

## ENVIRONMENTAL PROTECTION COMMISSION[567]

### Notice of Intended Action

#### **Proposing rule making related to standards for the land application of sewage sludge and providing an opportunity for public comment**

The Environmental Protection Commission (Commission) hereby proposes to amend Chapter 67, “Standards for the Land Application of Sewage Sludge,” Iowa Administrative Code.

#### *Legal Authority for Rule Making*

This rule making is proposed under the authority provided in Iowa Code section 455B.304.

#### *State or Federal Law Implemented*

This rule making implements, in whole or in part, Iowa Code section 455B.304 and 40 CFR Parts 127 and 503.

#### *Purpose and Summary*

Chapter 67 establishes standards for the land application of sewage sludge generated during the treatment of domestic sewage in a treatment works. The purpose of this proposed rule making is to clean up and modify the sludge rules for readability and to align with governing federal law.

Broadly speaking, the proposed amendments to Chapter 67 will clarify and refine definitions and other land application requirements. The proposed amendments also update the sewage sludge classifications, terms, land application pathogen reduction methods, and sludge testing methods to be consistent with 40 CFR Part 503 (Standards for the Use or Disposal of Sewage Sludge). Finally, the proposed amendments revise the sewage sludge annual reporting rules to comply with the federal electronic reporting requirements in 40 CFR Part 127 (NPDES [National Pollution Discharge Elimination System] Electronic Reporting).

In more detail, the proposed amendments make the following changes:

- Items 1, 3, 4, and 5, collectively, move all definitions into the chapter’s definition rule, add definitions of existing but previously undefined terms (Class I, II, and III sludge), adopt the federal definitions of “generator” and “sewage sludge,” and either add or update references to other applicable state and federal law.
- Item 2 clarifies that sludge generated at an industrial treatment plant treating only domestic sewage is regulated by Chapter 67, consistent with 40 CFR Part 503.
- Item 6 modifies the sludge permit requirements. The Department of Natural Resources (Department) generally does not need a separate permit application for sludge land application because the sewage sludge requirements are contained as permit conditions in all Department-issued NPDES permits for publicly owned treatment works, and the sewage sludge regulations are self-regulating in nature. The proposed addition of subrule 67.6(2) will allow for a case-by-case review in the unlikely event the sewage sludge is generated at a facility without a Department-issued NPDES permit.
- Items 7 and 8 adopt several aspects of federal law. First, the amendments adopt the six alternatives for meeting the Class A pathogen requirements in 40 CFR Section 503.32. The amendments update the Class I sludge vector attraction reduction (VAR) methods to be consistent with 40 CFR Section 503.33. Finally, the amendments add clarifying language and strike the open waterway site management restriction for Class I sludge because there is no site restriction for such sludge in 40 CFR Part 503.
- Items 9 and 17 correct the conversion amounts for metric tons to English tons in the monitoring tables.
- Items 10 and 18 adopt the federal NPDES eReporting requirements.

- Items 11 through 15, collectively, simplify the Class II sludge language, clarify the Class II sludge criteria and site management restrictions, match the proposed changes to subrules 67.7(1) and 67.7(2) regarding Class I sludge, and align with the best management practices in 40 CFR Part 503 and EPA’s Biosolids Management Handbook. The proposed Class II VAR methods are identical to the Class I methods.
- Item 16 adopts the language from 40 CFR Section 503.32(b)(5)(i) concerning food crop harvesting.
- Item 19 updates sampling and analytical method references.
- Item 20 rescinds redundant language. This lettered subparagraph is duplicative to the High pH – High Temperature Process alternative of the Class A pathogen requirements for Class I sludge in subrule 67.7(1).

#### *Fiscal Impact*

This rule making has no negative fiscal impact to the State of Iowa. Additionally, no negative fiscal impact is expected to the private sector. A copy of the fiscal impact statement is available from the Department upon request.

#### *Jobs Impact*

After analysis and review of this rule making, no impact on jobs has been found. A copy of the jobs impact statement is available from the Department upon request.

#### *Waivers*

Any person who believes that the application of the discretionary provisions of this rule making would result in hardship or injustice to that person may petition the Department for a waiver of the discretionary provisions, if any, pursuant to 561—Chapter 10.

#### *Public Comment*

Any interested person may submit written comments concerning this proposed rule making. Written comments in response to this rule making must be received by the Department no later than 4:30 p.m. on December 13, 2021. Comments should be directed to:

Satya Chennupati  
Iowa Department of Natural Resources  
Wallace State Office Building  
502 East Ninth Street  
Des Moines, Iowa 50319  
Email: [satya.chennupati@dnr.iowa.gov](mailto:satya.chennupati@dnr.iowa.gov)

#### *Public Hearing*

A public hearing at which persons may present their views orally will be held via conference call as follows. Persons who wish to attend the conference call should contact Satya Chennupati via email. A conference call number will be provided prior to the hearing. Persons who wish to make oral comments at the conference call public hearing must submit a request to Satya Chennupati prior to the hearing to facilitate an orderly hearing.

December 9, 2021  
2 p.m.

Via video/conference call

Persons who wish to make oral comments at the public hearing will be asked to state their names for the record and to confine their remarks to the subject of this proposed rule making.

Any persons who intend to attend the hearing and have special requirements, such as those related to hearing impairments, should contact the Department and advise of specific needs.

*Review by Administrative Rules Review Committee*

The Administrative Rules Review Committee, a bipartisan legislative committee which oversees rule making by executive branch agencies, may, on its own motion or on written request by any individual or group, review this rule making at its [regular monthly meeting](#) or at a special meeting. The Committee's meetings are open to the public, and interested persons may be heard as provided in Iowa Code section 17A.8(6).

The following rule-making actions are proposed:

ITEM 1. Amend subrule 67.1(1) as follows:

**67.1(1)** General. This chapter establishes standards for the land application of sewage sludge generated during the treatment of domestic sewage in a treatment works. This chapter applies to any ~~person who prepares sewage sludge (generator), to any person who applies sewage sludge to the land (applicator)~~ generator, applicator, or both, and to sewage sludge applied to the land. No person shall land apply sewage sludge through any practice for which requirements are established in this chapter except in accordance with such requirements.

*a.* In areas that are not specifically addressed in this chapter ~~or in 567—Chapter 68~~, but which are addressed in federal regulations for sewage sludge applied to land at 40 CFR Part 503 as amended through July 1, 2021, the federal regulations shall apply under this rule and are hereby adopted by reference under this chapter.

*b.* On a case-by-case basis, this department may impose requirements for the land application of sewage sludge in addition to or more stringent than the requirements in this chapter when necessary to protect public health and the environment from any adverse effect of a pollutant in the sewage sludge.

ITEM 2. Amend subrule 67.2(1) as follows:

**67.2(1)** Sludge generated at an industrial facility, not including sludge generated from separately treated domestic sewage at an industrial facility.

ITEM 3. Amend rule 567—67.4(455B) as follows:

**567—67.4(455B) Land application program.** All sewage sludge generators wishing to land apply sewage sludge shall establish and maintain in writing a long-range program for land application of sewage sludge. This program shall be developed for a minimum period of five years and shall be updated annually. A copy of this program shall be available at the facility for inspection by the department. At a minimum, this program shall contain the following information in detail for the next calendar year and in general terms for the following four years. The plan shall include, but not be limited to, the following:

**67.4(1)** An outline of the sewage sludge sampling schedule and procedures ~~which~~ that will be followed to ensure that the sewage sludge being applied to land continues to meet the requirements.

**67.4(2)** A determination of the amount of land required to allow land application to be conducted in accordance with the requirements.

**67.4(3)** Identification of the land and application methods ~~which~~ that will be used for land application of the sewage sludge. Those areas and application methods shall be selected as necessary to ensure that land application can be conducted in accordance with the requirements.

**67.4(4)** The names of the ~~owners landowners and operators of the applicators~~ for all ~~land~~ areas to be used for land application, and identification of any legal arrangements ~~made relative to~~ related to the use of these areas. The programs ~~should~~ shall also outline any restrictions or special conditions ~~which~~ that exist regarding the use of these areas for land application of sewage sludge.

**67.4(5)** An overall schedule for the land application of sewage sludge. This schedule ~~should~~ shall indicate the areas being used, the time of year that land application will occur on each area ~~will be conducted~~, and the ~~proposed~~ estimated application rates rate for each area.

**67.4(6)** A determination of the types and capacities of the equipment required for land application of sewage sludge in accordance with the developed application schedule. The program shall also outline how the required application equipment will be made available and who will be responsible for conducting land application operations.

**67.4(7)** A determination of the ~~volumes and types and capacities of sludge storage and handling facilities required~~ structures used to allow ensure that the land application of sewage sludge to be is conducted in accordance with the land application schedule. The program shall also outline ~~how whether~~ any required additional sludge storage or handling facilities ~~will be provided~~ are needed.

**67.4(8)** A plan to construct or obtain any additional sludge storage, handling or application facilities or equipment ~~which~~ that are required by the land application program.

ITEM 4. Adopt the following new definitions of “Applicator,” “Class I sewage sludge,” “Class II sewage sludge,” “Class III sewage sludge” and “Generator” in rule **567—67.5(455B)**:

“*Applicator*” or “*sewage sludge applicator*” is any person who applies sewage sludge to the land.

“*Class I sewage sludge*” is sewage sludge that meets the criteria under subrule 67.7(1).

“*Class II sewage sludge*” is sewage sludge that meets the criteria under subrule 67.8(1).

“*Class III sewage sludge*” is any sewage sludge that cannot meet either Class I sewage sludge criteria or Class II sewage sludge criteria.

“*Generator*” or “*sewage sludge generator*” is any person who generates sewage sludge, who derives a material from sewage sludge, or both.

ITEM 5. Amend rule **567—67.5(455B)**, definition of “Sewage sludge,” as follows:

“*Sewage sludge*” is solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or the grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

ITEM 6. Amend rule 567—67.6(455B) as follows:

**567—67.6(455B) Permit requirements.** Prior to any land application of sewage sludge, a permit must be obtained by the sewage sludge generator in accordance with the following requirements:

**67.6(1)** ~~Any treatment facility proposing to land apply sewage sludge shall apply for a permit for land application of sewage sludge on a properly completed form supplied by the department. Application forms may be obtained from:~~

Environmental Services Division  
Iowa Department of Natural Resources  
Wallace State Office Building  
502 East 9th Street  
Des Moines, Iowa 50319  
<http://www.iowadnr.gov/>

~~Properly completed forms should be submitted in accordance with the instructions for the form.~~

~~a.—Permit application for land application of sewage sludge from new facilities shall be filed at least 180 days prior to the date operation is scheduled to begin unless a shorter period of time is approved by the department.~~

~~b.—Existing facilities generating sewage sludge shall file an application for land application of sewage sludge within 90 days of September 21, 1994, or at least 180 days prior to the expiration of any state operation or NPDES permit issued to the facility pursuant to 567—64.3(455B) or 567—64.4(455B), whichever date is later.~~

~~c.—Sewage sludge disposal operations which are not regulated under 567—Chapter 64 shall apply for a permit for land application of sewage sludge no later than 90 days after September 21, 1994.~~

**67.6(2) 67.6(1)** The permit for the land application of sewage sludge ~~for any sewage sludge~~ generating facility produced by a wastewater treatment facility that has been issued a construction

permit from the department will be issued concurrently and as part of a state operation permit or NPDES permit. The issuance process and permit terms will be the same as that specified for NPDES permits in 567—Chapter 64.

**67.6(2)** The department will review, on a case-by-case basis, requests for a permit to land apply sewage sludge or any material derived from sewage sludge if the sewage sludge is produced outside of the state of Iowa or produced by a wastewater treatment plant that has not been issued a construction permit from the department.

ITEM 7. Amend subrule 67.7(1) as follows:

**67.7(1)** Class I sewage sludge criteria. ~~Class I sludge is sewage sludge that has excellent quality and has been treated in a process equivalent to processes to further reduce pathogens (PFRP).~~ Class I sewage sludge is sewage sludge that meets the pollutant concentrations in paragraph 67.7(1) “a,” the Class A pathogen reduction requirements in paragraph 67.7(1) “b,” and the vector attraction reduction requirements in paragraph 67.7(1) “c” below.

*a. Pollutant concentrations for Class I sewage sludge.* The concentration of each pollutant in the sewage sludge shall not exceed the concentration for the pollutant in Table 1.

TABLE 1—POLLUTANT CONCENTRATIONS

<u>Pollutant</u>	<u>Monthly Average Concentration</u> <u>milligrams per kilogram*</u>
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2800

\*Dry weight basis

*b. Class A pathogen requirements for Class I sewage sludge.* ~~One of the monitoring processes in (1) below and also one of the analytical and treatment processes in (2) below shall be met for a sewage sludge to be classified as Class I sludge.~~ The sewage sludge shall comply with subparagraphs 67.7(1) “b”(1) and (2) below.

~~(1) Monitoring processes.~~ The sewage sludge shall comply with one of the following monitoring processes. Compliance with pathogen density shall not be based on an average value. Each individual sample result shall meet the numerical pathogen standards.

1. The density of fecal coliform in the sewage sludge shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis); or

2. The density of Salmonella sp. bacteria in the sewage sludge shall be less than three Most Probable Number per four grams of total solids (dry weight basis).

~~(2) Analytical and treatment processes.~~ The sewage sludge shall comply with one of the following analytical and treatment processes.

1. ~~The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis).~~ The temperature of the sewage sludge shall be maintained at a specific value for a period of time using one of the procedures detailed below.

- When the percent solids of the sewage sludge is 7 percent or higher, the temperature of the sewage sludge shall be 50 degrees Celsius or higher; the time period shall be 20 minutes or longer; and the temperature and time period shall be determined using Equation 1, except when small particles of sewage sludge are heated by either warmed gases or an immiscible liquid.

- When the percent solids of the sewage sludge is 7 percent or higher and small particles of sewage sludge are heated by either warmed gases or an immiscible liquid, the temperature of the sewage sludge shall be 50 degrees Celsius or higher; the time period shall be 15 seconds or longer; and the temperature and time period shall be determined using Equation 1.

- When the percent solids of the sewage sludge is less than 7 percent and the time period is at least 15 seconds, but less than 30 minutes, the temperature and time period shall be determined using Equation 1.

Equation 1:

$$D = 131,700,000/10^{0.1400t}$$

Where D = time in days; t = temperature in degrees Celsius.

- When the percent solids of the sewage sludge is less than 7 percent; the temperature of the sewage sludge is 50 degrees Celsius or higher; and the time period is 30 minutes or longer, the temperature and time period shall be determined using Equation 2.

Equation 2:

$$D = 50,070,000/10^{0.1400t}$$

Where D = time in days; t = temperature in degrees Celsius.

2. The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis). The sewage sludge shall meet all of the following requirements:

- The pH of the sewage sludge shall be raised to above 12 and shall remain above 12 for 72 hours;
- The temperature of the sewage sludge shall be above 52 degrees Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12; and
- At the end of the 72-hour period during which the pH of the sewage sludge is above 12, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50 percent.

3. Sewage sludge treated in other known processes shall be analyzed prior to pathogen treatment to determine whether the sewage sludge contains enteric viruses and viable helminth ova. The density of enteric viruses in the sewage sludge after pathogen treatment shall be less than one plaque-forming unit per four grams of total solids (dry weight basis). The density of viable helminth ova in the sewage sludge after pathogen treatment shall be less than one per four grams of total solids (dry weight basis). Once the process has been demonstrated to achieve the required pathogen reduction, the process must be operated under the same conditions that were used during the demonstration.

4. Sewage sludge treated by unknown processes or by processes operating at conditions less stringent than the operating conditions at which the sewage sludge could qualify as Class I under other alternatives shall be analyzed prior to pathogen treatment to determine whether the sewage sludge contains enteric viruses and viable helminth ova. The density of enteric viruses in the sewage sludge shall be less than one plaque-forming unit per four grams of total solids (dry weight basis). The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis).

3. 5. Sewage sludge shall be treated in one of the Processes to Further Reduce Pathogens (PFRP) described in 567—67.11(455B).

4. 6. Sewage sludge shall be treated in a process that is equivalent to a Process to Further Reduce Pathogens (PFRP), as determined by the department.

c. Vector attraction reduction requirements for Class I sewage sludge. ~~One of the vector attraction reduction requirements shall be met for a sewage sludge to be classified as Class I sludge.~~ The sewage sludge shall meet one of the following vector attraction reduction requirements.

- (1) The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent.
- (2) Digest a portion of the previously anaerobically digested sewage sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees

Celsius. If, at the end of the 40 days, the volatile solids in the sewage sludge at the beginning of that period is reduced by less than 17 percent, vector attraction reduction is achieved.

(3) Digest a portion of the previously aerobically digested sewage sludge that has 2 percent solids or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. If, at the end of the 30 days, the volatile solids in the sewage sludge at the beginning of that period is reduced by less than 15 percent, vector attraction reduction is achieved.

(2) (4) The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

~~(3) Digest a portion of the previously anaerobically digested sewage sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. At the end of the 40 days, the volatile solids in the sewage sludge at the beginning of that period is reduced by less than 17 percent.~~

~~(4) Digest a portion of the previously aerobically digested sewage sludge that has a percent solids of 2 percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. At the end of the 30 days, the volatile solids in the sewage sludge at the beginning of that period is reduced by less than 15 percent.~~

(5) Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius.

(6) The pH of sewage sludge shall be raised to 12 or higher, measured at 25 degrees Celsius, by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for 2 hours and then at 11.5 or higher for an additional 22 hours.

(7) The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials.

(8) The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials.

~~(7)~~ (9) Sewage sludge shall be injected below the surface of the land and no significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected.

~~(8)~~ (10) Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land.

ITEM 8. Amend subrule 67.7(2) as follows:

**67.7(2) Management practices for Class I sewage sludge.** Class I sewage sludge may be land applied in conformance with the following rules:

- a. Only Class I sewage sludge can may be applied to a lawn or a home garden.
- b. ~~Sewage sludge shall not be applied to land that is 35 feet or less from an open waterway.~~
- e. b. Sewage sludge shall be applied to the land at an annual whole sludge application rate that is equal to or less than the agronomic nitrogen uptake rate, unless otherwise specified by the department.
- ~~d. c.~~ An information sheet shall be provided to the person who receives sewage sludge sold or given away in a container for application to the land. The label or information sheet shall contain the following information:

- (1) The name and address of the sewage sludge generator.
- (2) A statement that application of the sewage sludge to the land is prohibited except in accordance with the instructions on the information sheet.
- (3) The annual application rate for the sewage sludge.

ITEM 9. Amend paragraph 67.7(3)“a” as follows:

- a. The frequency of monitoring for the pollutants listed in Table 1, the pathogen density requirements, and the vector attraction reduction requirements shall be the frequency stated in Table 2.

TABLE 2—FREQUENCY OF MONITORING

Amount of sewage sludge <del>metric tons</del> per 365-day period dry weight basis	Monitoring Frequency
Greater than <del>zero</del> 0 but less than 290 <u>metric tons</u> (or <del>325</del> <u>320</u> <del>English ton</del> <u>tons</u> )	once per year
Equal to or greater than 290 but less than 1,500 <u>metric</u> <u>tons</u> ( <del>English ton</del> <del>325</del> <u>320</u> to <del>1,680</del> <u>1,653</u> <u>English tons</u> )	once per quarter (4 times per year)
Equal to or greater than 1,500 but less than 15,000 <u>metric</u> <u>tons</u> ( <del>English ton</del> <del>1,680</del> <u>1,653</u> to <del>16,800</del> <u>16,535</u> <u>English tons</u> )	once per 60 days (6 times per year)
Equal to or greater than 15,000 <u>metric tons</u> (or <del>16,800</del> <u>16,535</u> <u>English ton</u> <u>tons</u> )	once per month (12 times per year)

ITEM 10. Amend paragraph 67.7(4)“b” as follows:

*b.* Treatment works with a design flow rate of 1 million gallons per day or greater and treatment works that serve 10,000 people or more shall submit the above information to the ~~department~~ EPA, using EPA’s NPDES eReporting Tool (NeT), by February 19 of each year for the previous calendar year.

ITEM 11. Amend subrule 67.8(1), introductory paragraph, as follows:

**67.8(1) Class II sludge criteria.** ~~Class II sludge is sewage sludge that has normal quality and has been treated in a process equivalent to Processes to Significantly Reduce Pathogens (PSRP). Class II sewage sludge is sewage sludge that meets the pollutant concentrations in paragraph 67.8(1) “a,” the pathogen reduction standards in paragraph 67.8(1) “b,” and the vector attraction reduction requirements in paragraph 67.8(1) “c” below.~~

ITEM 12. Amend paragraph 67.8(1)“a,” introductory paragraph, as follows:

*a.* Pollutant concentrations for Class II sewage sludge. The concentration of any pollutant in the sewage sludge shall not exceed the ceiling concentration for the pollutant in Table 3.

ITEM 13. Amend paragraph 67.8(1)“b,” introductory paragraph, as follows:

*b.* Pathogen reduction requirements for Class II sewage sludge. ~~One~~ The sewage sludge shall meet one of the following ~~Processes to Significantly Reduce Pathogens requirements (PSRP) shall be met for a sewage sludge to be classified as Class II sludge~~ three alternatives.

ITEM 14. Amend paragraph 67.8(1)“c” as follows:

*c.* Vector attraction reduction requirements for Class II sewage sludge. ~~One of the vector attraction reduction requirements shall be met for a sewage sludge to be classified as Class II sludge.~~ The sewage sludge shall meet one of the following vector attraction reduction requirements.

- (1) The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent.
- (2) The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a ~~temperature of 20 degrees Celsius.~~ Digest a portion of the previously anaerobically digested sewage sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature



between 30 and 37 degrees Celsius. If, at the end of the 40 days, the volatile solids in the sewage sludge at the beginning of that period is reduced by less than 17 percent, vector attraction reduction is achieved.

~~(3) Digest a portion of the previously anaerobically digested sewage sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. At the end of the 40 days, the volatile solids in the sewage sludge at the beginning of that period is reduced by less than 17 percent. Digest a portion of the previously aerobically digested sewage sludge that has a percent solids of 2 percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. If, at the end of the 30 days, the volatile solids in the sewage sludge at the beginning of that period is reduced by less than 15 percent, vector attraction reduction is achieved.~~

~~(4) Digest a portion of the previously aerobically digested sewage sludge that has a percent solids of 2 percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. At the end of the 30 days, the volatile solids in the sewage sludge at the beginning of that period is reduced by less than 15 percent. The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.~~

(5) Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius.

(6) The pH of sewage sludge shall be raised to 12 or higher, measured at 25 degrees Celsius, by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for 2 hours and then at 11.5 or higher for an additional 22 hours.

(7) The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials.

(8) The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials.

~~(7)~~ (9) Sewage sludge shall be injected below the surface of the land and no significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected.

~~(8)~~ (10) Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land.

ITEM 15. Amend subrule 67.8(2), introductory paragraph, as follows:

**67.8(2) Management practices for Class II sewage sludge.** Class II sewage sludge may be land applied in conformance with the following:

ITEM 16. Amend paragraph **67.8(2)“1”** as follows:

*l.* Food crops with harvested parts that touch the sewage sludge/soil mixture and that are totally above the land surface shall not be harvested for ~~38~~ 14 months after application of sewage sludge.

ITEM 17. Amend paragraph **67.8(3)“a”** as follows:

*a.* The frequency of monitoring for the pollutants listed in Table 3, the pathogen density requirements, and the vector attraction reduction requirements shall be at the frequency stated in Table 5.

TABLE 5—FREQUENCY OF MONITORING

Amount of sewage sludge <del>metric tons</del> per 365-day period dry weight basis	Monitoring Frequency
Greater than <del>zero</del> 0 but less than 290 <u>metric tons</u> (or <del>325</del> <u>320</u> <u>English tons</u> )	once per year
Equal to or greater than 290 but less than 1,500 <u>metric</u> <u>tons</u> ( <del>English-ton-325</del> <u>320</u> to <u>1,680</u> <u>1,653</u> <u>English tons</u> )	once per quarter (4 times per year)
Equal to or greater than 1,500 but less than 15,000 <u>metric</u> <u>tons</u> ( <del>English-ton-1,680</del> <u>1,653</u> to <u>16,800</u> <u>16,535</u> <u>English tons</u> )	once per 60 days (6 times per year)
Equal to or greater than 15,000 <u>metric tons</u> (or <del>16,800</del> <u>16,535</u> <u>English ton</u> <u>tons</u> )	once per month (12 times per year)

ITEM 18. Amend paragraph **67.8(4)“b”** as follows:

*b.* Treatment works with a design flow rate of 1 million gallons per day or greater and treatment works that serve 10,000 people or more shall submit the above information to the ~~department~~ EPA, using EPA’s NPDES eReporting Tool (NeT), by February 19 of each year for the previous calendar year. In addition, a supplemental sewage sludge report that includes the land application information listed in subparagraphs 67.8(4)“a”(6) to (9) shall be submitted to the department by the same due date.

ITEM 19. Amend rule 567—67.10(455B) as follows:

**567—67.10(455B) Sampling and analytical methods.**

**67.10(1)** No change.

**67.10(2)** *Enteric viruses.* ~~ASTM Designation: D 4994-89 D4994-19, “Standard Practice for Recovery of Viruses From Wastewater Sludges,” Annual Book of ASTM Standards: Section 11—Water and Environmental Technology, ASTM, Philadelphia, PA, 1992~~ ASTM International, West Conshohocken, PA, 2019, www.astm.org.

**67.10(3)** *Fecal coliform.* ~~Part 9221 E. or Part 9222 D: SM 9221 E-2011 or SM 9222 D-2011, “Standard Methods for the Examination of Water and Wastewater,” 18th Edition, American Public Health Association, Washington, D.C., 1992; EPA Method 1680: Fecal Coliforms in Sewage Sludge (Biosolids) by Multiple-Tube Fermentation using Lauryl Tryptose Broth (LBT) and EC Medium, EPA-821-R-14-009, September 2014; EPA Method 1681: Fecal Coliforms in Sewage Sludge (Biosolids) by Multiple-Tube Fermentation using A-1 medium, EPA-821-R-06-013, July 2006.~~

**67.10(4)** *Helminth ova.* ~~Yanko, W.A. W., “Occurrence of Pathogens in Distribution and Marketing Municipal Sludges,” EPA 600/1-87-014, 1987. PB 88-154273/AS, National Technical Information Service, Springfield, Virginia U.S. Environmental Protection Agency, Washington, D.C., EPA/600/1-87/014 (NTIS PB88154273), 1988.~~

**67.10(5)** *Inorganic pollutants.* ~~“Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods,” EPA Publication SW-846, Second Edition (1982) with Updates I and II and Third Edition (1986) with Revision I. Second Edition – PB87-120-291, National Technical Information~~

Service, Springfield, Virginia. Third Edition Document number 955-001-00000-1, Superintendent of Documents, Government Printing Office, Washington, D.C.

*a. Metals.* “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” EPA Publication SW-846, 3rd Edition, Final Updates V (2015), [www.epa.gov/hw-sw846/sw-846-compendium](http://www.epa.gov/hw-sw846/sw-846-compendium).

*b. Nonmetals.* For nonmetals not identified elsewhere in this chapter, methods approved at 40 CFR Part 136, as amended through August 28, 2017.

**67.10(6)** *Salmonella sp. bacteria.* ~~Part 9260 D.~~ SM 9260 B-2011, “Standard Methods for the Examination of Water and Wastewater,” 18th Edition, American Public Health Association, Washington, D.C., 1992; EPA Method 1682: *Salmonella* in Sewage Sludge (Biosolids) by Modified Semisolid Rappaport-Vassiliadis (MSRV) Medium, EPA-821-R-06-14, July 2006; or Kenner, B.A. and H.P. Clark, “Detection and Enumeration of *Salmonella* and *Pseudomonas aeruginosa*,” J. Water Pollution Control Federation, 46(9):2163-2171, 1974.

**67.10(7)** *Specific oxygen uptake rate.* ~~Part 2710 B.~~ SM 2710 B-2011, “Standard Methods for the Examination of Water and Wastewater,” 18th Edition, American Public Health Association, Washington, D.C. 1992.

**67.10(8)** *Total, fixed, and volatile solids.* ~~Part 2540 G.~~ SM 2540 G-2011, “Standard Methods for the Examination of Water and Wastewater,” 18th Edition, American Public Health Association, Washington, D.C., 1992.

**67.10(9)** *Percent volatile solids reduction calculation.* “Environmental Regulations and Technology - Control of Pathogens and Vectors in Sewage Sludge,” EPA-625/R-92/013, U.S. Environmental Protection Agency, Cincinnati, Ohio, 1992 July 2003.

ITEM 20. Rescind paragraph **67.11(2)“h.”**