.

(102) "Floating membrane cover" means a cover consisting of a synthetic flexible membrane material that rests upon and is supported by the hazardous waste being managed in a surface impoundment.

(103) "Floating roof" means a pontoon-type or double deck type cover that rests upon and is supported by the hazardous waste being managed in a tank, and is equipped with a closure seal or seals to close the space between the cover edge and the tank wall.

(104) "Flood plain" means areas adjoining inland waters which are inundated by the base flood, unless otherwise specified in 401 KAR 30.031 or 401 KAR 47.030, and includes: 100-year floodplain and floodway.

(105) "Floodway" means the channel of the waterway, stream or river and that portion of the adjoining floodplain which provides for passage of the 100-year flood flow without increasing the floodwater depth across the 100-year floodplain by more than one (1) foot.

(106) "Flow indicator" means a device that indicates whether gas flow is present in a vent stream.

(107) "Food chain crops" means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

(108) "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.

(109) "Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

(110) "Freeboard" means the vertical distance between the top of a tank or surface impoundment dike and the surface of the waste contained therein.

(111) "Generator" shall have the meaning specified in KRS 224.01-010.

(112) "Governing body" shall have the same meaning as KRS 224.01-010.

(113) "Groundwater" means the subsurface water occurring in the zone of saturation beneath the water table, and perched water zones below the B soil horizon, including water circulating through fractures, bedding planes, and solution conduits.

(114) "Groundwater table" means the upper boundary of the saturated zone in which the hydrostatic pressure of the groundwater is equal to the atmospheric pressure.

(115) "Halogenated organic compounds" or "HOCs" means those compounds having a carbon-halogen bond that are listed under 401-KAR-37-110.

(116) "Hazardous constituent" shall have the meaning specified in KRS 224.01-010.

(117) "Hazardous debris" means debris that contains a hazardous waste listed in 401-KAR-31-040 or that exhibits a characteristic of hazardous waste identified in 401-KAR-31-030.

(118) "Hazardous waste" shall have the meaning specified in KRS 224.01-010.

(119) "Hazardous waste constituent" means a constituent which caused the cabinet to list the hazardous waste in 401-KAR-31-040, or a constituent listed in Section 5(3) of 401-KAR-31-030.

(120) "Hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

(121) "Hazardous waste management unit" is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed. Hazardous waste management units include aboveground tank; component; existing tank system or existing component; in-ground tank; new tank system or new tank component; on-ground tank; tank system; underground tank; or unfit for use tank system.

(122) "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.

(123) "Hazardous waste site or facility" means any place at which hazardous waste is treated, stored, or disposed of by landfilling, incineration, or any other method. Hazardous waste site or

facility includes: boiler; disposal facility; elementary neutralization unit; incinerator; industrial furnace; hazardous waste transfer facility; injection well; landfill; land treatment facility; miscellaneous unit; pile or waste pile; replacement unit; storage facility; sludge dryer; surface impoundment; tank; thermal treatment facility; totally enclosed treatment facility; treatment facility; or wastewater treatment unit.

(124) "Hazardous waste transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

(125) "Holocene" means the most recent epoch of the quaternary period, extending from the end of the pleistocene to the present.

(126) "Hot well" means a container for collecting condensate as in a steam condenser serving a vacuum jet or steam jet ejector.

(127) "Household waste" means any waste material (including garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

(128) "In existence" shall have the same meaning as "existing."

(129) "In gas service" means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

(130) "In heavy liquid service" means that the piece of equipment is not in gas service or in vapor service or in light liquid service.

(131) "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.

(132) "In operation" refers to a facility which is treating, storing, or disposing of hazardous waste.

(133) "In situ sampling systems" means nonextractive samplers or in-line samplers.

(134) "In vacuum service" means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

(135) "In vapor service" shall have the same meaning as "in gas service."

(136) "In ground tank" means a device meeting the definition of "tank" in this section whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

(137) "Inactive portion" means that portion of a hazardous waste site or facility which was not operated after November 19, 1980.

(138) "Incinerator" means any enclosed device that:

(a) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or

(b) Meets the definition of infrared incinerator or plasma arc incinerator.

(139) "Incompatible waste" means a hazardous waste which is unsuitable for placement in a particular device or facility because it may cause corrosion or decay of containment materials, or unsuitable for commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

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

(141) "Individual generation site" means the contiguous site at or on which one (1) or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one (1) or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

(142) "Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use thermal treatment to accomplish recovery of materials or energy:

- (a) Cement kilns;
- (b) Lime kilns;
- (c) Aggregate kilns;
- (d) Phosphate kilns;
- (e) Coke ovens;
- (f) Blast furnaces;
- (g) Smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machines, roasters, and foundry furnaces);
- (h) Titanium dioxide chloride process oxidation reactors;
- (i) Methane reforming furnaces;
- (j) Pulping liquor recovery furnaces;
- (k) Combustion devices used in the recovery of sulfur values from spent sulfuric acid;

(l) Halogen acid furnaces (HAFs) for the production of acid from halogenated hazardous waste generated by chemical production facilities where the furnace is located on the site of a chemical production facility, the acid product has a halogen acid content of at least three (3) percent, the acid product is used in a manufacturing process, and, except for hazardous waste burned as fuel, hazardous waste fed to the furnace has a minimum halogen content of twenty (20) percent as generated; or

(m) Other devices as the cabinet may, after notice and comment, add to the list on the basis of criteria and Section 5 of 401 KAR 30.080.

(143) "Infrared incinerator" means any enclosed device that uses electric-powered resistance heaters as a source of radiant heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

(144) "Injection well" means a well into which fluids are injected to achieve subsurface emplacement.

(145) "Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained hazardous waste or reagents used to treat the hazardous waste.

(146) "Installation inspector" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of a hazardous waste management unit including tank systems.

(147) "Interim status" means the designation of a hazardous waste site or facility which was in existence on November 10, 1980, and has submitted a Part A application under 401 KAR Chapter 38 or under 40 C.F.R. Part 270 and is treated as having a permit until final administrative disposition of the application is made.

(148) "Intermittent stream" means a stream or reach of stream that drains a watershed of one (1) square mile or more but does not flow continuously during the calendar year.

(149) "International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

(150) "Internal floating roof" means a floating roof that rests or floats on the surface (but not necessarily in complete contact with it) of a hazardous waste being managed in a tank that has a fixed roof.

(151) "Karst terrain" means a type of topography where limestone, dolomite or gypsum is present and is characterized by naturally occurring closed topographic depressions or sinkholes, caves, disrupted surface drainage, and well-developed underground solution channels formed by dissolution of these rocks by water moving underground.

(152) "Key personnel" shall have the meaning specified in KRS 224.01-010.

(153) "Lab pack" means any large container equal to or smaller than fifty-five (55) gallons that holds many smaller containers of various content tightly secured with packing material.

(154) "Lamp" means the bulb or tube portion of a lighting device specifically designed to produce radiant energy, most often in the ultraviolet (UV), visible, and infrared (IR) regions of the electromagnetic spectrum. Examples of common lamps include, but is

not limited to, incandescent, fluorescent, high-pressure sodium, mercury vapor, metal halide, high intensity discharge, and neon lamps.

(155) "Land disposal" shall have the meaning specified in KRS 224.01-010.

(156) "Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface. These facilities are disposal facilities if the waste will remain after closure.

(157) "Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, or an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit.

(158) "Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

(159) "Large quantity handler of universal waste" means a universal waste handler who accumulates 5,000 kilograms or more total universal waste (batteries, lamps, pesticides, or thermostats, calculated collectively) at any time. This designation as a large quantity handler of universal waste is retained through the end of the calendar year in which 5,000 kilograms or more total of universal waste is accumulated.

(160) "Leachate" means any liquid including any suspended components in the liquid, that has percolated through or drained from waste.

(161) "Leak detection system" means a system capable of detecting the failure of either the primary or secondary containment system or the presence of a release of hazardous waste, hazardous waste constituents or accumulated liquid in the secondary containment system. Such a system shall employ operational controls (daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment system or the presence of a release of hazardous waste constituents or accumulated liquids into the secondary containment system.

(162) "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.

(163) "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.

(164) "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.

(165) "Liquid mounted seal" means a foam or liquid-filled primary seal mounted in contact with the hazardous waste between the tank wall and the floating roof continuously around the circumference of the tank.

(166) "Local government" means the fiscal court of the county, urban county government, or governing body of an incorporated municipality wherein a hazardous waste landfill or other site or facility for the land disposal of hazardous waste is proposed.

(167) "Major modification" means for hazardous waste sites or facilities, a change in ownership where the cabinet determines that other changes in the permit are necessary as a result of the change in ownership or operational control, area occupied, disposal method, or other significant change in the operation of a waste site or facility. (Note: Minor modifications are described in Section 3 of 401 KAR 38.040).

(168) "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.

(169) "Manifest" shall have the meaning specified in KRS

224.01-010.

(170) "Manifest document number" means the EPA twelve (12) digit identification number assigned to the generator plus a unique, serially increasing, five (5) digit document number assigned to the manifest by the generator for recordkeeping and reporting purposes.

(171) "Maximum organic vapor pressure" means the equilibrium partial pressure exerted by the hazardous waste contained in a tank determined at the temperature equal to either:

(a) The local maximum monthly average temperature as reported by the National Weather Service when the hazardous waste is stored or treated at ambient temperature; or

(b) The highest calendar month average temperature of the hazardous waste when the hazardous waste is stored at temperatures above the ambient temperature or when the hazardous waste is stored or treated at temperatures below the ambient temperature.

(172) "Mining overburden returned to the mine site" means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

(173) "Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of, and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 C.F.R. Part 146, containment building, corrective action management unit, or unit eligible for a research, development, and demonstration permit under Section 6 of 401 KAR 38:060.

(174) "Monitoring" means the act of systematically inspecting and collecting data on operational parameters or on the quality of the air, soil, groundwater, or surface water.

(175) "Monitoring well" means a well used to obtain water samples for water quality and quantity analysis and groundwater levels.

(176) "Movement" means that hazardous waste transported to a facility in an individual vehicle.

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

(178) "Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

(179) "New facility" means any hazardous waste site or facility that commenced construction after November 10, 1980.

(180) "New tank component" shall have the same meaning as "new tank system."

(181) "New tank system" means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation commenced after July 14, 1986; however, for purposes of Section 4(7)(b) of 401 KAR 34:190 and Section 4(7)(b) of 401 KAR 35:190, a new tank system is one for which construction commenced after July 14, 1986.

(182) "No detectable organic emissions" means no escape of organics from a device or system to the atmosphere as determined by an instrument reading less than 500 parts per million by volume (ppmv) above the background level at each joint, fitting, and seal when measured in accordance with the requirements of Method 21 in 40 C.F.R. Part 60, Appendix A, and by no visible openings or defects in the device or system such as rips, tears, or gaps.

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

(184) "Nonwastewaters" means wastes that do not meet the criteria for wastewaters found in the definition for wastewaters.

(185) "Not detected" means at or below the lower method calibration limit (MCL) in SW-846, Method 8290, Table 1.

(186) "Off-site" means properties noncontiguous to the site.

(187) "On-site" means on the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing, as opposed to going along the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access is also considered

on-site property.

(188) "On-ground tank" means a device meeting the definition of tank that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

(189) "Open burning" means the combustion of any material or solid waste without:

(a) Control of combustion air to maintain adequate temperature for efficient combustion;

(b) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; and

(c) Control of emission of the gaseous combustion products.

(190) "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.

(191) "Operational plan" means the approved plan of operations filed with the cabinet which describes the method of operation that the permittee will use in the treatment, storage, or disposal of wastes.

(192) "Operator" means any person responsible for overall operation of an on-site or off-site waste facility, including any private contractor conducting operational activities at a federal facility.

(193) "Other site or facility for the land disposal of hazardous waste" means a disposal facility but shall not include a storage facility or a treatment facility.

(194) "Owner" means any person who owns an on-site or off-site waste facility, or any part of a facility.

(195) "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.

(196) "Part A of the application" or "Part A" means the standard forms or format for applying for a hazardous waste site or facility permit as required in 401 KAR 38:090.

(197) "Part B of the application" or "Part B" means the standard format for applying for a hazardous waste site or facility permit as required in 401 KAR 38:090 to 401 KAR 38:210.

(198) "Partial closure" means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of 401 KAR Chapters 34 and 35 at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

(199) "Perennial stream" means a stream or that part of a stream that flows continuously during all of the calendar year as a result of groundwater discharge or surface run-off. The term does not include "intermittent stream" or "ephemeral stream".

(200) "Permit" means the authorization or other control document issued by the cabinet to implement the requirements of the waste management administrative regulations. The term permit includes permit-by-rule, registered permit-by-rule, research, development, and demonstration permit, and emergency permit. However, the term permit does not include draft permit or proposed permit.

(201) "Permit by rule" means authorization allowing certain classes of sites or facilities to manage waste consistent with 401 KAR Chapters 30 to 40, without submission of a registration or permit application to the cabinet. Examples of hazardous waste sites or facilities which are permitted by rule include facilities operating under an interim status permit and facilities identified in Section 1 of 401 KAR 38:060.

(202) "Permittee" means any person holding a valid permit issued by the cabinet to manage, treat, store, or dispose of waste.

(203) "Person" shall have the meaning specified in KRS 224.01-010.

(204) "Personnel" or "facility personnel" means all persons who work at or oversee the operations of a waste facility, and whose actions or failure to act may result in noncompliance with the requirements of the waste management administrative regulations.

(205) "Pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, other than any article that

(a) is a new animal drug under FFDCFA section 201(w), or

(b) is an animal drug that has been determined by regulation of the Secretary of Health and Human Services not to be a new animal drug, or

(c) is an animal feed under FFDCFA section 201(x) that bears or contains any substances described by paragraph (a) or (b) of this subsection.

(206) "Pile" or "waste pile" means any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage and that is not a containment building.

(207) "Plasma arc incinerator" means any enclosed device using a high intensity electrical discharge or arc as a source of heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace.

(208) "Point of compliance" means for hazardous waste site and facilities, groundwater monitoring wells located within 250 feet of the waste boundary as approved by the cabinet.

(209) "Point of waste origination" means as follows:

(a) When the facility owner or operator is the generator of the hazardous waste, the point of waste origination means the point where a solid waste produced by a system, process, or waste management unit is determined to be a hazardous waste as identified in 401 KAR Chapter 34.

(b) When the facility owner and operator are not the generator of the hazardous waste, point of waste origination means the point where the owner or operator accepts delivery or takes possession of the hazardous waste.

(210) "Point of waste treatment" means the point where a hazardous waste exits a waste management unit used to destroy, degrade, or remove organics in the hazardous waste.

(211) "Point source" means any discernible, confined, and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

(212) "Pollutant" shall have the same meaning as KRS 224.01-010.

(213) "Polychlorinated biphenyls" or "PCB" means halogenated organic compounds defined in accordance with 40 C.F.R. 761.2 as of July 1989.

(214) "Postclosure care" means the manner in which a facility shall be maintained when it no longer accepts waste for disposal.

(215) "Postclosure monitoring and maintenance" shall have the meaning specified in KRS 224.01-010.

(216) "Postclosure plan" means the plan for postclosure care prepared in accordance with the requirements of Sections 8 to 11 of 401 KAR 34.070 or Sections 8 to 11 of 401 KAR 35.070.

(217) "Pressure release" means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

(218) "Primary exporter" means any person who is required to originate the manifest for a shipment of hazardous waste in accordance with Section 1 of 401 KAR 32.020 which specifies a treatment, storage, or disposal facility in a receiving country as the facility to which the hazardous waste will be sent and any intermediary arranging for the export.

(219) "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.

(220) "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.

(221) "Property damage" shall have the meaning given by applicable Kentucky statutes. Property damage does not include those liabilities which, consistent with the standard industry prac-

tices, are excluded from coverage in liability policies for property damage.

(222) "Proposed permit" means a document prepared by the cabinet indicating the cabinet's tentative decision to issue or deny, modify, revoke or terminate a permit.

(223) "Publicly owned treatment works" or "POTW" shall have the meaning specified in KRS 224.01-010.

(224) "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.

(225) "Qualified groundwater scientist" means a geologist registered in Kentucky who has received a bachelors or postgraduate degree in the natural sciences or engineering, and has sufficient training and experience in groundwater hydrology and related fields to enable that individual to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport.

(226) "Receiving country" means a foreign country to which a hazardous waste is sent for the purpose of treatment, storage or disposal (except short-term storage incidental to transportation).

(227) "Recharge zone" means an area supplying the water which enters an underground drinking water source.

(228) "Reclaimed" means a material that is processed to recover a usable product, or that is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(229) "Recovered material" shall have the meaning specified in KRS 224.01-010.

(230) "Recyclable materials" means hazardous wastes that are recycled.

(231) "Recycled" means a material that is used, reused, or reclaimed.

(232) "Recycling" shall have the meaning specified in KRS 224.01-010.

(233) "Regional integrated waste treatment and disposal demonstration facility" shall have the meaning specified in KRS 224.01-010.

(234) "Regulated unit" means hazardous waste land disposal sites or facilities, or portions of existing hazardous waste land disposal sites or facilities that continued to receive waste after January 26, 1983.

(235) "Remediation waste" means all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements under Section 12 of 401 KAR 34.060 and KRS 224.46-520. For a given facility, remediation wastes may originate only from within the facility boundary, but may include waste managed in implementing KRS 224.46-520 for releases beyond the facility boundary.

(236) "Repaired" means that equipment is adjusted, or otherwise altered, to eliminate a leak.

(237) "Replacement unit" means a landfill, surface impoundment, or waste pile unit from which all or substantially all of the waste is removed, and that is subsequently reused to treat, store, or dispose of hazardous waste. "Replacement unit" does not apply to a unit from which waste is removed during closure, if the subsequent reuse solely involves the disposal of waste from that unit and other closing units or corrective action areas at the facility, in accordance with an approved closure plan or approved corrective action.

(238) "Representative sample" means a sample of a universe or whole (for example, waste pile, lagoon, or groundwater) which can be expected to exhibit the average properties of the universe or whole.

(239) "Research, development, and demonstration permit" means a permit issued by the cabinet for a hazardous waste treatment facility that utilizes 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 through 36.

(240) "Resource recovery" means the recovery of material or

energy from waste.

(241) "Run-off" means any rainwater, leachate, or other liquid that drains overland from any part of a facility.

(242) "Run-on" means any rainwater, leachate, or other liquid that drains overland onto any part of a facility.

(243) "Saturated zone" shall have the same meaning as "zone of saturation".

(244) "Schedule of compliance" means a schedule of remedial measures included in a permit or cabinet order, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with KRS Chapter 224 and 401 KAR Chapters 30 to 40.

(245) "Scrap metal" is bits and pieces of metal parts (for example, bars, turnings, rods, sheets, or wire) or metal pieces that may be combined together with bolts or soldering (for example, radiators, scrap automobiles, or railroad boxcars), which when worn or superfluous can be recycled.

(246) "Secretary" shall have the meaning specified in KRS 224.01-010.

(247) "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.

(248) "Separator tank" means a device used for separation of two immiscible liquids.

(249) "Sewage system" shall have the meaning specified in KRS 224.01-010.

(250) "Site" means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the waste facility or activity.

(251) "Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant or any other waste having similar characteristics and effects.

(252) "Sludge dryer" means any enclosed thermal treatment device that is used to dehydrate sludge and that has a maximum total thermal input, excluding the heating value of the sludge itself, of 2,500 BTU per pound of sludge treated on a wet weight basis.

(253) "Small quantity generator" means a generator who generates more than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month.

(254) "Small quantity handler of universal waste" means a universal waste handler who does not accumulate more than 5,000 kilograms of universal waste (batteries, lamps, pesticides, or thermostats, calculated collectively) at any time.

(255) "Solid waste management unit" shall mean any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

(256) "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.

(257) "Sorb" means to either adsorb, absorb, or both.

(258) "Sorbent" means a material that is used to soak up free liquids by either adsorption or absorption, or both.

(259) "Spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

(260) "Spill" means any accidental spilling, leaking, pumping, pouring, emitting, or dumping of hazardous wastes or materials which, when spilled, become hazardous wastes into or on any land or water.

(261) "Start-up" means the setting in operation of a hazardous waste management unit or control device for any purpose.

(262) "State" means any of the fifty (50) states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Northern Mariana Islands or Guam but does not include any foreign country.

(263) "Steam stripping operation" means a distillation operation in which vaporization of a volatile constituent of a liquid mixture takes place by the introduction of steam directly into the charge.

(264) "Storage" shall have the meaning specified in KRS 224.01-010.

(265) "Storage facility" means a facility or part of a facility at which hazardous waste is held for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere. A generator who accumulates his own hazardous wastes in an approved manner for less than ninety (90) days for subsequent transport on-site or off-site is not operating or maintaining a storage facility.

(266) "Storage of hazardous waste" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

(267) "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.

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

(269) "Sump" means any pit or reservoir that meets the definition of tank, and those troughs and trenches connected to it, that serves to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities; except that as used in the landfill, surface impoundment, and waste pile administrative regulations, "sump" means any lined pit or reservoir that serves to collect liquids drained from a leachate collection and removal system or leak detection system for subsequent removal from the system.

(270) "Surface impoundment" means a facility or part of a facility which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

(271) "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.

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

(273) "Tank" means a stationary device designed to contain an accumulation of hazardous waste that is constructed primarily of nonearthen materials (for example, wood, concrete, steel, or plastic) which provide structural support and which does not meet the definition of any other unit.

(274) "Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

(275) "Termination" shall have the meaning specified in KRS 224.01-010.

(276) "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, 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.

(277) "Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge (see also "incinerator" and "open burning").

(278) "Thermal treatment facility" means a facility or part of a facility which uses elevated temperatures as the primary means to change the chemical, physical or biological character or composition of hazardous waste. Examples of thermal treatment processes

are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge.

(279) "Thermostat" means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of Section 4(3)(b) of 401 KAR 43:020 or Section 4(3)(b) of 401 KAR 43:030.

(280) "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.

(281) "Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which acid is neutralized.

(282) "Transit country" means any foreign country, other than a receiving country, through which a hazardous waste is transported.

(283) "Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body is a separate transport vehicle.

(284) "Transportation" shall have the meaning specified in KRS 224.01-010.

(285) "Transporter" means a person engaged in the off site transportation of hazardous waste by air, rail, highway or water.

(286) "Treatability study" means:

(a) A study in which a hazardous waste is subjected to a treatment process to determine:

1. Whether the waste is amenable to the treatment process;
2. What pretreatment, if any, is required;
3. The optimal process conditions needed to achieve the desired treatment;
4. The efficiency of a treatment process for a specific waste or wastes; or
5. The characteristics and volumes of residuals from a particular treatment process.

(b) For the purpose of 401 KAR 31:010, Section 4(5) and (6), exemptions are liner compatibility, corrosion, and other material compatibility studies and toxicological and health effects studies.

(c) A "treatability study" is not a means to commercially treat or dispose of hazardous waste.

(287) "Treatment" shall have the meaning specified in KRS 224.01-010.

(288) "Treatment facility" means a facility or part of a facility using any method, technique or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous or less hazardous, easier to transport, store, or dispose of, or amenable for recovery, amenable for storage, or reduced in volume.

(289) "Treatment zone" means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

(290) "Underground drinking water source" means:

- (a) An aquifer supplying drinking water for human consumption; or
- (b) An aquifer in which the groundwater contains less than 10,000 mg/l total dissolved solids.

(291) "UIC well" means an underground injection control well as provided in 40 C.F.R. Part 144.

(292) "Underground injection" means the subsurface emplacement of fluids through a bored, drilled, or driven well, or through a dug well, where the depth of the dug well is greater than the largest surface dimension. (See also "injection well".)

(293) "Underground tank" means a device meeting the definition of "tank" in this section whose entire surface area is totally below the surface of and covered by the ground.

(294) "Underlying hazardous constituent" means any constituent listed in Section 1 of 401 KAR 37:040, Table – Treatment Stan-

dards for Hazardous Wastes, except vanadium and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific treatment standards.

(295) "Unfit for use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

(296) "Universal waste" means any of the following hazardous wastes that are subject to the universal waste requirements of 401 KAR Chapter 43:

- (a) Batteries as described in Section 2 of 401 KAR 43:010;
- (b) Pesticides as described in Section 3 of 401 KAR 43:010;
- (c) Thermostats as described in Section 4 of 401 KAR 43:010;

and

- (d) Spent lamps as described in Section 5 of 401 KAR 43:010.

(297) "Universal waste handler":

(a) Means:

1. A generator of universal waste; or
2. The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination.

(b) Does not mean:

1. A person who treats (except under the provisions of Sections 4(1) or (3) of 401 KAR 43:020 or Sections 4(1) or (3) of 401 KAR 43:030), disposes of, or recycles universal waste; or
2. A person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

(298) "Universal waste transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of universal waste are held during the normal course of transportation for ten days or less.

(299) "Universal waste transporter" means a person engaged in the off-site transportation of universal waste by air, rail, highway, or water.

(300) "Unsaturated zone" shall have the same meaning as "Zone of aeration".

(301) "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

(302) "Used oil" shall have the same meaning as KRS 224.50-545.

(303) "Used or reused" means a material that is either:

- (a) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one (1) process used as feedstock in another process). However, a material shall not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or
- (b) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

(304) "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.

(305) "Vapor recovery system" means that equipment, device, or apparatus capable of collecting vapors and gases discharged from a storage tank, and a vapor processing system capable of affecting such vapors and gases so as to prevent their emission into the atmosphere.

(306) "Vapor-mounted seal" means a foam-filled primary seal mounted continuously around the circumference of the tank so that there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the hazardous waste surface, and the floating roof.

(307) "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.

(308) "Vessel" means any watercraft used or capable of being used as a means of transportation on the water.

(309) "Volatile organic concentration" or "VO concentration" means the fraction by weight of organic compounds in a hazardous waste expressed in terms of parts per million (ppmw) as determined by direct measurement using Method 25D or by knowledge of the waste in accordance with the requirements of Section 4 of 401 KAR 35.281.

(310) "Washout" means the carrying away of waste by waters as a result of flooding.

(311) "Waste" shall have the meaning specified in KRS 224.01-010.

(312) "Waste boundary" means the outermost perimeter of the waste (projected in the horizontal plane) as it would exist at completion of the disposal activity.

(313) "Waste determination" means performing all applicable procedures in accordance with the requirements of Section 4 of 401 KAR 35.281 to determine whether a hazardous waste meets standards specified in 401 KAR Chapter 35. Examples of a waste determination include performing the procedures in accordance with the requirements of Section 4 of 401 KAR 35.281 to determine the average VO concentration of a hazardous waste at the point of waste origination; the average VO concentration of a hazardous waste at the point of waste treatment and comparing the results to the exit concentration limit specified for the process used to treat the hazardous waste; determining the organic reduction efficiency and the organic biodegradation efficiency for a biological process used to treat a hazardous waste and comparing the results to the applicable standards; or the maximum volatile organic vapor pressure for a hazardous waste in a tank and comparing the results to the applicable standards.

(314) "Waste pile" shall have the same meaning as "pile".

(315) "Waste stabilization process" means any physical or chemical process used to either reduce the mobility of hazardous constituents in a hazardous waste or eliminate free liquids as determined by Test Method 9005 (Paint Filter Liquids Test) in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, (incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30.010). A waste stabilization process includes mixing the hazardous waste with binders or other materials, and curing the resulting hazardous waste and binder mixture. Other synonymous terms used to refer to this process are "waste fixation" or "waste solidification."

(316) "Wastewaters" means 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:

(a) 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 1 of 401 KAR 37.040 in Table Treatment Standards for Hazardous Waste.

(b) K011, K013, K014 wastewaters contain less than five (5) percent by weight TOC and less than one (1) percent by weight TSS, as generated; and

(c) K103 and K104 wastewaters contain less than four (4) percent by weight TOC and less than one (1) percent by weight TSS.

(317) "Wastewater treatment unit" means a device that:

(a) is part of a wastewater treatment facility that is subject to administrative regulation under either section 402 or 307(b) of the CWA;

(b) receives and treats or stores an influent wastewater which is a hazardous waste as defined in 401 KAR 31.010, Section 3, or generates and accumulates a wastewater treatment sludge that is a hazardous waste as defined in 401 KAR 31.010, Section 3, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in Section 3 of 401 KAR 31.010; and

(c) Meets the definition of tank or tank system in this administrative regulation.

(318) "Water" or "waters of the Commonwealth" shall have the meaning specified in KRS 224.01-010.

(319) "Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

(320) "Well" means any shaft or pit dug or bored into the earth, generally of cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

(321) "Wetlands" means land that has a predominance of hydric soils and is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

(322) "Zone of aeration" means that region of the soil or rock between the land surface and the nearest saturated zone in which the interstices are occupied partially by air.

(323) "Zone of engineering control" means an area under the control of the owner or operator that upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to waters of the Commonwealth.

(324) "Zone of saturation" means that part of the earth's crust containing groundwater in which all voids, large and small, are filled with liquid.

Section 2. Acronyms and Abbreviations. Unless otherwise specifically indicated by context, acronyms and abbreviations used in 401 KAR Chapter 31 shall have the meaning as identified in Table 1 of this administrative regulation.

Am.	Amended
C	Corrosive waste
CAA	Clean Air Act, as amended
C.F.R.	Code of Federal Regulations
cm	Centimeter
cm ²	Centimeter squared
CO	Carbon monoxide
CO ₂	Carbon dioxide
CWA	Clean Water Act, as amended
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
DOT	United States Department of Transportation
DRE	Destruction and removal efficiency
E	Explosive waste
eff.	Effective
EPA	United States Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIA	Federal Insurance Administration
FR	Federal Register
H	Acutely hazardous waste
ha	Hectare
HTMR	High temperature metals recovery
HSWA	Hazardous and Solid Waste Amendments of 1994
I	Ignitable waste
KAR	Kentucky Administrative Regulation
kg	Kilogram
KPDES	Kentucky Pollution Discharge Elimination System
KRS	Kentucky Revised Statute
Ky R.	Administrative Register of Kentucky
l	Liter
LC	Lethal concentration
LD	Lethal dose
ml	Milliliter
mm	Millimeter
N	Normal
NESHAPS	National Emission Standards for Hazardous Air

	Pollutants
NPDES	National Pollutant and Discharge Elimination System
PCB	Polychlorinated biphenyl
pCi/l	Picocuries per liter
PHC	Principal hazardous constituent
Permit POUHC	Permitted principal organic hazardous constituent
PM	Particulate matter
POHC	Principal organic hazardous constituent
ppm	parts per million
Tral POUHC	Tral burn principal organic hazardous constituent
POTW	Publicly owned treatment works
PSD	Prevention of significant deterioration
psi	Pounds per square inch
psig	Pounds per square inch gauge
R	Reactive waste
RCRA	Resource Conservation and Recovery Act, as amended
SDWA	Safe Drinking Water Act, as amended
SEC	Securities and Exchange Commission
SIC	Standard Industrial Classification Code
SPCC	Spill Prevention, Control, and Countermeasures Plan
T	Toxic waste
UIC	Underground Injection Control
UICP	Underground Injection Control Program
U.S.C.	United States Code
U.S.-EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
USPS	United States Postal Service

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: December 27, 2006 at 4 p.m.
 CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 35:010. General provisions for facilities (Interim Status) [(#S)].

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.99, 40 C.F.R. 265 Subpart A

STATUTORY AUTHORITY: KRS 224 10-100, 224.46-510[40 C.F.R. 265 Subpart A]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 the [implements] general provisions [of KRS 224 46-520] relating to hazardous waste sites or facilities that qualify for interim status. [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) Except as provided in subsections (2), (3), and (4) of this section, the subject matter shall be governed by 40 C.F.R. 265.1, except 40 C.F.R. 265 1(c)(4) and 40 C.F.R. 265 1(c)(15), effective July 1,

2005.

(2) The citation to Section 3005 of RCRA in the federal regulation referenced in subsection (1) [(4)] of this section shall be replaced with 401 KAR Chapter 38 and KRS 224 46-520.

(3) The citation to Section 3010(a) of RCRA in the federal regulation referenced in subsection (1) [(4)] of this section shall be replaced with 401 KAR Chapter 38-070, Sections 1 through 6.

(4) The citation to Section 3005(e) of RCRA in the federal regulation referenced in subsection (1) [(4)] of this section shall be replaced with 401 KAR Chapter 38 070, Sections 1 through 6.

Section 2 Imminent Hazard Action. (1) The subject matter shall be governed by 40 C.F.R. 265 4, effective July 1, 2005.

(2) The citation to Section 7003 of RCRA in the federal regulation referenced in subsection (1) [(4)] of this section shall be replaced with KRS 224 10-410.

[Section 1 Purpose, Scope, and Applicability. (1) The purpose of this chapter is to establish minimum standards that 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 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 U.S.C. 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), (c), and (d) 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;

(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 35.006, provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory identified 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;

(i) 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 these 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) 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. Thermocats 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.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: December 27, 2006 at 4 p.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 35:020. General facility [facilities] standards [Interim Status] [(S)].

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.99, 40 C.F.R. 265 Subpart B

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520[40 C.F.R. 265 Subpart B]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection Cabinet to establish standards for these permits, to require adequate financial responsibility, and to establish minimum standards for closure for all facilities and the post-closure 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 [implements provisions of KRS 224.46-520 by establishing] general standards applicable to hazardous waste sites or facilities qualifying for interim status. [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 subject matter shall be governed by 40 C.F.R. 265.10, effective July 1, 2005.

Section 2. Identification Number. The subject matter shall be governed by 40 C.F.R. 265.11, effective July 1, 2005.

Section 3. Required Notices. The subject matter shall be governed by 40 C.F.R. 265.12, effective July 1, 2005.

Section 4. General Waste Analysis. (1) The subject matter shall be governed by 40 C.F.R. 265.13, effective July 1, 2005.

(2) The citations to 3004(d) of RCRA in the federal regulation referenced in subsection (1) [(1) of this section shall be replaced with KRS 224.46-520.

Section 5. Security. The subject matter shall be governed by 40 C.F.R. 265.14, effective July 1, 2005.

Section 6. General Inspection Requirements. The subject matter shall be governed by 40 C.F.R. 265.15, effective July 1, 2005.

Section 7. Personnel Training. The subject matter shall be governed by 40 C.F.R. 265.16, effective July 1, 2005.

Section 8. General Requirements for Ignitable, Reactive, or Incompatible Wastes. The subject matter shall be governed by 40 C.F.R. 265.17, effective July 1, 2005.

Section 9. Location Standards. The subject matter shall be governed by 40 C.F.R. 265.18, effective July 1, 2005.

Section 10. Construction Quality Assurance Program. The subject matter shall be governed by 40 C.F.R. 265.19, effective July 1, 2005.

[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 5(4) of 401 KAR 35:275, 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;

(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 items 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, Sections 3, 4, and 9 of 401 KAR 35:280, Sections 9 and 11(2) 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)(e) 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;

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- 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]

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: December 27, 2006 at 4 p.m.
 CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone: (502) 564-6716 fax (502) 564-4049.

401 KAR 35:030. Preparedness and prevention (Interim Status) [(IS)].

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.99; 40 C.F.R. 265 Subpart C

STATUTORY AUTHORITY: KRS 10-100, 224.46-520[~~40 C.F.R. 265 Subpart C~~]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 procedures and standards for preparedness and prevention of hazardous waste releases.

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 265.30, effective July 1, 2005.

Section 2. The Maintenance and Operation of a [Design and Operation of] Facility. The subject matter shall be governed by 40 C.F.R. 265.31, effective July 1, 2005.

Section 3. Required Equipment The subject matter shall be governed by 40 C.F.R. 265.32, effective July 1, 2005.

Section 4. Testing and Maintenance of Equipment The subject matter shall be governed by 40 C.F.R. 265.33, effective July 1, 2005.

Section 5. Access to Communications or Alarm System The subject matter shall be governed by 40 C.F.R. 265.34, effective July 1, 2005.

Section 6. Required Aisle Space The subject matter shall be governed by 40 C.F.R. 265.35, effective July 1, 2005.

Section 7. Arrangements with Local Authorities. The subject matter shall be governed by 40 C.F.R. 265.37, effective July 1, 2005. [The requirements in this administrative regulation apply to owners and operators of all hazardous waste facilities, except as Section 1 of 401 KAR 35:010 provides otherwise.

Section 2. Maintenance and Operation of Facility Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil or surface water which could threaten human health or the environment.

Section 3. Required Equipment. All facilities must be equipped with the following, unless none of the hazards posed by waste handled at the site or facility could require a particular kind of equipment specified below:

(1) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(2) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two (2)-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;

(3) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment and decontamination equipment; and

(4) Water at adequate volume and pressure to supply water

hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

~~Section 4. Testing and Maintenance of Equipment. All facility communications or alarm systems, fire protection equipment, spill control equipment and decontamination equipment where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.~~

~~Section 5. Access to Communications or Alarm System. (1) Whenever hazardous waste is being poured, mixed, spread or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with a required employee, unless such a device is not required under Section 3 of this administrative regulation.~~

~~(2) If there is ever just one (1) employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two (2) way radio, capable of summoning external emergency assistance, unless such a device is not required under Section 3 of this administrative regulation.~~

~~Section 6. Required Aisle Space. The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.~~

~~Section 7. Arrangements with Local Authorities. (1) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:~~

~~(a) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility and possible evacuation routes;~~

~~(b) Where more than one (1) police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department and agreements with any others to provide support to the primary emergency authority;~~

~~(c) Agreements with state emergency response teams, emergency response contractors, and equipment suppliers, and~~

~~(d) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.~~

~~(2) Where state or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.]~~

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: December 27, 2006 at 4 p.m.

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 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 35:040. Contingency plan and emergency procedures (Interim Status) [(IS)].

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.99, 40 C.F.R. 265 Subpart D
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520[40 C.F.R. 265 Subpart D]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 contingency planning and emergency procedures for facilities.

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 265.50, effective July 1, 2005.

Section 2. Purpose and Implementation of Contingency [Emergency] Plan. The subject matter shall be governed by 40 C.F.R. 265.51, effective July 1, 2005.

Section 3. Content of Contingency Plan. The subject matter shall be governed by 40 C.F.R. 265.52, effective July 1, 2005.

Section 4. Copies of Contingency Plan. The subject matter shall be governed by 40 C.F.R. 265.53, effective July 1, 2005.

Section 5. Amendment of Contingency Plan. The subject matter shall be governed by 40 C.F.R. 265.54, effective July 1, 2005.

Section 6. Emergency Coordinator. The subject matter shall be governed by 40 C.F.R. 265.55, effective July 1, 2005.

Section 7. Emergency Procedures. The subject matter shall be governed by 40 C.F.R. 265.56, effective July 1, 2005. [The requirements in this administrative regulation apply to owners and operators of all hazardous waste facilities, except as Section 1 of 401-KAR-35.010 provides otherwise-

~~Section 2. Purpose and Implementation of Contingency Plan. (1) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil or surface water.~~

~~(2) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.~~

~~Section 3. Content of Contingency Plan. (1) The contingency plan must describe the actions facility personnel must take to comply with Sections 2 and 7 of this administrative regulation in response to fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the site or facility.~~

~~(2) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 C.F.R. Part 112 or 40 C.F.R. Part 1510, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this chapter.~~

~~(3) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services, pursuant to Section 7 of 401-KAR-35.030.~~

~~(4) The plan must list names, addresses and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see Section 6 of this administrative regulation), and this list must be kept up to date. Where more than one (1) person is listed, one (1) person must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.~~

~~(5) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications, alarm systems (internal and external), and decontamination equipment), where this equipment is required-~~

This list must be kept up-to-date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(6) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fire).

Section 4. Copies of Contingency Plan. A copy of the contingency plan and all revisions to the plan must be:

- (1) Maintained at the facility; and
- (2) Submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

Section 5. Amendment of Contingency Plan. The contingency plan must be reviewed and immediately amended, if necessary, whenever:

- (1) Applicable administrative regulations are revised;
- (2) The plan fails in an emergency;
- (3) The facility changes (in its design, construction, operation, maintenance, or other circumstances) in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
- (4) The list of emergency coordinators changes; or
- (5) The list of emergency equipment changes.

Section 6. Emergency Coordinator. At all times, there must be at least one (1) employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

Section 7. Emergency Procedures. (1) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

- (a) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and
- (b) Notify appropriate state or local agencies with designated response roles if their help is needed.

(2) Whenever there is a release, fire or explosion, the emergency coordinator must immediately identify the character, exact source, amount and a real extent of any released materials. He may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(3) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire or explosion. This assessment must consider both direct and indirect effects of the release, fire or explosion (e.g., the effects of any toxic, irritating or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(4) If the emergency coordinator determines that the facility has had a release, fire or explosion which could threaten human health or the environment outside the facility, he must report his findings as follows:

- (a) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated, and
- (b) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area (in the applicable regional contingency plan under 40 C.F.R. Part

1510), or the National Response Center (using their twenty-four (24) hour toll free number 800-424-8902). The report must include:

1. Name and telephone number of the reporter;
2. Name and address of the facility;
3. Time and type of incident (e.g., release, fire);
4. Name and quantity of material(s) involved, to the extent known;
5. The extent of injuries, if any; and
6. The possible hazards to human health or the environment outside the facility.

(5) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions and releases do not occur, recur or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

(6) If the facility stops operations in response to a fire, explosion or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation or ruptures in valves, pipes or other equipment, wherever this is appropriate.

(7) Immediately after an emergency, the emergency coordinator must provide for treating, storing or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire or explosion at the facility.

(8) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(a) No waste that may be incompatible with the released material is treated, stored or disposed of until cleanup procedures are completed; and

(b) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(9) The owner or operator must notify the cabinet and appropriate state and local authorities that the facility is in compliance with subsection (10) of this section before operations are resumed in the affected area(s) of the facility.

(10) The owner or operator must note in the operating record the time, date and details of any incident that requires implementing the contingency plan. Within fifteen (15) days after the incident, he must submit a written report on the incident to the cabinet. The report must 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 (e.g., fire, explosion);
- (d) Name and quantity of material(s) involved;
- (e) The extent of injuries, if any;
- (f) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- (g) Estimated quantity and disposition of recovered material that resulted from the incident.]

TERESA J HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: December 27, 2006 at 4 p.m.

CONTACT PERSON R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 35:050. Manifest system, recordkeeping and reporting [Interim Status] [(IS)].

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.99, 40 C.F.R. 265 Subpart E
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520[40 C.F.R. 265 Subpart E]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 [implements provisions of KRS 224.46-620 by establishing] the manifest system, recordkeeping, and reporting requirements for facilities that qualify for interim status. [To implement provisions of KRS 224.46-620 and to establish the manifest system, recordkeeping and reporting requirements for facilities.] This administrative regulation is equivalent to federal standards established in 40 C.F.R. 265 Subpart E except for Sections [Section 4(2)(j) of this administrative regulation, which deletes unnecessary federal language; and Section] 6 and 8 of this administrative regulation, which require [requiree] annual reporting to track transportation of manifested hazardous waste in compliance with KRS Subchapter 224.46 [224 Subchapter 46].

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 265.70, effective [date of] July 1, 2005.

Section 2. Use of Manifest System. The subject matter shall be governed by 40 C.F.R. 265.71, effective [date of] July 1, 2005.

Section 3. Manifest Discrepancies. The subject matter shall be governed by 40 C.F.R. 265.72, effective [date of] July 1, 2005.

Section 4. Operating Record. The subject matter shall be governed by 40 C.F.R. 265.73, effective [date of] July 1, 2005.

Section 5. Availability, Retention, and Disposition of Records. The subject matter shall be governed by 40 C.F.R. 265.74, effective [date of] July 1, 2005.

Section 6. Annual Report. The owner or operator shall prepare and submit a single copy of the Hazardous Waste Annual Report, DEP Form 7072, incorporated by reference in 401 KAR 32.040, Section 7, to the cabinet by March 1 of each year. The Hazardous Waste Annual Report shall cover site or facility activities during the previous calendar year.

Section 7. Unmanifested Waste Report. The subject matter shall be governed by 40 C.F.R. 265.76, effective [date of] September 6, 2005.

Section 8. Additional Reports. In addition to submitting the annual report and unmanifested waste reports required by Sections 6 and 7 of [described in] this administrative regulation, the owner or operator shall also report to the cabinet:

(1) Releases, fires, and explosions as specified in 401 KAR 35.040, Section 7;

(2) Groundwater contamination and monitoring data as specified in 401 KAR 35.060, Sections 4 and 5;

(3) Facility closure as specified in 401 KAR 35.070; and

(4) As otherwise required by 401 KAR 35.275, 401 KAR 35.280, 401 KAR 35.281, and 401 KAR 35.290. [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 35.040 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, waste determinations, 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, Section 5 of 401 KAR 35.275, 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 those data need be kept only three (3) years);

(f) Monitoring, testing, or analytical data when required by 401 KAR 35.060; Section 10 of 401 KAR 35.020; Sections 2, 4, and 6 of 401 KAR 35.100, 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(2) to (6) and 6 of 401 KAR 35.275; Sections 14(4) to (9) and 15 of 401 KAR 35.290, 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, to the cabinet by March 1 of each year. The Hazardous Waste Annual Report shall cover site or facility activities during the previous calendar year.

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 re-

quirement 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 35.275, 401 KAR 35.280, 401 KAR 35.281, and 401 KAR 35.290.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: December 27, 2006 at 4 p.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 35:060. Groundwater monitoring (Interim Status) [(15)].

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.99, 40 C.F.R. 265 Subpart F

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520[49 C.F.R. 265 Subpart F]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection Cabinet to establish standards for these permits, to require adequate financial responsibility, and to establish minimum standards for closure for all facilities and the post-closure 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 [implements provisions of KRS 224.46-520 by establishing] standards for groundwater monitoring at interim status facilities. [To implement provisions of KRS 224.46-520 and to establish standards for groundwater monitoring.]

Section 1. Applicability. [(1)] The subject matter shall be governed by 40 C.F.R. 265.90, effective July 1, 2005.

Section 2. Groundwater Monitoring System. The subject matter shall be governed by 40 C.F.R. 265.91, effective July 1, 2005.

Section 3. Sampling and Analysis. The subject matter shall be

governed by 40 C.F.R. 265.92, effective July 1, 2005.

Section 4. Preparation, Evaluation, and Response. The subject matter shall be governed by 40 C.F.R. 265.93, effective July 1, 2005.

Section 5. Recordkeeping and Reporting (1) Except as provided in subsection (2) of this section, the subject matter shall be governed by 40 C.F.R. 265.94 [subject to the modifications, exceptions, and additions set forth in this section], effective July 1, 2005.

(2) 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) [April, 2007], incorporated by reference in 401 KAR 34.060, Section 13. The owner or operator may use their own document, if [provided] the language is identical to that specified in DEP Form 8046 and DEP Form 8046A.

[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 35.040 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)(e) 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) at 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, now, 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 sta-

tistically 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 regu-

lation to determine whether the requirements under Section 2(1) of this administrative regulation for locating the monitoring wells continue 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)(e) 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.]~~

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: December 27, 2006 at 4 p.m.

CONTACT PERSON: R. Bruce Scott, P. E., Director, Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone (502) 564-6716, fax (502) 564-4049.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 35:070. Closure and postclosure (Interim Status) [(IS)].

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.50, 224.99, 40 C.F.R. 265 Subpart G

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530, [40 C.F.R. 265 Subpart G]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 [implements provisions of KRS 224.46-520 and 224.46-530 by establishing] the standards for closure and postclosure of facilities qualifying for interim status. [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. The subject matter shall be governed by 40 C.F.R. 265.110, effective July 1, 2005.

Section 2. Closure Performance Standard (1) Except as provided in subsection (2) of this section, the subject matter shall be governed by 40 C.F.R. 265.111, effective July 1, 2005 [subject to the modifications, exceptions, and additions set forth in this section].

(2) An owner or operator shall close a facility in a manner that:
(a) Meets the requirements of subsection (1) [(1)] of this section;
(b) Includes any corrective action necessary to bringing the facility into compliance with the applicable facility standards contained in 401 KAR 34:060, Section 12, and [Section 12 of 401 KAR 34:960] and 401 KAR 34:287; and
(c) 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) The subject matter shall be governed by 40 C.F.R. 265.112, effective July 1, 2005.

(2) The citation to Section 3008 of RCRA in the federal regulation referenced in subsection (1) [(1)] of this section shall be replaced with KRS 224.10-100, 224.10-420, [and] 224.46-530, or 224.99-010.

Section 4. Closure: Time Allowed for Closure (1) Except as provided in subsection (2) to (4) of this section, the subject matter shall be governed by 40 C.F.R. 265.113, effective July 1, 2005 [subject to the modifications, exceptions, and additions set forth in this section].

(2) The citation to Section 3019 of RCRA in the federal regulation referenced in subsection (1) [(1)] of this section shall be replaced with 401 KAR 38:070, Section 9.

(3) The citation to 42 U.S.C. 3004(o)(1) and 3005(i)(1) or 42 U.S.C. 3004(o)(2) or (3) or 3005(i) (2), (3), (4) or (13) in the federal regulation referenced in subsection (1) [(1)] of this section shall be replaced with 401 KAR 35:200.

(4) 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 in 401 KAR 35:060, the owner or operator of the unit shall comply with the reporting requirements of KRS 224.01-400, if applicable.

Section 5. Disposal or Decontamination of Equipment, Structures and Soils. The subject matter shall be governed by 40 C.F.R.

265.114, effective July 1, 2005.

Section 6. Certification of Closure. The subject matter shall be governed by 40 C.F.R. 265.115, effective July 1, 2005.

Section 7. Survey Plat. The subject matter shall be governed by 40 C.F.R. 265.116, effective July 1, 2005.

Section 8. Postclosure Care and Use of Property. (1) The subject matter shall be governed by 40 C.F.R. 265.117, effective July 1, 2005.

(2) Any decision to shorten the postclosure care period, as specified in 40 C.F.R. 265.117(a)(2)(i), shall also be made in accordance with KRS 224.46-520(4).

Section 9. Postclosure Plan; Amendment of Plan. (1) The subject matter shall be governed by 40 C.F.R. 265.118, effective July 1, 2005.

(2) The citation to section 3008 of RCRA in the federal regulation referenced in subsection (1) [4] of this section shall be replaced with KRS Chapter 224.

(3) In addition to the requirements to shorten the postclosure monitoring and maintenance of a permitted facility in subsection (1) [1] of this section, the requirements of KRS 224.46-520(4) shall also be applicable.

Section 10. Postclosure Notices. (1) The subject matter shall be governed by 40 C.F.R. 265.119, effective July 1, 2005.

(2) The reference in 40 C.F.R. 265.119 to 40 C.F.R. Subpart G is incorrect. The reference shall [should] be to 40 C.F.R. 265 Subpart G.

Section 11. Certification of Completion of Postclosure Care. The subject matter shall be governed by 40 C.F.R. 265.120, effective July 1, 2005.

Section 12. Postclosure requirements for facilities that obtain enforceable documents in lieu of postclosure permits. The subject matter shall be governed by 40 C.F.R. 265.121, effective July 1, 2005.

[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;

(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;

(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, 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 closure 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 35.000 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 appli-

cable, or

2. 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 6 of 401 KAR 35-240, Section 5 of 401 KAR 35-250, Section 5 of 401 KAR 35-260, Section 3 of 401 KAR 34-245, 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.

(e) 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

(e) 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 cludges 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 post-

closure 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 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.]

TERESA J. HILL, Secretary
 APPROVED BY AGENCY: November 13, 2006
 FILED WITH LRC: December 27, 2006 at 4 p.m.
 CONTACT PERSON: R. Bruce Scott, P. E., Director,
 Division of Waste Management, 14 Reilly Road, Frankfort, Kentucky 40601, phone: (502) 564-6716 fax (502) 564-4049.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
 Department for Environmental Protection
 Division of Waste Management
 (As Amended at ARRS, May 8, 2007)

401 KAR 35:180. Use and management of containers (Interim Status) [(HS)].

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43,

224.46, 224.99, 40 C.F.R. 265 Subpart I
 STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520 [~~40 C.F.R. 265 Subpart I~~]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 subject matter shall be governed by 40 C.F.R. 265.170, effective July 1, 2005.

Section 2. Condition of Containers. The subject matter shall be governed by 40 C.F.R. 265.171, effective July 1, 2005.

Section 3. Compatibility of Waste with Containers. The subject matter shall be governed by 40 C.F.R. 265.172, effective July 1, 2005.

Section 4. Management of Containers. The subject matter shall be governed by 40 C.F.R. 265.173, effective July 1, 2005.

Section 5. Inspections. The subject matter shall be governed by 40 C.F.R. 265.174, effective July 1, 2005.

Section 6. Special Requirements for Ignitable or Reactive Waste. The subject matter shall be governed by 40 C.F.R. 265.176, effective July 1, 2005.

Section 7. Special Requirements for Incompatible Wastes. The subject matter shall be governed by 40 C.F.R. 265.177, effective July 1, 2005.

Section 8. Air Emission Standards. The subject matter shall be governed by 40 C.F.R. 265.179, effective July 1, 2005. [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 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.]~~

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: December 27, 2006 at 4 p.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Department for Environmental Protection
Division of Waste Management
(As Amended at ARRS, May 8, 2007)

401 KAR 35:190. Tank systems (Interim Status) [Tanks (IS)].

RELATES TO: KRS Subchapters 224.01, 224.10, 224.40, 224.43, 224.46, 224.99, 40 C.F.R. 265 Subpart J

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520[~~40 C.F.R. 265 Subpart J~~]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 [implements provisions of KRS 224.46-520 by establishing] [To implement provisions of KRS 224.46-520 and to establish] minimum standards for tanks qualifying for interim status.

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 265.190, effective July 1, 2005.

Section 2. Assessment of Existing Tank System's Integrity. The subject matter shall be governed by 40 C.F.R. 265.191, effective July 1, 2005.

Section 3. Design and Installation [Installation] of New Tank Systems or Components. The subject matter shall be governed by 40 C.F.R. 265.192, effective July 1, 2005.

Section 4. Containment and Detection. The subject matter shall be governed by 40 C.F.R. 265.193, effective July 1, 2005.

Section 5. General Operating Requirements. The subject matter shall be governed by 40 C.F.R. 265.194, effective July 1, 2005.

Section 6. Inspections. The subject matter shall be governed by 40 C.F.R. 265.195, effective July 1, 2005.

Section 7. Response to Leaks or Spills and Disposition of Leaking or Unfit-for-Use Tank Systems. The subject matter shall be governed by 40 C.F.R. 265.196, effective July 1, 2005.

Section 8. Closure and Postclosure Care. The subject matter shall be governed by 40 C.F.R. 265.197, effective July 1, 2005.

Section 9. Special Requirements for Ignitable or Reactive Wastes. The subject matter shall be governed by 40 C.F.R. 265.198, effective July 1, 2005.

Section 10. Special Requirements for Incompatible Wastes. The subject matter shall be governed by 40 C.F.R. 265.199, effective July 1, 2005.

Section 11. Waste Analysis and Trial Tests. The subject matter shall be governed by 40 C.F.R. 265.200, effective July 1, 2005.

Section 12. Special Requirements for Generators of Between 100 and 1,000 kg/mo that Accumulate Hazardous Waste in Tanks. The subject matter shall be governed by 40 C.F.R. 265.201, effective July 1, 2005.

Section 13. Air Emission Standards. The subject matter shall be governed by 40 C.F.R. 265.202, effective July 1, 2005. [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 treated 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, incorporated in 40 C.F.R. 260.11, which is adopted in Section 3 of 401 KAR 30:010.

(2) Tank systems, including cumps, as defined in Section 1 of 401 KAR 35:005, 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, cumps, and other collection devices used in conjunction with drip pads as defined in 401 KAR 35:005 and regulated under 401 KAR 35:285, 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 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 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 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 waste 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 climate 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 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 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 impervious 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.

(e) 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 (e) 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 (e) 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) Overflow 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) Overflowing 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 C.F.R. 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, those 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 cause 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 38.600.

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 C.F.R. 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 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 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 36.

(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 immedi-

ately 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 C.F.R. 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.]

TERESA J. HILL, Secretary

APPROVED BY AGENCY: November 13, 2006

FILED WITH LRC: December 27, 2006 at 4 p.m.

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ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Department for Environmental Protection

Division of Waste Management

(As Amended at ARRS, May 8, 2007)

401 KAR 35:200. Surface Impoundments (Interim Status) [(IS)].

RELATES TO: KRS Subchapters 224.10, 224.40, 224.43, 224.46, 224.99, 40 C.F.R. 265 Subpart K

STATUTORY AUTHORITY: KRS 224.10-100, 224.46-520, 224.46-530 [40 C.F.R. 265 Subpart K]

NECESSITY, FUNCTION, AND CONFORMITY: 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 Environmental and Public Protection 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 requirements for [implements] [To implement] [provisions of KRS 224.46-520 and 224.46-530 relative to] surface impoundments qualifying for interim status.

Section 1. Applicability. The subject matter shall be governed by 40 C.F.R. 265.220, effective July 1, 2005.

Section 2. Design and Operating Requirements (1) The subject matter shall be governed by 40 C.F.R. 265.221, effective July 1, 2005.

(2) The citation to Section 3005 of RCRA in the federal regulation referenced in subsection (1) [1] of this section shall be replaced with 401 KAR Chapter 38.

Section 3. Action Leakage Rate. The subject matter shall be governed by 40 C.F.R. 265.222, effective July 1, 2005.

Section 4. Containment System. The subject matter shall be

governed by 40 C.F.R. 265.223, effective July 1, 2005.

Section 5. Response Actions. The subject matter shall be governed by 40 C.F.R. 265.223, effective July 1, 2005.

Section 6. Waste Analysis and Trial Tests. The subject matter shall be governed by 40 C.F.R. 265.225, effective July 1, 2005.

Section 7. Monitoring and Inspection. The subject matter shall be governed by 40 C.F.R. 265.226, effective July 1, 2005.

Section 8. Closure and Postclosure Care. The subject matter shall be governed by 40 C.F.R. 265.228, effective July 1, 2005.

Section 9. Special Requirements for Ignitable or Reactive Wastes. The subject matter shall be governed by 40 C.F.R. 265.229, effective July 1, 2005.

Section 10. Special Requirements for Incompatible Wastes. The subject matter shall be governed by 40 C.F.R. 265.230, effective July 1, 2005.

Section 11. Air Emission Standards. The subject matter shall be governed by 40 C.F.R. 265.232, effective July 1, 2005. [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, oil layer 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 overflowing, 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