

902 KAR 100:021. Disposal of radioactive material.

RELATES TO: KRS 211.842-211.852, 211.990(4), 10 C.F.R. 20.2001-.2007, Appendix G-20.2001-.2401, 61

STATUTORY AUTHORITY: KRS 13B.170, 194A.050(1), 211.090(3), 211.844

NECESSITY, FUNCTION, AND CONFORMITY: KRS 211.844 requires the Cabinet for Health and Family Services to provide by administrative regulation for the registration and licensing of the possession or use of a source of ionizing or electronic product radiation and the handling and disposal of radioactive waste. This administrative regulation provides waste disposal limitations for radioactive material and shall apply to a person disposing of radioactive material or waste.

Section 1. General Requirements.

- (1) A person or licensee shall dispose of radioactive material or waste only:
 - (a) By transfer to an authorized recipient as provided in 902 KAR 100:040, Section 12, or 902 KAR 100:022;
 - (b) By decay in storage;
 - (c) By release in an effluent within the limits in 902 KAR 100:019, Section 10; or
 - (d) As authorized by Sections 2, 3, 4, or 5 of this administrative regulation.
- (2) A person shall be specifically licensed to receive waste containing radioactive material or waste from other persons for:
 - (a) Treatment prior to disposal;
 - (b) Treatment or disposal by incineration;
 - (c) Decay in storage; or
 - (d) Disposal at a land disposal facility licensed under 902 KAR 100:022.

Section 2. Method for Obtaining Approval of Proposed Disposal Procedures. A person, licensee, or applicant for a license may apply to the cabinet for approval of a proposed procedure, not authorized in 902 KAR 100:019, 100:021, 100:022, 100:050, or 100:072, to dispose of radioactive material or waste generated by their activity. An application shall include:

- (1) A description of the waste containing radioactive material to be disposed of, including the:
 - (a) Physical and chemical properties important to risk evaluation; and
 - (b) Proposed manner and conditions of waste disposal;
- (2) An analysis and evaluation of pertinent information on the nature of the environment;
- (3) The nature and location of other potentially affected licensed and unlicensed facilities; and
- (4) An analysis and a procedure to ensure doses shall be maintained ALARA and within the dose limits in 902 KAR 100:019, Sections 3, 8, 9, and 10.

Section 3. Disposal by Release into Sanitary Sewerage.

- (1) A person or licensee may discharge licensed material into sanitary sewerage under the following conditions:
 - (a) The material shall be readily soluble or shall be readily dispersible biological material, in water;
 - (b) The quantity of licensed or other radioactive material that the licensee released into the sewer in one (1) month, divided by the average monthly volume of water released into the sewer by the licensee, shall not exceed the concentration in 10 C.F.R. 20, Appendix B;
 - (c) For the release of more than one (1) radionuclide, the following conditions shall be satisfied:

1. The licensee shall determine the fraction of the limit in 10 C.F.R. 20, Appendix B, represented by discharges into the sanitary sewerage by dividing the actual monthly average concentration of each radionuclide released by the licensee into the sewer by the concentration of that radionuclide in 10 C.F.R. 20, Appendix B; and

2. The sum of the fractions for each radionuclide required by subsection (1)(c)1 of this section shall not exceed unity; and

(d) The total quantity of licensed and other radioactive material that the licensee releases into the sewerage system in a year shall not exceed five (5) curies (185 GBq) of hydrogen-3, one (1) curie (37 GBq) of carbon-14, and one (1) curie of other radioactive materials combined.

(2) Excreta from an individual undergoing medical diagnosis or therapy with radioactive material shall not be subject to the limitations contained in subsection (1) of this section.

Section 4. Treatment or Disposal by Incineration. A licensee may treat or dispose of licensed material by incineration only:

(1) In the amounts and forms specified in Section 5 of this administrative regulation; or

(2) As specifically approved by the cabinet in accordance with Section 2 of this administrative regulation.

Section 5. Disposal of Specific Wastes.

(1) A person or licensee may dispose of the following radioactive material without regard to its radioactivity:

(a) 0.05 microcurie or less of hydrogen-3, or tritium, carbon-14, or iodine-125 per gram of medium used for liquid scintillation counting or in vitro clinical or in vivo laboratory testing; and

(b) 0.05 microcurie (1.85 kBq) or less of hydrogen-3, carbon-14, or iodine-125 per gram of animal tissue averaged over the weight of the entire animal.

(2) A licensee shall not dispose of tissue pursuant to subsection (1)(b) of this section in a manner that may permit its use as food for a human or as animal feed.

(3) A licensee shall maintain records required by Section 11 of this administrative regulation.

(4) A licensee shall comply with other applicable federal, state, and local regulations governing other toxic or hazardous properties of these materials.

Section 6. Classification of Radioactive Waste for Near-Surface Disposal.

(1) Considerations. Determination of the classification of waste shall be given the following considerations:

(a)

1. The concentration of long-lived radionuclides, and their shorter-lived precursors, whose potential hazard shall persist long after a precaution such as an institutional control, improved waste form, and deeper disposal have ceased to be effective.

2. The precaution delays the time long-lived radionuclides may cause an exposure.

3. The magnitude of the potential dose is limited by the concentration and availability of the radionuclide at the time of exposure; and

(b) The concentration of a shorter-lived radionuclide for which a requirement on an institutional control, waste form, and disposal methods are effective.

(2) Classes of waste.

(a)

1. Class A waste shall be segregated from other waste classes at the disposal site, except for waste described at subparagraph 2 of this paragraph.

2. The physical form and characteristics of Class A waste shall meet the minimum requirements in Section 7 of this administrative regulation.

3. If Class A waste also meets the stability requirements in Section 7(2) of this administrative regulation, it shall not be necessary to segregate Class A waste for disposal.

(b)

1. Class B waste shall meet more rigorous requirements on waste form to ensure stability after disposal.

2. The physical form and characteristics of Class B waste shall meet both the minimum and stability requirements in Section 7 of this administrative regulation.

(c)

1. Class C waste shall meet more rigorous requirements on waste form to ensure stability and shall require additional measures at the disposal facility to protect against inadvertent intrusion.

2. The physical form and characteristics of Class C waste shall meet both the minimum and stability requirements in Section 7 of this administrative regulation.

(3) Classification determined by long-lived radionuclides. If the waste contains only a radionuclide in Table 1 of this subsection, classification shall be determined as follows:

(a) If the concentration does not exceed one-tenth (0.1) times the value in Table 1, the waste shall be Class A.

(b) If the concentration exceeds one-tenth (0.1) times the value, but does not exceed the value in Table 1, the waste shall be Class C.

(c) If the concentration exceeds the value in Table 1, as established in 10 C.F.R. 61.55, the waste shall not generally be acceptable for near-surface disposal.

(d) For waste containing a mixture of radionuclides in Table 1, the total concentration shall be determined by the sum of fractions rule described in subsection (7) of this section.

TABLE 1

Radionuclide	Concentration
	curies/cubic meter
C-14	8
C-14 in activated metal	80
Ni-59 in activated metal	220
Nb-94 in activated metal	0.2
Tc-99	3
I-129	0.08
Alpha emitting transuranic radio-nuclides with half-life greater than five (5) years	100*
Pu-241	3500*
Cm-242	20000*
Ra-226	100*

*Units are nanocuries per gram.

(4) Classification determined by short-lived radionuclides.

(a) If the waste contains none of the radionuclides in Table 1 of subsection (3) of this section, classification shall be determined based on the concentrations shown in Table 2 of this subsection.

(b) If a radionuclide is not in Table 2, it shall not be considered in determining the waste class.

1. If the concentration does not exceed the value in Column 1, the waste shall be Class A.
2. If the concentration exceeds the value in Column 1, but does not exceed the value in Column 2, the waste shall be Class B.
3. If the concentration exceeds the value in Column 2, but does not exceed the value in Column 3, the waste shall be Class C.
4. If the concentration exceeds the value in Column 3, as established in 10 C.F.R. 61.55, the waste shall not generally be acceptable for near-surface disposal.
5. For waste containing a mixture of the radionuclides in Table 2, the total concentration shall be determined by the sum of fractions rule described in subsection (7) of this section.

TABLE 2

Radionuclide	Concentration, curies/cubic meter		
	Column 1	Column 2	Column 3
Total of all radionuclides with less than five (5) year half-life	700	*	*
H-3	40	*	*
Co-60	700	*	*
Ni-63	3.5	70	700
Ni-63 in activated metal	35	700	7000
Sr-90	0.04	150	7000
Cs-137	1	44	4600

*Limits have not been established for a radionuclide in Class B or C waste. Practical considerations, such as the effects of external radiation and internal heat generation on transportation, handling, and disposal, limit the concentrations for these wastes. This waste shall be Class B unless the concentrations of other radionuclides in Table 2 determine the waste to be Class C independent of these radionuclides.

- (5) Classification determined by both long-lived and short-lived radionuclides.
 - (a) If the waste contains a mixture of radionuclides, some in Table 1 of this section, and some in Table 2 of this section, classification shall be determined as follows:
 - (b) If the concentration of a radionuclide in Table 1 does not exceed one-tenth (0.1) times the value in Table 1, the class shall be determined by the concentration of a radionuclide in Table 2.
 - (c) If the concentration of a radionuclide in Table 1 exceeds one-tenth (0.1) times the value, but does not exceed the value in Table 1, the waste shall be Class C, if the concentration of a radionuclide in Table 2 does not exceed the value shown in Column 3 of Table 2.
- (6) Classification of waste with a radionuclide other than those in Tables 1 and 2. If the waste contains none of the radionuclides in Table 1 or 2 of this section, the waste shall be Class A.
- (7) The sum of fractions rule for mixtures of radionuclides. The following shall be considered in determining classification for waste that contains a mixture of

radionuclides:

- (a) The sum of fractions shall be determined by dividing each radionuclide concentration by the appropriate limit and adding the resulting values.
 - (b) The appropriate limit shall be taken from the same column of the same table.
 - (c) The sum of the fractions for the column shall be less than one (1.0) if the waste class is determined by that column.
 - (d) Example: A waste contains Sr-90 in a concentration of fifty (50) curies/cubic meter and Cs-137 in a concentration of twenty-two (22) curies/cubic meter. Because the concentrations both exceed the values in Column 1, Table 2, they shall be compared to Column 2 values. For Sr-90 fraction, $50/150 = 0.33$; for Cs-137 fraction, $22/44 = 0.5$; the sum of the fractions = 0.83. Because the sum is less than one (1.0), the waste shall be Class B.
- (8) Determination of concentrations in waste.
- (a) If there is reasonable assurance that an indirect method may be correlated with an actual measurement, the concentration of a radionuclide may be determined by an indirect method, such as use of a scaling factor, which relates the inferred concentration of one (1) radionuclide to another that is measured or radionuclide material accountability.
 - (b) If the units are expressed as nanocuries per gram, the concentration of a radionuclide may be averaged over the volume or weight of the waste.

Section 7. Radioactive Waste Characteristics.

- (1) The following minimum requirements for each class of waste facilitate handling and provide protection of health and safety of personnel at the disposal site:
- (a) Waste shall be packaged in conformance with the conditions of the license issued to the site operator to which the waste shall be shipped. If the conditions of the site license are more restrictive than the provisions of this administrative regulation, the site license conditions shall govern.
 - (b) Waste shall not be packaged for disposal in a cardboard or fiberboard box.
 - (c) Liquid waste shall be solidified or packaged in sufficient absorbent material to absorb twice the volume of the liquid.
 - (d) Solid waste containing liquid shall contain as little freestanding and noncorrosive liquid as is reasonably achievable. The liquid shall not exceed one (1) percent of the volume.
 - (e) Waste shall not be readily capable of:
 - 1. Detonation;
 - 2. Explosive decomposition or reaction at normal pressures and temperatures; or
 - 3. Explosive reaction with water.
 - (f) Waste shall not contain, or be capable of generating, quantities of toxic gases, vapors, or fumes harmful to a person transporting, handling, or disposing of the waste. This shall not apply to radioactive gaseous waste packaged in accordance with paragraph (h) of this subsection.
 - (g) Waste shall not be pyrophoric. Pyrophoric material contained in waste shall be treated, prepared, and packaged to be nonflammable.
 - (h) Waste in a gaseous form shall be packaged at a pressure that shall not exceed one and five-tenths (1.5) atmospheres at twenty (20) degrees Centigrade. Total activity shall not exceed 100 curies per container.
 - (i) Waste containing hazardous, biological, pathogenic, or infectious material shall be treated to reduce to the maximum extent practicable the potential hazard from the nonradiological material.
- (2) Stability shall ensure that the waste shall not structurally degrade and affect overall stability of the site through slumping, collapse, or other failure of the disposal unit and

lead to water infiltration. Stability shall also be a factor in limiting exposure to an inadvertent intruder, since it provides a recognizable and nondispersible waste. The following requirements shall provide stability of the waste:

(a) Waste shall have structural stability.

1. A structurally-stable waste form shall maintain its physical dimension and its form under expected disposal conditions, such as:

- a. Weight of overburden and compaction equipment;
- b. Presence of moisture and microbial activity; and
- c. Internal factors such as radiation effects and chemical changes.

2. Structural stability may be provided by:

- a. The waste form itself;
- b. Processing the waste to a stable form; or
- c. Placing the waste in a disposal container or structure that provides stability after disposal.

(b) Unless otherwise exempted in subsection (1)(c) and (d) of this section, liquid waste or waste containing liquid shall be converted into a form that contains as little free standing and noncorrosive liquid as is reasonably achievable. The liquid shall not exceed one (1) percent of the volume of the waste if the waste is in a disposal container designed to ensure stability, or five-tenths (0.5) percent of the volume of the waste for waste processed to a stable form.

(c) Void spaces within and between the waste and its package shall be eliminated.

Section 8. Labeling. Each package of waste shall be clearly labeled to identify if it is Class A, Class B, or Class C waste, in accordance with Section 6 of this administrative regulation.

Section 9. Transfer for Disposal and Manifests.

(1) The requirements of this section and Section 10 of this administrative regulation shall:

(a) Control transfers of low-level radioactive waste by any waste generator, waste collector, or waste processor licensee, as defined in 902 KAR 100:010, who ships low-level waste either directly or indirectly through a waste collector or waste processor, to a licensed low-level waste land disposal facility as established in 902 KAR 100:022;

(b) Establish a manifest tracking system; and

(c) Supplement existing requirements concerning transfers and recordkeeping for the wastes being transferred.

(2) Any licensee shipping radioactive material intended for ultimate disposal at a licensed land disposal facility shall document the information required on U.S. Nuclear Regulatory Commission's Uniform Low-Level Radioactive Waste Manifest, or its equivalent, and transfer this recorded manifest information to the intended consignee in accordance with Section 10 of this administrative regulation.

(3) The shipment manifest shall include a certification by the waste generator as specified in Section 10(12) of this administrative regulation.

(4) A person involved in the transfer for disposal and disposal of waste, including the waste generator, waste collector, waste processor, and disposal facility operator, shall comply with the requirements specified in Section 10(13) of this administrative regulation.

Section 10. Requirements for Low-level Waste Transfers Intended for Disposal at Land Disposal Facilities and Manifests.

(1) A waste generator, collector, or processor who transports, or offers for transportation, low-level radioactive waste intended for ultimate disposal at a licensed low-level radioactive waste land disposal facility shall prepare a manifest reflecting information requested on the following applicable forms, or their equivalent:

(a) NRC Form 540, Uniform Low-Level Radioactive Waste Manifest, Shipping Paper;

- (b) NRC Form 541, Uniform Low-Level Radioactive Waste Manifest, Container and Waste Description; and
 - (c) If necessary, NRC Form 542, Uniform Low-Level Radioactive Waste Manifest, Manifest Index and Regional Compact Tabulation.
- (2) NRC Forms 540 and 540A shall be completed and shall physically accompany the pertinent low-level waste shipment.
- (3) Upon agreement between shipper and consignee, NRC Forms 541, 541A, 542 and 542A may be completed, transmitted, and stored in electronic media with the capability for producing legible, accurate, and complete records on the respective forms.
- (4) A licensee shall not be required by the cabinet to comply with the manifesting requirements of this section, if they ship:
- (a) LLW for processing and expect its return for storage as prescribed by their license, prior to disposal at a licensed land disposal facility;
 - (b) LLW that is being returned to the licensee who is the waste generator or generator, as defined in 902 KAR 100:010; or
 - (c) Radioactive contaminated material to a waste processor that becomes the processor's residual waste.
- (5) For guidance in completing a form, refer to instructions that accompany the form.
- (6) A copy of a manifest required by this section may be legible carbon copies, photocopies, or computer printouts that reproduce the data in the format of the uniform manifest.
- (7) Information on hazardous, medical, or other waste, required to meet U.S. Environmental Protection Agency regulations, for example, 40 C.F.R. Parts 259 and 261, is not addressed in this section, and shall be provided on the required EPA form. The required EPA form shall accompany the Uniform Low-Level Radioactive Waste Manifest required by this section.
- (8) The shipper of the radioactive waste, shall provide the following information on the uniform manifest:
- (a) The name, facility address, and telephone number of the licensee shipping the waste;
 - (b) An explicit declaration indicating whether the shipper shall be acting as a waste generator, collector, processor, or a combination of these identifiers for purposes of the manifested shipment; and
 - (c) The name, address, and telephone number, or the name and U.S. Environmental Protection Agency hazardous identification number, for the carrier transporting the waste.
 - (d) The shipper of the radioactive waste shall provide, on the uniform manifest, the following information:
 - 1. The date of the waste shipment;
 - 2. The total number of packages or disposal containers;
 - 3. The total disposal volume and disposal weight in the shipment;
 - 4. The total radionuclide activity in the shipment;
 - 5. The activity of each of the radionuclides, hydrogen-3, carbon-14, technetium-99, and iodine-129 contained in the shipment;
 - 6. The total masses of uranium-233, uranium-235, and plutonium in special nuclear material; and
 - 7. The total mass of uranium and thorium in source material.
- (9) The shipper of the radioactive waste shall provide the following information on the uniform manifest regarding the waste and disposal container of waste in the shipment:
- (a) An alphabetic or numeric identification that uniquely identifies each disposal container in the shipment;

- (b) A physical description of the disposal container, including the manufacturer and model of a high integrity container;
 - (c) The volume displaced by the disposal container;
 - (d) The gross weight of the disposal container, including the waste;
 - (e) For waste consigned to a disposal facility, the maximum radiation level at the surface of each disposal container;
 - (f) A physical and chemical description of the waste;
 - (g) The total weight percentage of a chelating agent for waste containing more than one-tenth (0.1) percent of a chelating agent by weight, and the identity of the principal chelating agent;
 - (h) The approximate volume of waste within a container;
 - (i) The sorbing or solidification media, if present, and the identity of the solidification media vendor and brand name;
 - (j)
 - 1. The identity and activity of a radionuclide contained in each container;
 - 2. The masses of uranium-233, uranium-235, and plutonium in special nuclear material;
 - 3. The masses of uranium and thorium in source material; and
 - 4. The identity and activity of each radionuclide associated with, or contained in, discrete waste types within a disposal container, such as:
 - a. Activated materials;
 - b. Contaminated equipment;
 - c. Mechanical filters;
 - d. Sealed sources or devices; and
 - e. Wastes in solidification or stabilization media;
 - (k) The total radioactivity within each container;
 - (l) The classification of the waste in accordance with Section 6 of this administrative regulation, for wastes consigned to a disposal facility; and
 - (m) Identification of waste not meeting the structural stability requirements of Section 7(2) of this administrative regulation.
- (10) The shipper of the radioactive waste shall provide the following information on the uniform manifest regarding a waste shipment delivered without a disposal container:
- (a) The approximate volume and weight of the waste;
 - (b) A physical and chemical description of the waste;
 - (c) The total weight percentage of a chelating agent if the chelating agent exceeds one-tenth (0.1) percent by weight, and the identity of the principal chelating agent;
 - (d) The classification of the waste in accordance with Section 6 of this administrative regulation for waste consigned to a disposal facility;
 - (e) Identification of waste not meeting the structural stability requirements of Section 7(2) of this administrative regulation;
 - (f)
 - 1. The identity and activity of a radionuclide contained in the waste;
 - 2. The masses of uranium-233, uranium-235, and plutonium in special nuclear material;
 - 3. The masses of uranium and thorium in source material; and
 - (g) For a waste consigned to a disposal facility, the maximum radiation level at the surface of the waste.
- (11)
- (a) The origin of the LLW resulting from activities of a processor may be attributable to one (1) or more generators, including a waste generator. The requirements in this subsection apply to:

1. A disposal container enclosing a mixture of waste originating from different generators; and
 2. A mixture of waste shipped in a form without a disposal container, for which portions of the mixture within the shipment originate from different generators.
- (b) For a homogeneous mixture of a waste, such as incinerator ash, provide the:
1. Waste description applicable to the mixture; and
 2. Volume of the waste attributed to each generator;
- (c) For a heterogeneous mixture of a waste such as:
1. The combined products from a large compactor, identify each generator contributing waste to the disposal container; and
 2. A discrete waste type, for example, activated materials, contaminated equipment, mechanical filters, sealed sources or devices, and wastes in solidification or stabilization media, the identity and activity of individual radionuclides contained on the waste type within the disposal container;
- (d) For a generator, the following information shall be provided:
1. The volume of waste within the disposal container;
 2. A physical and chemical description of the waste, including, if present, the solidification agent;
 3. The total weight percentage of a chelating agent for a disposal container containing more than one-tenth (0.1) percent of a chelating agent by weight, plus the identity of the principal chelating agent;
 4. The sorbing or solidification media, if present, and the identity of the solidification media vendor and brand name if the media is claimed to meet stability requirements in Section 7(2) of this administrative regulation; and
 5.
 - a. Radionuclide identity and activity contained in the waste;
 - b. The mass of uranium-233, uranium-235, and plutonium in special nuclear material; and
 - c. The mass of uranium and thorium in source material if contained in the waste.
- (12)
- (a) An authorized representative of the waste generator, processor, or collector shall certify, by signing and dating the shipment manifest, that the transported materials are:
1. Properly classified;
 2. Described;
 3. Packaged;
 4. Marked;
 5. Labeled; and
 6. In proper condition for transportation according to 10 C.F.R. 20, Appendix G to Part 20, and the NRC; and
- (b) A collector in signing the certification shall certify that nothing has been done to the collected waste which would invalidate the waste generator's certification.
- (13) A licensee who transfers waste to a licensed waste processor for waste treatment or repackaging shall comply with the requirements of paragraphs (d) through (l) of this subsection. A licensee who transfers waste to a land disposal facility or a licensed waste collector shall:
- (a) Prepare waste to meet a classification in Section 6 of this administrative regulation and the waste characteristics requirements in Section 7 of this administrative regulation;
 - (b) Label each disposal container, or transport container if potential radiation hazards preclude labeling of the individual disposal container, of waste to identify if the waste is Class A, Class B, Class C, or greater than Class C waste, in accordance with Section 6 of this administrative regulation;

- (c) Conduct a quality assurance program including, management evaluation of audits to assure compliance with Sections 6 and 7 of this administrative regulation.
 - (d) Prepare the NRC Uniform Low-Level Radioactive Waste Manifest as required by this subsection;
 - (e) Forward a copy or electronically transfer the Uniform Low-Level Radioactive Waste Manifest to the intended consignee so that:
 - 1. Receipt of the manifest precedes the LLW shipment;
 - 2. The manifest and the waste are delivered to the consignee at the same time; or
 - 3. Both methods of manifest delivery described in subparagraphs 1 and 2 of this paragraph are used.
 - (f) Include NRC Form 540 and Form 540A, if required, with the shipment, regardless of the option chosen in paragraph (e) of this subsection;
 - (g) Receive acknowledgment of the receipt of the shipment in the form of a signed copy of NRC Form 540;
 - (h) Retain a copy of or electronically store the Uniform Low-Level Radioactive Waste Manifest and documentation of acknowledgment of receipt as the record of transfer of licensed material as required by 902 KAR 100:040; and
 - (i) For a shipment, or parts of a shipment, for which acknowledgment of receipt has not been received within the times established in this section, conduct an investigation in accordance with subsection (17) of this section.
- (14) A waste collector licensee who handles only prepackaged waste shall:
- (a) Acknowledge receipt of the waste from the generator within one (1) week of receipt by returning a signed copy of NRC Form 540;
 - (b) Prepare a new manifest to reflect consolidated shipments that meet the requirements of this section, including identification of the generator of each container of waste in the shipment;
 - (c) Forward a copy or electronically transfer the Uniform Low-Level Radioactive Waste Manifest to the intended consignee so that either:
 - 1. Receipt of the manifest precedes the LLW shipment; or
 - 2. The manifest and the waste are delivered to the consignee at the same time; or
 - 3. Both methods of manifest delivery described in subparagraphs 1 and 2 of this paragraph are used;
 - (d) Include NRC Form 540 and Form 540A, if required, with the shipment regardless of the option chosen in paragraph (c) of this subsection;
 - (e) Receive acknowledgement of the receipt of the shipment in the form of a signed copy of NRC Form 540;
 - (f) Retain a copy of or electronically store the Uniform Low-Level Radioactive Waste Manifest and documentation of acknowledgment of receipt as the record of transfer of licensed material as required by 902 KAR 100:040;
 - (g) For a shipment, or parts of a shipment, for which acknowledgment of receipt is not received within the time established in this section, conduct an investigation in accordance with subsection (17) of this section;
 - (h) Notify the shipper and the cabinet if a shipment, or part of a shipment, has not arrived within sixty (60) days after receipt of an advance manifest, unless notified by the shipper that the shipment has been cancelled.
- (15) A licensed waste processor who treats or repackages waste shall:
- (a) Acknowledge receipt of the waste from the shipper within one (1) week of receipt by returning a signed copy of the manifest or equivalent documentation;
 - (b) Prepare a new manifest that meets the requirements of this subsection:
 - 1. Preparation of the new manifest shall reflect that the processor shall be responsible for meeting these requirements; and

2. For each container of waste in the shipment, the manifest shall identify the waste generators, the preprocessed waste volume, and other information required by subsection (11) of this section;
 - (c) Prepare waste to meet a classification in Section 6 of this administrative regulation and the waste characteristics requirement in Section 7 of this administrative regulation;
 - (d) Label each package of waste to identify the waste as Class A, Class B, or Class C, in accordance with Sections 6 and 8 of this administrative regulation;
 - (e) Conduct a quality control program to assure compliance with Sections 6 and 7 of this administrative regulation, including management evaluation of audits;
 - (f) Forward a copy or electronically transfer the Uniform Low-Level Radioactive Waste Manifest to the intended consignee so that:
 1. Receipt of the manifest precedes the LLW shipment;
 2. The manifest and the waste are delivered to the consignee at the same time; or
 3. Both methods of manifest delivery described in subparagraphs 1 and 2 of this paragraph are used;
 - (g) Include NRC Form 540 and 540A, if required with the shipment regardless of the option chosen in subsection (15)(f) of this section;
 - (h) Retain a copy of or electronically store the Uniform Low-Level Radioactive Waste Manifest and documentation of acknowledgment of receipt as the record of transfer of licensed material required by 902 KAR 100:040;
 - (i) Receive acknowledgment of the receipt of the shipment in the form of a signed copy of NRC Form 540;
 - (j) For a shipment or part of a shipment for which acknowledgment of receipt is not received within the time established in this section, conduct an investigation in accordance with subsection (17) of this section; and
 - (k) Notify the shipper and the cabinet when a shipment, or part of a shipment, has not arrived within sixty (60) days after receipt of an advance manifest, unless notified by the shipper that the shipment has been cancelled.
- (16) The land disposal facility operator shall:
- (a) Acknowledge receipt of the waste within one (1) week of receipt by returning a signed copy of the manifest or equivalent documentation to the licensee that last possessed the waste and transferred the waste to the operator. If the returned copy of the manifest or equivalent documentation indicates discrepancies between materials on the manifest and materials received, copies or electronic transfer of the affected forms shall be returned indicating the discrepancy;
 - (b) Maintain copies of completed manifests, or equivalent documentation, and electronically store the information required by 10 C.F.R. 61.80(l) until the cabinet terminates the license; and
 - (c) Notify the shipper, generator, collector, or processor and the cabinet if a shipment, or part of a shipment, has not arrived within sixty (60) days after the advance manifest was received, unless notified by the shipper that the shipment has been cancelled.
- (17)
- (a) The shipper shall investigate a shipment or part of a shipment for which acknowledgment is not received within the time established in this section, if the shipper has not received notification of receipt within twenty (20) days after transfer.
 - (b) The investigation shall include tracing the shipment and filing a report with the cabinet.
 - (c) A licensee who conducts a trace investigation shall file a written report with the cabinet within two (2) weeks of completion of the investigation.

Section 11. Records.

- (1) A licensee shall maintain a record in the same units used in this administrative regulation.
- (2) A record of disposal of licensed material required by this administrative regulation shall be maintained until the cabinet authorizes disposition, or in accordance with 902 KAR 100:072, Section 29.
- (3) A licensee shall maintain a record of the disposal of licensed materials required by 902 KAR 100:022 and Sections 2, 3, 4, and 5 of this administrative regulation, and disposal by burial in soil, including burials authorized before January 28, 1981.
- (4) A licensee shall retain the records required in subsection (3) of this section until the cabinet terminates each pertinent license requiring the record.

Section 12. Annual Report of Waste Generated.

- (1) A licensee issued a specific license, pursuant to 902 KAR 100:040, shall file an annual report with the cabinet containing information regarding low-level radioactive waste associated with activities authorized by the license. The report shall be filed if the licensee was, or was not, a waste generator during the reporting period.
- (2) The report shall contain information regarding the waste for a period of one (1) calendar year and shall be filed no later than January 15 of the following year.
- (3) The report shall be filed on a Low-Level Radioactive Waste (LLW) Report Form provided by the cabinet and shall contain types and amounts of generated waste and estimates of future wastes to be generated.

Section 13. Incorporation by Reference.

- (1) The following material is incorporated by reference:
 - (a) NRC Form 540, "Uniform Low-Level Radioactive Waste Manifest, Shipping Paper", 7/2007;
 - (b) NRC Form 540A, "Uniform Low-Level Radioactive Waste Manifest", 7/2007;
 - (c) NRC Form 541, "Uniform Low-Level Radioactive Waste Manifest, Container and Waste Description", 7/2007;
 - (d) NRC Form 541A, "Uniform Low-Level Radioactive Waste Manifest", 7/2007;
 - (e) NRC Form 542, "Uniform Low-Level Radioactive Waste Manifest, Manifest Index and Regional Compact Tabulation", 8/2010;
 - (f) NRC Form 542A, "Uniform Low-Level Radioactive Waste Manifest, Manifest Index and Regional Compact Tabulation", 8/2010; and
 - (g) "Low-Level Radioactive Waste (LLW) Report", 3/2011.
 - (2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Department for Public Health, Office of the Commissioner, 275 East Main Street, Frankfort, Kentucky 40621, Monday through Friday, 8 a.m. to 4:30 p.m.
- (12 Ky.R. 1123; eff. 1-3-1986; 16 Ky.R. 2538; eff. 6-27-1990; 20 Ky.R. 2380; 2867; eff. 5-18-1994; 28 Ky.R. 1940; 2210; eff. 3-28-2002; 37 Ky.R. 1814; 2607; eff. 6-3-2011; Crt eff. 8-16-2019; TAm eff. 3-20-2020.)