

**ENERGY AND ENVIRONMENT CABINET**  
**Department for Environmental Protection**  
**Division of Waste Management**  
**(Amended at ARRS Committee)**

**401 KAR 45:105. Land application of biosolids.**

RELATES TO: KRS 224.1, 224.10, 224.40, 224.70, 224.99

STATUTORY AUTHORITY: KRS 224.10-100, 224.40-305, 224.50-760(1)(d), 224.50-765, 40 C.F.R. Part 503

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.50-760(1)(d) authorizes the cabinet to promulgate administrative regulations for the treatment, management, processing, or disposal of special wastes. KRS 224.40-305 requires persons who establish, construct, operate, maintain, or allow the use of a waste site or facility to obtain a permit. This administrative regulation establishes the standards and requirements for the application of biosolids, in accordance with 40 C.F.R. Part 503 and as required by KRS 224.50-765 from the treatment of domestic sewage or sewage sludge from a treatment facility. This administrative regulation is no more stringent than the corresponding federal rules but in order to comply with KRS 224.50-765(3), does have additional requirements that are not in 40 C.F.R. Part 503 related to a permitting program and siting criteria.

Section 1. Definitions.

- (1) "Karst feature" means sinkholes, sinking streams, cave openings, fensters, and springs.
- (2) "Ordinary high-water mark" means the line on the shore of a body of water established by the fluctuations of water and indicated by physical characteristics, such as defined, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and the presence of litter and debris.
- (3) "Seasonal high-water table" means the highest level that groundwater, at atmospheric pressure, reaches in the soil in years with normal rainfall.
- (4) "Sinkhole" means a depression in the land surface resulting from the chemical dissolution of the underlying carbonate rocks that create a potential direct conduit from surface water flow into the underlying groundwater system. This includes the immediately adjacent catchment area that could direct surface water flow into the underlying groundwater system.

Section 2. General Provisions.

- (1) The general provisions related to the land application of biosolids shall be as established in 40 C.F.R. 503.5 through 40 C.F.R. 503.9.
- (2)
  - (a) If a biosolid material is exempt from regulation pursuant to 40 C.F.R. 503.10, then the provisions of this administrative regulation shall not apply to the biosolid material, except as required in paragraph (b) of this subsection.
  - (b) The exemptions established in 40 C.F.R. 503.10 shall not exempt biosolids given away from the requirement to obtain a registered permit by rule established in 401 KAR 45:070.

Section 3. Land Application of Biosolids.

- (1) Except for additional siting criteria standards established in Section 5 of this administrative regulation, the requirements related to the application of biosolids to the land shall be as established in 40 C.F.R. 503.10 through 40 C.F.R. 503.18.
- (2) An operator certified in accordance with 401 KAR 45:090 shall be available to the land application site while biosolids are being applied to the land. All sludge land

application operations shall be accomplished under the direction of a certified landfarming operator.

(3) The reports required by 40 C.F.R. 503.18 shall also be sent to the Kentucky Division of Waste Management.

(4) Each permittee shall submit to the cabinet Annual Biosolids Land Application Report, form DEP 4506 by March 31 of each year on the land application activity that occurred in the previous year. Permittees shall submit the report for years with no land application activity.

(5) In addition to the notification requirements in 40 C.F.R. 503.12, the person who prepares the biosolids shall notify the person applying the biosolids or owner or operator of a biosolids land application site that the biosolids could contain constituents from an industrial pretreatment program.

(6) The notifications provided pursuant to subsection (5) of this section shall be given to adjoining landowners by the person applying the biosolids or owner or operator of a biosolids land application site.

(7) The additional notifications in subsections (5) and (6) of this section shall be in writing and occur prior to submitting a biosolids application to the cabinet.

Section 4. Pathogens and Vector Attraction Reduction. The requirements related to the reduction of pathogens and the vectors that could transport those pathogens shall be as established in 40 C.F.R. 503.30 through 40 C.F.R. 503.33.

Section 5. Siting Criteria for Land Application of Biosolids. The land application of biosolids shall comply with the siting criteria in subsections (1) through (4) of this section.

(1) Biosolids shall not be applied in the 100-year floodplain.

(2)

(a) An applicant shall use the Kentucky Energy and Environment Cabinet Basics of Groundwater and Kentucky Aquifers document to determine aquifer type.

(b) A minimum of four (4) feet of soil between the soil surface and the seasonal high-water table shall be maintained for land application in areas comprised of the Granular-unconsolidated, karst, and alluvial (Ohio River Alluvium) aquifers.

(3) A land application unit shall not be located on land with a slope greater than fifteen (15) percent.

(4)

(a) The ten (10) meter buffer zone for surface waters established in 40 C.F.R. 503.14(c) shall not be used. All biosolid land application facilities shall maintain the following buffer zones:

Required Buffer Zones Minimum Distance in Feet from the Boundary of the Application Zone

Structure or Object	Application Buffer
Residences and Occupied Buildings	200
Water Well	200
Surface Water including Perennial Streams	100
Karst Feature	100
Intermittent Stream	50
Ephemeral Stream	30
Property Line and Public Roads	30

(b) The distances measured for buffer zones shall be as established in subparagraphs 1. through 7. of this paragraph.

1. Residences and occupied buildings shall be measured from the building or residence to the closest boundary of the area that land application will occur.
2. Water wells buffer shall be measured from the well to the closest boundary of the area that land application will occur.
3. Surface Water including perennial streams buffer shall be measured from the baseline stream bank to the closest boundary of the area that land application will occur.
4. Karst features buffer shall be measured from the feature to the closest boundary of the area that land application will occur.
5. Ephemeral streams buffer shall be measured from the ordinary high-water mark to the closest boundary of the area that land application will occur.
6. Property line buffers shall be measured from the property line to the closest boundary of the area that land application will occur.
7. Public roads buffer shall be measured from the edge of the road to the closest boundary of the area that land application will occur.

#### Section 6. Biosolids Land Application Permit Required.

- (1) A person operating under a permit issued prior to June 29, 2023 for the land application of biosolids shall operate in accordance with that permit until a renewal permit is issued by the cabinet. At the time for renewal, the applicant shall apply for a new permit under this administrative regulation.
- (2) A person seeking to engage in the land application of biosolids after June 29, 2023 shall first obtain a permit issued in accordance with this administrative regulation from the cabinet prior to land application.

#### Section 7. Biosolid Land Application Permit Review.

- (1) A person applying for a biosolids land application permit shall submit Application for a Biosolid Land Application Facility Permit, form DEP 4505. The completed permit application shall be submitted to the cabinet and include all of the attachments that are required by the application form. The attachments in the application shall include:
  - (a) Copies of property deeds or land application agreements;
  - (b) Lists of landfills receiving biosolids;
  - (c) Laboratory analysis of the biosolids;
  - (d) An enlargement of a current United States Geological Survey topographic map. The map shall have a minimum scale of one (1) inch equals 400 feet and the contour interval as published; and
  - (e) A certification statement.
- (2) A fee in the amount established in 401 KAR 45:250 shall accompany the permit application, unless the applicant is a municipality.
- (3) The cabinet shall not require additional information that is not in the permit application. Any additional information requests shall be in the form of a notice of deficiency or in response to a variance request from the applicant pursuant to 401 KAR 30:020.
- (4) The cabinet shall not review a permit application until the application has been deemed complete. An application for a biosolids land application permit shall be considered complete unless the forms submitted are incomplete or otherwise missing information that is necessary for review.
- (5) If the application is determined to be incomplete, the cabinet shall notify the applicant of all the deficiencies that render it incomplete. the applicant shall have the right to correct deficiencies identified by the cabinet. If the cabinet determines that the application is incomplete two (2) or more times, that determination shall be considered final and the applicant shall have the right to file a petition pursuant to KRS 224.10-420.
- (6)

- (a) The cabinet shall review complete applications and issue a final determination based on the submitted application, within 120 calendar days of the official day the permit application was received.
  - (b) The official date of receipt for a permit application shall be:
    - 1. The date the paper document is stamped received by the Division of Waste Management; or
    - 2. The submission date created by electronic submittal portal.
  - (c) The cabinet's review timeframe shall be paused from the date:
    - 1. The cabinet mails, hand delivers, or electronically sends a notice of deficiency until the date the Division of Waste Management receives the response to the deficiencies as established in paragraph (b) of this subsection; and
    - 2. A permit application is subject to an adjudicatory process that prevents the cabinet from making a determination to the date the administrative or judicial hearings are final and the parties are in compliance with the final orders resulting from those hearings.
  - (d) The timetables established in this section may be extended at the initiative of either the cabinet or the applicant. The purpose and period of the extension shall be in writing and, if agreed to by both parties, shall be signed by both the cabinet and the applicant. The agreement to extend the timetable shall become part of the cabinet's permit file.
- (7)
- (a) Upon final determination of the permit application, the cabinet shall post on its Web page, a public notice of the permit determination.
  - (b) A person aggrieved by the final determination of the cabinet shall be afforded an opportunity to appeal the decision pursuant to KRS 224.10-420(2).
  - (c) Land application of biosolids under the approved permit shall not begin until thirty (30) days from the date of the posted public notice as established in paragraph (a) of this subsection.

Section 8. Modification of Permits. A biosolids land application permit may be modified during its term. The modification shall be in accordance with this section.

- (1) If a permit is modified, only the conditions related to modification shall be reopened.
- (2) Modifications requested by the permittee shall not be considered by the cabinet until the permittee has submitted a completed Application for a Biosolid Land Application Facility Permit, form DEP 4505, to the cabinet.
- (3) Causes for modification. Causes for modification of permits shall include:
  - (a) Material and substantial alterations or additions to the permitted special waste site or facility that would justify new permit conditions that are different or absent in the existing permit;
  - (b) The cabinet determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, materials shortage, or other events over which the permittee has little or no control and for which there is no reasonable available remedy;
  - (c) The cabinet receiving notification of expected closure and finds that one (1) or more of the permit conditions are no longer warranted;
  - (d) The corrective action program established in the permit has not brought the site into compliance with the groundwater protection standards;
  - (e) To approve a corrective action plan required by 401 KAR 45:160;
  - (f) To include conditions applicable in new or amended statutes or administrative regulations;
  - (g) To include conditions applicable as a result of a hearing or enforcement action as established in 401 KAR Chapter 40;
  - (h) Ownership of the special waste site or facility changes;

- (i) To expand the capacity of a special waste site or facility; or
  - (j) To add a new special waste source.
- (4) All terms of an existing permit shall remain in effect during the permit modification request.
- (5) The cabinet shall make a final determination based on the submitted application, to approve or disapprove a permit modification within ninety (90) calendar days.

Section 9. Permit Transfers. A permit shall not be transferable to any person without prior approval of the cabinet. For purposes of this section, a permit transfer application shall be required if a person requests that the name on the permit be changed to a different person or entity or if the permittee is a corporation and fifty-one (51) percent or more of the stock is sold to a person who was not previously a stockholder, or was a stockholder owning less than five (5) percent of the stock.

- (1) A person requesting to transfer a permit for an existing special waste site or facility shall submit to the cabinet a completed Application to Transfer a Special Waste Permit form DEP 7094C, incorporated by reference in 401 KAR 45:040.
- (2) Based on the submitted application, the cabinet shall make a final determination to approve or disapprove a formal permit transfer within sixty (60) calendar days.
- (3) If the transfer application is incomplete, the cabinet shall notify the applicant in writing of all the deficiencies. Periods of deficiency shall not be counted against the review time frame. Failure to submit information noted by the cabinet related to the deficiencies within fifteen (15) calendar days of receipt of the notice of deficiency shall be grounds for disapproval of the transfer application.

Section 10. Suspension and Revocation of Biosolid Land Application Permits.

- (1) The cabinet may modify, suspend, or revoke a permit issued under this chapter for:
  - (a) Violation of any requirement of KRS Chapter 224, 401 KAR Chapter 45, or 401 KAR 30:031;
  - (b) Aiding, abetting, or allowing the violation of KRS Chapter 224, 401 KAR Chapter 45, or 401 KAR 30:031;
  - (c) A Violation of a condition or a variance of the special waste site or facility permit;
  - (d) Misrepresentation or omission of a significant fact by the owner or operator either in the application for the permit or in information subsequently reported to the cabinet;
  - (e) Failure to comply with an order issued by the cabinet; or
  - (f) The facility is transferred to another person without prior approval of the cabinet.
- (2) The cabinet shall follow the applicable procedures in this administrative regulation and 401 KAR Chapter 40 in revoking any permit under this section.
- (3) If a permit is revoked, the owner or operator may reapply.
- (4) Upon revocation of a permit, an owner or operator of a special waste site or facility may file a request for a hearing. A hearing request shall be pursuant to KRS 224.10-420 upon revocation of the permit.

Section 11. Permit Renewals.

- (1) Applications for renewal shall be submitted to the cabinet at least ninety (90) calendar days prior to the expiration of the permit. A person applying for a renewal shall submit a completed Application for a Biosolid Land Application Facility Permit form DEP 4505, to the cabinet.
- (2) Applications for renewal shall comply with the review requirements in this administrative regulation.
- (3) The cabinet shall consider if all conditions of prior permit conditions have been met.

Section 12. Closure of a Biosolid Landfarming Site or Facility.

- (1) A landfarming site or facility shall send a letter of closure to the cabinet if:

- (a) An owner or operator determines to permanently cease accepting biosolid at a special waste landfarming site or facility and does not exceed limits pursuant to Section 3 of this administrative regulation; or
  - (b) The landfarming site or facility has reached the limits in 40 C.F.R. 503.13 and is required to cease accepting biosolid at that location.
- (2) The notification shall be a letter to the cabinet indicating the special waste landfarming site or facility is in compliance with regulatory requirements and is no longer accepting biosolid at the location.

Section 13. Incorporation by Reference.

- (1) The following material is incorporated by reference:
- (a) "Application for a Biosolid Land Application Facility Permit", Form DEP 4505, (December 2023);
  - (b) "Annual Biosolids Land Application Report", Form DEP 4506, (December 2023);
  - and
  - (c) "Kentucky Energy and Environment Cabinet Basics of Groundwater and Kentucky Aquifers", (July 2023).
- (2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Division of Waste Management, 300 Sower Boulevard, 2nd Floor, Frankfort, Kentucky 40601, Monday through Friday, 8:00 a.m. to 4:30 p.m.
- (3) This material may also be obtained on the division's Web site at [eec.ky.gov/environmental-protection/waste](http://eec.ky.gov/environmental-protection/waste).

(18 Ky.R. 3097; 3442; eff. 6-24-1992; TAm eff. 7-8-2016; TAm eff. 12-21-2016; Cert eff. 9-5-2018; TAm eff. 5-7-2019; 50 Ky.R. 994, 1721, 2040; eff. 6-6-2024.)

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