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312 Rosa L. Parks Avenue, 8th Floor Snodgrass/TN Tower  
Nashville, TN 37243  
Phone: 615-741-2650  
Fax: 615-741-5133  
Email: [register.information@tn.gov](mailto:register.information@tn.gov)

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Sequence Number: 04-01-13  
Rule ID(s): 54606  
File Date: 4/11/13  
Effective Date: 6/30/13

# Rulemaking Hearing Rule(s) Filing Form

*Rulemaking Hearing Rules are rules filed after and as a result of a rulemaking hearing. T.C.A. § 4-5-205*

<b>Agency/Board/Commission:</b>	Environment and Conservation
<b>Division:</b>	Water Resources
<b>Contact Person:</b>	Robert O'Dette
<b>Address:</b>	6 <sup>th</sup> Floor, L & C Annex 401 Church Street Nashville, Tennessee
<b>Zip:</b>	37243-1534
<b>Phone:</b>	(615) 253-5319
<b>Email:</b>	<a href="mailto:Robert.Odette@tn.gov">Robert.Odette@tn.gov</a>

**Revision Type (check all that apply):**

- Amendment  
 New  
 Repeal

**Rule(s) Revised (ALL chapters and rules contained in filing must be listed here. If needed, copy and paste additional tables to accommodate multiple chapters. Please enter only **ONE** Rule Number/Rule Title per row)**

Chapter Number	Chapter Title
0400-40-15	Biosolids Management
Rule Number	Rule Title
0400-40-15-.01	General Provisions
0400-40-15-.02	Land Application
0400-40-15-.03	Reserved
0400-40-15-.04	Pathogens and Vector Attraction Reduction
0400-40-15-.05	Reserved
0400-40-15-.06	Permitting

(Place substance of rules and other info here. Statutory authority must be given for each rule change. For information on formatting rules go to <http://state.tn.us/sos/rules/1360/1360.htm>)

## New Rules

### Chapter 0400-40-15 Biosolids Management

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0400-40-15-.01 General Provisions [40 CFR 503 Subpart A]

(1) Purpose and Applicability [40 CFR 503.1]

(a) Purpose

1. These rules establish standards, which consist of general requirements, contaminant limits, management practices, and operational standards, for the land application of biosolids generated during the treatment of domestic sewage in a wastewater treatment works. Standards are included in these rules for biosolids applied to the land. Also included in these rules are pathogen and alternative vector attraction reduction requirements for biosolids applied to the land.
2. In addition, the standards in these rules include the frequency of monitoring and recordkeeping requirements when biosolids are applied to the land. Also included in these rules are reporting requirements for generators who apply biosolids.

(b) Applicability

These rules apply to any person who applies biosolids to the land, to biosolids applied to the land, and to land where biosolids are applied; provided, however that EQ biosolids are exempt from all requirements of these rules, other than the requirement that the facility that prepares EQ biosolids document in its annual report the information contained in subparagraph (7)(a) of Rule 0400-40-15-.02 documenting that they meet the criteria for EQ biosolids.

(2) Permits and Direct Enforceability [40 CFR 503.3]

- (a) Permits. The requirements in these rules may be implemented through a permit issued under T.C.A. § 69-3-101 et seq.
- (b) Direct enforceability. No person shall use biosolids through any practice for which requirements are established in these rules except in accordance with such requirements.

(3) Relationship to other regulations [40 CFR 503.4]

Disposal of sewage sludge in a solid waste landfill unit, as defined in Rule 0400-11-01-.01(2), that complies with the requirements in Chapter 0400-11-01 constitutes compliance with these rules. Any person who prepares sewage sludge that is disposed of in a solid waste landfill unit shall ensure that the sewage sludge meets the requirements in Chapter 0400-11-01 concerning the quality of materials disposed of in a solid waste landfill unit.

(4) Additional or more stringent requirements [40 CFR 503.5]

On a case-by-case basis, the Director may impose requirements for the application of biosolids in addition to or more stringent than the requirements in these rules when necessary to protect public health or the environment from any reasonably anticipated adverse effect that may occur due to any characteristic of the biosolids or the site.

(5) Exclusions [40 CFR 503.6]

- (a) Treatment processes. These rules do not establish requirements for processes used to treat domestic sewage or for processes used to treat sewage sludge or biosolids prior to final application or disposal, except as provided in paragraphs (3) and (4) of Rule 0400-40-15-.04.
- (b) Selection of an application practice. These rules do not require the selection of a biosolids application. The determination of the manner in which biosolids are used is a local determination.
- (c) Sludge generated at an industrial facility. These rules do not establish requirements for the use or disposal of sludge generated at an industrial facility during the treatment of industrial wastewater, including sewage sludge or biosolids generated during the treatment of industrial wastewater combined with domestic sewage.
- (d) Hazardous sewage sludge or biosolids. These rules do not establish requirements for the land application of biosolids determined to be hazardous in accordance with 40 CFR part 261. Biosolids that are to be land applied shall be tested using EPA Publication SW-846 to determine whether the biosolids leaching potential is greater than the Toxicity Characteristic (TC) levels specified in 40 CFR 261.24. If any of the TC levels specified in 40 CFR 261.24 are exceeded, the biosolids shall not be land applied.
- (e) Biosolids or sewage sludge with high PCB concentration. These rules do not establish requirements for the land application of biosolids with a concentration of polychlorinated biphenyls (PCBs) equal to or greater than 50 milligrams per kilogram of total solids (dry weight basis).
- (f) Grit and screenings. These rules do not establish requirements for the use or disposal of grit (e.g., sand, gravel, cinders, or other materials with a high specific gravity) or screenings (e.g., relatively large materials such as rags) generated during preliminary treatment of domestic sewage in a treatment works.
- (g) Drinking water treatment sludge. These rules do not establish requirements for the use or disposal of sludge generated during the treatment of either surface water or ground water used for drinking water.
- (h) Domestic, commercial and industrial septage. These rules do not establish requirements for the use or disposal of domestic septage, commercial septage, industrial septage, a mixture of domestic septage and commercial septage, or a mixture of domestic septage and industrial septage.

(6) Requirement for a person who prepares biosolids [40 CFR 503.7]

Any person who prepares biosolids shall ensure that the applicable requirements in these rules are met when the biosolids are applied to the land and that biosolids that do not meet the requirements of these rules are not applied to the land.

(7) Sampling and analysis [40 CFR 503.8]

- (a) Sampling. Representative samples of biosolids that are applied to the land shall be collected and analyzed.
- (b) Methods. Analyses of samples shall be accomplished in accordance with the methods most recently approved by USEPA, a copy of which can be obtained from the Division of Water Resources.

- (8) General definitions. [40 CFR 503.9] The following definitions apply to the use of the terms in these rules.

The "Agronomic rate" is the lesser of the whole biosolids application rate (dry weight basis) designed in accordance with subparagraph (4)(d) of Rule 0400-40-15-.02:

- (a) To provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and
- (b) To minimize the amount of nitrogen in the biosolids that passes below the root zone of the crop or vegetation grown on the land to the ground water.

"Annual contaminant loading rate" is the maximum amount of a contaminant that can be applied to a unit area of land during any calendar year. The units may be in terms of "pounds per acre," "kilograms per hectare," etc. (i.e., weight per unit area)

"Annual whole biosolids application rate" is the maximum amount of biosolids (dry weight basis) that can be applied to a unit area of land during any calendar year.

"Active sinkhole" is one with fresh exposure, sloughing of soil into the sinkhole throat, wilted or leaning vegetation around the sinkhole, or an open surface hole measuring three feet deep or deeper.

"Agricultural land" is land on which a food crop, a feed crop, or a fiber crop is grown. This includes range land and land used as pasture.

"Apply biosolids" or "biosolids applied to the land" means land application of biosolids.

"Base flood" is a flood that has a one percent chance of occurring in any given year (i.e., a flood with a magnitude equaled once in 100 years).

"Beneficial use of biosolids" means the application of biosolids to the land for the purposes of improving soil characteristics including tilth, fertility, and stability to enhance the growth of vegetation consistent with protecting human health and the environment.

"Biosolids" are treated sewage sludge that have contaminant concentrations less than or equal to the contaminant concentrations listed in Table 1 of subparagraph (3)(b) of Rule 0400-40-15-.02, meet any one of the ten vector attraction reduction options listed in part (4)(b)1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 of Rule 0400-40-15-.04, and meet either one of the six pathogen reduction alternatives for Class A listed in part (3)(a)3, 4, 5, 6, 7, or 8, or one of the three pathogen reduction alternatives for Class B listed in part (3)(b)2, 3, or 4 of Rule 0400-40-15-.04.

"Bulk biosolids" means biosolids that are not sold or given away in a bag or other container for application to the land (i.e., biosolids that are not put in packages, bags, or other containers for sale but are sold, given away, applied to the land, or disposed of in larger quantities).

"Ceiling concentration" means the maximum concentration of a contaminant in any biosolids sample, beyond which level the biosolids would be classified as sewage sludge not suitable for application to the land. Ceiling concentrations are established in Table 1 of 0400-40-15-.02(3)(b).

"Commissioner" means the Commissioner of the Tennessee Department of Environment and Conservation.

"Composting" means the biological degradation of organic material under controlled conditions designed to promote aerobic decomposition. This does not include the treatment of sewage sludge in a digester at a wastewater treatment plant.

"Contaminant" means an organic substance, an inorganic substance, or a combination of organic and inorganic substances that after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food chain, could, based upon information available to the Commissioner, cause death, disease, behavioral abnormalities,

cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms, depending upon the concentration.

“Contaminant limit” is a numerical value that describes the amount of a contaminant allowed per unit amount of biosolids (e.g., milligrams per kilogram of total solids); the amount of a contaminant that can be applied to a unit area of land (e.g., kilograms per hectare); or the volume of a material that can be applied to a unit area of land (e.g., gallons per acre).

“Cover crop” is a quick growing crop planted between periods of regular crop production to prevent soil erosion and provide humus or nitrogen.

“Cumulative contaminant loading rate” is the maximum amount of a contaminant that can be applied to an area of land from biosolids that exceed the contaminant concentration limits established in Table 3 of 0400-40-15-.02(3)(b).

“CWA” means the Clean Water Act (formerly referred to as either the Federal Water Pollution Act or the Federal Water Pollution Control Act Amendments of 1972), Public Law 92–500, as amended by Public Law 95–217, Public Law 95–576, Public Law 96–483, Public Law 97–117, and Public Law 100–4.

“Department” means the Department of Environment and Conservation for the State of Tennessee.

“Director” means the director of the Division of Water Resources or his or her authorized representative.

“Division” means the Division of Water Resources.

“Domestic septage” is either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater nor does it include grease removed from a grease trap at a restaurant.

“Domestic sewage” is waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works.

“Dry weight basis” means calculated on the basis of having been dried at 105° Celsius until reaching a constant mass (i.e., essentially 100 percent solids content).

“EPA” means the United States Environmental Protection Agency.

“Exceptional Quality Biosolids” or “EQ biosolids” are biosolids that meet the ceiling concentrations in Table 1 of subparagraph (3)(b) of Rule 0400-40-15-.02 and the contaminant concentrations in Table 3 of subparagraph (3)(b) of Rule 0400-40-15-.02; the Class A pathogen requirements in subparagraph (3)(a) of Rule 0400-40-15-.04; and one of the vector attraction reduction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04.

“Facility” means a treatment works treating domestic sewage as defined in this chapter, unless the context of the rule requires otherwise. For the purposes of this chapter a facility is considered to be new if it has not been previously approved for the treatment, storage, application, or disposal of biosolids.

“Feed crops” are crops produced primarily for consumption by animals.

“Fiber crops” are crops such as flax and cotton.

“Flood plain” is the nearly level plain that borders a stream and is subject to inundation under flood-stage conditions unless protected artificially. It is usually a constructional landform built of sediment deposited during overflow and lateral migration of the stream.

“Food crops” are crops consumed by humans. These include, but are not limited to, fruits, vegetables, and tobacco.

“Forest” is an area of land that is managed for the production of timber or other forest products, or for benefits such as recreation and watershed protection, and that is or will be dominated by trees under the current system of management.

“General permit” means a permit issued by the Division in accordance with the procedures established in this chapter that authorizes the application of biosolids to the land under which multiple treatment works treating domestic sewage may apply for coverage.

“Geometric mean” means the antilogarithm of the arithmetic average of the logarithms of the sample values, or the  $n^{\text{th}}$  root of the product of  $n$  sample values.

“Ground water” is water below the land surface in the saturated zone.

“Individual permit” means a permit issued by the Division to a single treatment works treating domestic sewage in accordance with this chapter, which authorizes the management of biosolids.

“Industrial wastewater” is wastewater generated in a commercial or industrial process.

“Land application” is the application of biosolids to the land surface by means such as spreading or spraying, the injection of biosolids below the land surface, or the incorporation of biosolids into the soil for the purpose of beneficial use.

“Material derived from biosolids” means biosolids to which any substance has been added.

“Material derived from sewage sludge” is sewage sludge to which any substance has been added.

“Monthly average” is the arithmetic mean of all measurements taken during the month.

“Municipality” means a city, town, borough, county, parish, district, association, or other public body (including an intermunicipal Agency of two or more of the foregoing entities) created by or under State law or a designated and approved management Agency under section 208 of the CWA, as amended. The definition includes a special district created under State law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in section 201(e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use, application, or disposal of biosolids and sewage sludge.

“Other container” is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of 1 metric ton (1.1 U.S. tons) or less.

“Owner” means any person with ownership interest in a site or facility or who exercises control over a site or facility.

“Pasture” is land on which animals feed directly on feed crops such as legumes, grasses, grain stubble, or stover.

“Permit” means an authorization, license, or equivalent control document issued by the Division to implement the requirements of this chapter. Unless the context requires differently, the use of the term in this chapter refers to individual permits, general permits, and coverage under general permits.

“Person” is an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

“Person who prepares biosolids” is either the person who generates biosolids during the treatment of domestic sewage in a treatment works or the person who derives a material from biosolids.

“Public contact site” is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.

“Publicly owned treatment works” or “POTW” means a treatment works treating domestic sewage that is owned by a municipality, public utility, the State of Tennessee, or the federal government.

“Range land” is generally open, uncultivated land dominated by herbaceous or shrubby vegetation that may be used for grazing or browsing, either by wildlife or livestock.

“Reclamation site” is drastically disturbed land that is reclaimed using biosolids. This includes, but is not limited to, strip mines and construction sites.

“Residential equivalent value” means the number of residential equivalents determined for a facility under chapter.

“Restrict public access” means to minimize access of nonessential personnel to land where biosolids are applied through the use of natural or artificial barriers, signs, remoteness, or other means.

“Runoff” is rainwater, leachate, or other liquid that drains overland on any part of a land surface and runs off of the land surface.

“Sewage sludge” is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; 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 grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

“Site” means all areas of land, including buffer areas, which are identified in the scope of an approved site specific land application plan. A site is considered to be new or expanded when biosolids are applied to an area not approved in a site specific land application plan or that was not previously disclosed during a required public notice process.

“State” is the State of Tennessee

“State Biosolids Coordinator” is the person designated by the Commissioner to be responsible for the State of Tennessee’s biosolids program.

“Stover” is the non-grain, above-ground part of a grain crop, often corn or sorghum.

“Surface impoundment” means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), and which is designed to hold an accumulation of liquids or sludges. The term includes holding, storage, settling, and aeration pits, ponds, or lagoons, but does not include injection wells.

“Tank” means a stationary device designed to contain an accumulation of liquid or semisolid materials and which is constructed primarily of non-earthen materials to provide structural support.

“Toxicity characteristic leaching procedure (TCLP)” is the test method, Method 1311 (1992 or latest version) of Test Methods for Evaluating Solid Wastes (EPA Publication SW-846), Volume IC: Laboratory Manual, Physical/Chemical Methods), used to determine the mobility of both organic and inorganic contaminants present in liquid, solid, and multiphase wastes.

“Treat” or “treatment of sewage sludge or biosolids” is the preparation of sewage sludge or biosolids for final land application. This includes, but is not limited to, thickening, stabilization, and dewatering of sewage sludge or biosolids. This does not include storage of either sewage sludge or biosolids.

“Treatment works” is either a federally owned, publicly owned, or privately owned device or system used to treat (including recycle and reclaim) either domestic sewage or a combination of domestic sewage and industrial waste of a liquid nature.

“Treatment works treating domestic sewage” means a publicly owned treatment works or any other sewage sludge or wastewater treatment devices or systems, regardless of ownership, used in the

storage, treatment, recycling, and reclamation of municipal or domestic sewage, sewage sludge, or biosolids, including land dedicated for the disposal of sewage sludge or biosolids.

“Waters of the State” are any and all waters, public or private, on or beneath the surface of the ground, that are contained within, flow through, or border upon Tennessee or any portion thereof, except those bodies of water confined to and retained within the limits of private property in single ownership that do not combine or effect a junction with natural surface or underground waters.

“Well drained soil” is a soil drainage class characterized by the lack of any evidence of the seasonal high water table in the top 36 inches of the soil profile.

“Wetlands” means those areas that are inundated or saturated by surface water or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(9) Rule Structure

These rules are organized, numbered, and referenced according to the following outline form:

- (1) paragraph
  - (a) subparagraph
    - 1. part
      - (i) subpart
        - (l) item
          - I. subitem
            - A. section
              - (A) subsection

Authority: T.C.A. §§ 69-3-101 et seq. and 4-5-201 et seq.

0400-40-15-.02 Land Application [40 CFR 503 Subpart B]

- (1) Applicability [40 CFR 503.10]
  - (a) This rule applies to any person who applies biosolids to the land, to biosolids applied to the land, and to the land on which biosolids are applied.
  - (b) No person shall apply biosolids to the land except in accordance with the requirements in this chapter.
- (2) General requirements [40 CFR 503.12]
  - (a) No person shall apply bulk biosolids subject to the cumulative contaminant loading rates in part (3)(b)2 of this rule to agricultural land, forest, a public contact site, or a reclamation site if any of the cumulative contaminant loading rates in part (3)(b)2 of this rule has been reached.
  - (b) The person who prepares bulk biosolids that are applied to agricultural land, forest, a public contact site, or a reclamation site shall provide the person who applies the bulk biosolids written notification of the concentration of total nitrogen (including total kjekdahl nitrogen [TKN], ammonia nitrogen, and nitrate-nitrogen) as N on a dry weight basis in the bulk biosolids.

- (c) 1. The person who applies biosolids to the land shall obtain information needed to comply with the requirements in this rule.
2.
  - (i) Before bulk biosolids subject to the cumulative contaminant loading rates in part (3)(b)2 of this rule are applied to the land, the person who proposes to apply the bulk biosolids shall contact EPA Region 4 to determine whether bulk biosolids subject to the cumulative contaminant loading rates in part (3)(b)2 of this rule have been applied to the site since July 20, 1993.
  - (ii) If bulk biosolids subject to the cumulative contaminant loading rates in part (3)(b)2 of this rule have not been applied to the site since July 20, 1993, the cumulative amount for each contaminant listed in Table 2 of subparagraph (3)(b) of this rule may be applied to the site in accordance with subpart (3)(a)2(i) of this rule.
  - (iii) If bulk biosolids subject to the cumulative contaminant loading rates in part (3)(b)2 of this rule have been applied to the site since July 20, 1993, and the cumulative amount of each contaminant applied to the site in the bulk biosolids since that date is known, the cumulative amount of each contaminant applied to the site shall be used to determine the additional amount of each contaminant that can be applied to the site in accordance with subpart (3)(a)2(i) of this rule.
  - (iv) If bulk biosolids subject to the cumulative contaminant loading rates in part (3)(b)2 of this rule have been applied to the site since July 20, 1993, and the cumulative amount of each contaminant applied to the site in the bulk biosolids since that date is not known, an additional amount of each contaminant shall not be applied to the site in accordance with subpart (3)(a)2(i) of this rule.
- (d) When a person who prepares bulk biosolids provides the bulk biosolids to a person who applies the bulk biosolids to the land, the person who prepares the bulk biosolids shall provide the person who applies the biosolids notice and necessary information (NANI) to comply with the requirements in this chapter.
- (e) When a person who prepares sewage sludge provides the sewage sludge to another person who prepares the sewage sludge, the person who provides the sewage sludge shall provide the person who receives the sewage sludge notice and necessary information (NANI) to comply with the requirements in this chapter.
- (f) The person who applies bulk biosolids to the land shall provide the owner or lease holder of the land on which the bulk biosolids are applied notice and necessary information (NANI) to comply with the requirements in this chapter.
- (g) Any person who prepares bulk biosolids that are applied to land in a State other than the State of Tennessee shall provide written notice, prior to the initial application of bulk biosolids to the land application site by the applier, to EPA Region 4. The notice shall include:
  1. The location, by either street address or latitude and longitude, of each land application site;
  2. The approximate time period bulk biosolids will be applied to the site;
  3. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who prepares the bulk biosolids; and
  4. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who will apply the bulk biosolids.

- (h) Any person who applies bulk biosolids subject to the cumulative contaminant loading rates in part (3)(b)2 of this rule to the land shall provide written notice, prior to the initial application of bulk biosolids to a land application site by the applier, to EPA Region 4. The notice shall include:
1. The location, by either street address or latitude and longitude, of the land application site; and
  2. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) of the person who will apply the bulk biosolids.

(3) Contaminant limits [40 CFR 503.13]

(a) Biosolids.

1. Bulk biosolids or biosolids sold or given away in a bag or other container shall not be applied to the land if the concentration of any contaminant in the biosolids exceeds the ceiling concentration for the contaminant in Table 1 of subparagraph (b) of this paragraph.
2. If bulk biosolids is applied to agricultural land, forest, a public contact site, or a reclamation site, either:
  - (i) The cumulative loading rate for each contaminant shall not exceed the cumulative contaminant loading rate for the contaminant in Table 2 of subparagraph (b) of this paragraph; or
  - (ii) The concentration of each contaminant in the biosolids shall not exceed the monthly average concentration for the contaminant in Table 3 of subparagraph (b) of this paragraph.
3. If bulk biosolids are applied to a lawn or a home garden, the concentration of each contaminant in the biosolids shall not exceed the ceiling concentration for the contaminant in Table 1 or the monthly average concentration in Table 3 of subparagraph (b) of this paragraph.
4. If biosolids are sold or given away in a bag or other container for application to the land, the concentration of each contaminant in the biosolids shall not exceed the ceiling concentration for the contaminant in Table 1 or the monthly average concentration in Table 3 of subparagraph (b) of this paragraph.

(b) Biosolids contaminant concentrations and loading rates.

1. Ceiling Concentrations

Table 1  
Ceiling Concentrations

Contaminant	Ceiling Concentration (milligrams per kilogram) <sup>1,2</sup>
Arsenic	75
Cadmium	85
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

<sup>1</sup>Dry weight basis

<sup>2</sup>These amounts are a maximum level never to be exceeded

2. Cumulative Contaminant Loading Rates.

Table 2  
Cumulative Contaminant Loading Rates

Contaminant	Cumulative Contaminant Loading Rate (kilograms per hectare)
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2800

3. Contaminant Concentrations

Table 3  
Contaminant Concentrations

Contaminant	Monthly average concentration (milligrams per kilogram) <sup>1</sup>
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2800

<sup>1</sup>Dry weight basis

(4) Management practices [40 CFR 503.14]

- (a) Bulk biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under section 4 of the Endangered Species Act or its designated critical habitat.
- (b) Bulk biosolids shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk biosolids enters a wetland or other waters of State of Tennessee, except as provided in a permit issued pursuant to § 402 or 404 of the Clean Water Act.
- (c) Bulk biosolids shall not be applied to agricultural land, forest, or a reclamation site unless all of the following setbacks are met:
  - 1. 100 feet or more from surface waters of the State of Tennessee which are positioned down gradient of the application site.
  - 2. 33 feet or more from surface waters of the State of Tennessee which are positioned up gradient for the application site.
  - 3. 100 feet from all wells.
  - 4. 100 feet from all water supply reservoirs.
  - 5. 100 feet from active sinkholes.

(d) Bulk biosolids shall be applied to agricultural land, forest, a public contact site, or a reclamation site at a whole biosolids application rate that is equal to or less than the agronomic rate for the bulk biosolids, unless, in the case of a reclamation site, otherwise specified by EPA Region 4 and the Director. In order for a rate greater than the agronomic rate to be used, EPA Region 4 must approve the rate and that rate or a lesser rate shall be approved by the State Biosolids Coordinator for all land applied biosolids in the State of Tennessee. For the purposes of determining the agronomic rate, the person applying biosolids shall comply with all five of the following parts.

1. Determine crop yields and crop nitrogen (N) requirements based upon a recommendation of the farmer, a written recommendation from the University of Tennessee Extension, historical site yield data, or estimated average yields for the specified crops within the County in which the application site is situated. The average of the actual yields documented from the best three years during a 5-year cycle is typical and is recommended.
2. The following Mineralization Rates shall be used as default values in calculating the agronomic rate:

Unstabilized Primary and Secondary Sewage Sludge	40%
Alkaline Stabilized Sewage Sludge	30%
Aerobically Digested Sewage Sludge	30%
Anaerobically Digested Sewage Sludge	20%
Composted Sewage Sludge	10%

These default values shall be used unless actual mineralization rates have been established with proper documentation and approved by the State Biosolids Coordinator.

3. Crop nitrogen requirements shall follow Table 1 below:

Table 1 – Crop Nitrogen Requirements

CROP	EXPECTED YIELD	NITROGEN REQUIREMENT (lbs N per Acre per Year)
Corn (grain)	100-125 bu/ac	120
	125-150 bu/ac	150
Corn (silage)	20 tons/ac	120-150
Bermuda grass	5-10 tons/ac	200
Soybeans(1)	30 bu/ac	100
	40 bu/ac	150
	50 bu/ac	190
Wheat	40 bu/ac	60
Summer Annual Grass	6 tons (1 cutting)*	60-120
Hybrid Hay	8 tons (4 cuttings)*	400(2)
Tall Fescue Hay	3 tons (2 cuttings)*	120
Orchard Grass Hay	4 tons (2 cuttings)*	60-120
Sorghum (grain)	60 bu/ac	60
Cotton	1 bale/ac	50
	1.5 bales/ac	90
Other (3)	(3)	(3)

\*When less than the indicated number of harvests is expected, the total nitrogen rate shall be reduced proportionally.

- (1) Soybeans are a legume and can obtain 50% to 60% of their nitrogen needs from atmospheric nitrogen. The acceptable "nitrogen requirement" will vary and shall be approved by the State Biosolids Coordinator.
  - (2) Highly dependent on field conditions and harvesting schedule.
  - (3) Any recommendation from the University of Tennessee Extension and/or approved by the State Biosolids Coordinator.
  4. Follow procedures for determining plant available nitrogen (PAN) as described in paragraph (12) Appendix .02-A of this rule and apply the whole biosolids application rate that provides no more than the amount of nitrogen required by the crop or crops to be grown unless otherwise specified by the State Biosolids Coordinator.
  5. In cases where the biosolids have substantial liming value, the agronomic rate shall be the lesser of the whole biosolids application rate that provides crop nitrogen needs as determined by parts 1 and 2 of this subparagraph or required liming equivalent necessary to raise the soil pH to the value most conducive for productivity of the crop(s) to be grown. Since moderately alkaline soil ranges from 7.9 to 8.4, the upper limit for soil pH is 8.4.
- (e) Either a label shall be affixed to the bag or other container containing biosolids that are sold or given away for application to the land or an information sheet shall be provided to the person who receives biosolids sold or given away in another container for application to the land. The label or information sheet shall contain the following information:
1. The name and address of the person who prepared the biosolids that are sold or given away in a bag or other container for application to the land.
  2. A statement that application of the biosolids to the land is prohibited except in accordance with the instructions on the label or information sheet.
- (5) Operational standards—pathogens and vector attraction reduction [40 CFR 503.15]
- (a) Pathogens.
1. The Class A pathogen requirements in subparagraph (3)(a) of Rule 0400-40-15-.04 or the Class B pathogen requirements and site restrictions in subparagraph (3)(b) of Rule 0400-40-15-.04 shall be met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site.
  2. The Class A pathogen requirements in subparagraph (3)(a) of Rule 0400-40-15-.04 shall be met when bulk biosolids are applied to a lawn or a home garden.
  3. The Class A pathogen requirements in subparagraph (3)(a) of Rule 0400-40-15-.04 shall be met when biosolids are sold or given away in a bag or other container for application to the land.
- (b) Vector attraction reduction.
1. One of the vector attraction reduction requirements in parts (4)(b)1 through 10 of Rule 0400-40-15-.04 shall be met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site.
  2. One of the vector attraction reduction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04 shall be met when bulk biosolids are applied to a lawn or a home garden.
  3. One of the vector attraction reduction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04 shall be met when biosolids are sold or given away in a bag or other container for application to the land.

(6) Frequency of Monitoring [40 CFR 503.16]

(a) Biosolids.

1. The frequency of monitoring for the contaminants listed in Table 1, Table 2, and Table 3 of subparagraph (3)(b) of this rule; the pathogen density requirements in subparagraph (3)(a) and part (3)(b)2 of Rule 0400-40-15-.04; and the vector attraction reduction requirements in parts (4)(b)1 through 4, 7, and 8 of Rule 0400-40-15-.04 shall be the frequency specified in Table 1 of this subparagraph for the amount of biosolids applied.

Table 1  
Frequency of Monitoring—Land Application

Amount of Biosolids <sup>1</sup> (metric tons per calendar year)	Frequency
Greater than zero but less than 290	Once per year
Equal to or greater than 290 but less than 1,500	Once per quarter (4 times per year)
Equal to or greater than 1,500 but less than 15,000	Once per 60 days (6 times per year)
Equal to or greater than 15,000	Once per month (12 times per year)

<sup>1</sup>Either the amount of bulk biosolids applied to the land or the amount of biosolids prepared for sale or give-away in a bag or other container for application to the land (dry weight basis).

2. After the biosolids have been monitored for two years at the frequency in Table 1 the monitoring frequency for contaminants and/or pathogen densities may be reduced by EPA. If EPA reduces the monitoring for contaminants and/or pathogen densities, the State of Tennessee will accept the revised monitoring frequency as stipulated by EPA.
- (b) PCBs shall be monitored at least once every five years unless otherwise specified by the State Biosolids Coordinator.
- (c) A Toxicity Characteristic Leaching Procedure (TCLP) using SW-846 Method 1311 in accordance with 40 CFR 261.24 shall be conducted at least once every five years unless otherwise specified by the State Biosolids Coordinator.

(7) Recordkeeping [40 CFR 503.17]

- (a) The person who prepares the biosolids shall develop the following information and shall retain the information for five years:

1. The concentration of each contaminant listed in Table 3 of subparagraph (3)(b) of this rule in the biosolids;
2. The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class A pathogen requirements in subparagraph (3)(a) of Rule 0400-40-15-.04 and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment;"

3. A description of how the Class A pathogen requirements in subparagraph (3)(a) of Rule 0400-40-15-.04 are met; and
  4. A description of how one of the vector attraction reduction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04 is met.
- (b) The person who prepares biosolids shall develop the following information and shall retain the information for five years.
1. The concentration of each contaminant listed in Table 3 of subparagraph (3)(b) of this rule in the material;
  2. The following certification statement:
 

“I certify under penalty of law, that the information that will be used to determine compliance with the Class A pathogen requirements in subparagraph (3)(a) of Rule 0400-40-15-.04 and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment;”
  3. A description of how the Class A pathogen requirements in subparagraph (3)(a) of Rule 0400-40-15-.04 are met; and
  4. A description of how one of the vector attraction reduction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04 is met.
- (c) If the contaminant concentrations in part (3)(b)3 of this rule, the Class A pathogen requirements in subparagraph (3)(a) of Rule 0400-40-15-.04, and the vector attraction reduction requirements in either part (4)(b)9 or 10 of Rule 0400-40-15-.04 are met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site:
1. The person who prepares the bulk biosolids shall develop the following information and shall retain the information for five years:
    - (i) The concentration of each contaminant listed in Table 3 of subparagraph (3)(b) of this rule in the bulk biosolids;
    - (ii) The following certification statement:
 

“I certify, under penalty of law, that the information that will be used to determine compliance with the Class A pathogen requirements in subparagraph (3)(a) of Rule 0400-40-15-.04 was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment;” and
    - (iii) A description of how the pathogen requirements in subparagraph (3)(a) of Rule 0400-40-15-.04 are met.
  2. The person who applies the bulk biosolids shall develop the following information and shall retain the information for five years:
    - (i) The following certification statement:
 

“I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in paragraph (4) of Rule 0400-40-15-

.02 and the vector attraction reduction requirement in [insert either part (4)(b)9 or 10 of Rule 0400-40-15-.04] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment;”

- (ii) A description of how the management practices in paragraph (4) of this rule are met for each site on which bulk biosolids are applied. This description shall include for each individual field or site on which biosolids were applied the following:
    - (I) A listing, including usable acres, for each field or site to which biosolids were applied;
    - (II) A listing of all loads of biosolids, including dry tons, applied to the field or site;
    - (III) An indication of the crop(s) to be grown after application, including projected yields and nitrogen requirements; and
    - (IV) Calculation of the dry tons per acre applied, the plant available nitrogen applied per acre, and a determination that the agronomic loading rate for nitrogen was met; and
  - (iii) A description of how the vector attraction reduction requirements in either part (4)(b)9 or 10 of Rule 0400-40-15-.04 are met for each site on which bulk biosolids are applied.
- (d) If the contaminant concentrations in part (3)(b)3 of this rule and the Class B pathogen requirements in subparagraph (3)(b) of Rule 0400-40-15-.04 are met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site:
- 1. The person who prepares the bulk biosolids shall develop the following information and shall retain the information for five years:
    - (i) The concentration of each contaminant listed in Table 3 of subparagraph (3)(b) of this rule in the bulk biosolids;
    - (ii) The following certification statement:

“I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in subparagraph (3)(b) of Rule 0400-40-15-.04 and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04 if one of those requirements is met] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment;”
    - (iii) A description of how the Class B pathogen requirements in subparagraph (3)(b) of Rule 0400-40-15-.04 are met; and
    - (iv) When one of the vector attraction reduction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04 is met, a description of how the vector attraction reduction requirement is met.
  - 2. The person who applies the bulk biosolids shall develop the following information and shall retain the information for five years:

- (i) The following certification statement:
 

“I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in paragraph (4) of Rule 0400-40-15-.02, the site restrictions in part (3)(b)5 of Rule 0400-40-15-.04, and the vector attraction reduction requirement in [insert either part (4)(b)9 or 10 of Rule 0400-40-15-.04 if one of those requirements is met] was prepared for each site on which bulk biosolids are applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment;”
  - (ii) A description of how the management practices in paragraph (5) of this rule are met for each site on which bulk biosolids are applied. This description shall include, for each individual field or site on which biosolids were applied the following:
    - (I) A listing, including usable acres, for each field or site to which biosolids were applied;
    - (II) A listing of all loads of biosolids, including dry tons, applied to the field or site;
    - (III) An indication of the crop(s) to be grown after application, including projected yields and nitrogen requirements; and
    - (IV) Calculation of the dry tons per acre applied, the plant available nitrogen applied per acre, and a determination that the agronomic loading rate for nitrogen was met;
  - (iii) A description of how the site restrictions in part (3)(b)5 of Rule 0400-40-15-.04 are met for each site on which bulk biosolids are applied;
  - (iv) When the vector attraction reduction requirement in either part (4)(b)9 or 10 of Rule 0400-40-15-.04 is met, a description of how the vector attraction reduction requirement is met; and
  - (v) The date bulk biosolids are applied to each site.
- (e) If the requirements in subpart (3)(a)2(i) of this rule are met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site:
1. The person who prepares the bulk biosolids shall develop the following information and shall retain the information for five years:
    - (i) The concentration of each contaminant listed in Table 1 of subparagraph (3)(b) of this rule in the bulk biosolids;
    - (ii) The following certification statement:
 

“I certify, under penalty of law, that the information that will be used to determine compliance with the pathogen requirements in [insert either subparagraph (3)(a) of Rule 0400-40-15-.04 or subparagraph (3)(b) of Rule 0400-40-15-.04] and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04 if one of those requirements is met] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment;”

- (iii) A description of how the pathogen requirements in either subparagraph (3)(a) or (b) of Rule 0400-40-15-.04 are met; and
- (iv) When one of the vector attraction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04 is met, a description of how the vector attraction requirement is met.

2. The person who applies the bulk biosolids shall develop the following information, retain the information in subparts (i) through (vii) of this part indefinitely, and retain the information in subparts (viii) through (xiii) of this part for five years.

- (i) The location, by either street address or latitude and longitude, of each site on which bulk biosolids are applied.
- (ii) The number of acres in each site on which bulk biosolids are applied.
- (iii) The date bulk biosolids are applied to each site.
- (iv) The cumulative amount of each contaminant (i.e., kilograms) listed in Table 2 of subparagraph (3)(b) of this rule in the bulk biosolids applied to each site, including the amount in subpart (2)(c)2(iii) of this rule.
- (v) The amount of biosolids (i.e., tons) applied to each site.
- (vi) The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the requirement to obtain information in part (2)(c)2 of Rule 0400-40-15-.02 was prepared for each site on which bulk biosolids were applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

- (vii) A description of how the requirements to obtain information in part (2)(c)2 of this rule are met.
- (viii) The following certification statement:

"I certify, under penalty of law that the information that will be used to determine compliance with the management practices in paragraph (4) of Rule 0400-40-15-.02 was prepared for each site on which bulk biosolids were applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

- (ix) A description of how the management practices in paragraph (4) of this rule are met for each site on which bulk biosolids are applied. This description shall include, for each individual field or site on which biosolids were applied the following:
  - (I) A listing, including usable acres, for each field or site to which biosolids were applied;
  - (II) A listing of all loads of biosolids, including dry tons, applied to the field or site;
  - (III) An indication of the crop(s) to be grown after application, including projected yields and nitrogen requirements; and

- (IV) Calculation of the dry tons per acre applied, the plant available nitrogen applied per acre, and a determination that the agronomic loading rate for nitrogen was met.
- (x) The following certification statement when the bulk biosolids meet the Class B pathogen requirements in paragraph (3)(b) of Rule 0400-40-15-.04:
 

“I certify, under penalty of law, that the information that will be used to determine compliance with the site restrictions in part (3)(b)5 of Rule 0400-40-15-.04 for each site on which Class B biosolids were applied was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.”
- (xi) A description of how the site restrictions in part (3)(b)5 of Rule 0400-40-15-.04 are met for each site on which Class B bulk biosolids are applied.
- (xii) The following certification statement when the vector attraction reduction requirement in either part (4)(b)9 or 10 of Rule 0400-40-15-.04 is met:
 

“I certify, under penalty of law, that the information that will be used to determine compliance with the vector attraction reduction requirement in [insert either part (4)(b)9 of Rule 0400-40-15-.04 or part (4)(b)10 of Rule 0400-40-15-.04] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.”
- (xiii) If the vector attraction reduction requirements in either part (4)(b)9 or 10 of Rule 0400-40-15-.04 are met, a description of how the requirements are met.
- (f) If the requirements in part (3)(a)4 of this rule are met when biosolids are sold or given away in a bag or other container for application to the land, the person who prepares the biosolids that are sold or given away in a bag or other container shall develop the following information and shall retain the information for five years:
  1. The concentration of each contaminant listed in Table 1 and Table 3 of subparagraph (3)(b) of this rule in the biosolids;
  2. The following certification statement:
 

“I certify, under penalty of law, that the information that will be used to determine compliance with the management practice in subparagraph (4)(e) of Rule 0400-40-15-.02, the Class A pathogen requirement in subparagraph (3)(a) of Rule 0400-40-15-.04, and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment;”
  3. A description of how the Class A pathogen requirements in subparagraph (3)(a) of Rule 0400-40-15-.04 are met; and
  4. A description of how one of the vector attraction requirements in parts (4)(b)1 through 8 of Rule 0400-40-15-.04 is met.

- (a) All generators and preparers of biosolids shall submit the following information to the State Biosolids Coordinator:
1. The information in paragraph (7) of this rule, except the information in parts (7)(c)2, (d)2 and (e)2 of this rule, for the appropriate requirements on February 19 of each year.
  2. The information in subparts (7)(e)2(i) through (vii) of this rule on February 19th of each year when 90 percent or more of any of the cumulative contaminant loading rates in Table 2 of subparagraph (3)(b) of this rule is reached at a land application site.
- (b) Annual reports shall be submitted in their entirety as an electronic [computer generated] file in one of the following formats: Microsoft Word (\*.doc), Microsoft Excel (\*.xls), Microsoft Snapshot (\*.snp), or Adobe Portable Document Format (\*.pdf). In order to establish the time and date of submission, the annual report should be sent as an attachment to an email to the State Biosolids Coordinator. The State Biosolids Coordinator will issue a waiver to the electronic submittal when it is demonstrated that the municipality does not have this capability.
- (c) Per application event or monthly (lesser of these two frequencies) a Farm Operator Report shall be provided to the grower showing sites, fields, year-to-date dry tons applied, amount of nutrients applied, and dates of application. This is not required if the generator is also the applier and/or the grower.
- (d) A form shall be included in the annual report submitted to the State Biosolids Coordinator which contains at a minimum:
1. A summary of calendar year annual application activity, to include, for all sites, annual dry tons applied; and
  2. For each site, provide:
    - (i) Summary information:
      - (I) The applier;
      - (II) Land owner or operator;
      - (III) Latitude and longitude;
      - (IV) County; and
      - (V) Summary of overall site activity:
        - I. Approved acres;
        - II. Applied acres;
        - III. Total tonnage or volume (wet weight);
        - IV. Dry tons total; and
    - (ii) Detailed information for each field:
      - (I) Field number/name;
      - (II) Field acres, excluding setbacks;
      - (III) Crop;
      - (IV) First application date;

- (V) Last application date;
- (VI) PAN applied (plant available nitrogen in pounds per acre);
- (VII) Application method;
- (VIII) Calculated application rate (DT/Ac) to meet crop PAN need;
- (IX) Actual dry tons per acre;
- (X) Actual per acre tonnage or volume (wet weight);
- (XI) Total dry tons; and
- (XII) Total tonnage or volume (wet weight)

(9) Biosolids and Sewage Sludge Transportation Equipment – Transported on Public Roadways Only

- (a) Liquid biosolids shall be transported in sealed, watertight containers.
- (b) Tracking of biosolids or sewage sludge onto public roadways is prohibited.
- (c) The Tennessee Department of Environment and Conservation, Division of Water Resources' nearest Environmental Field Office shall be notified by telephone of any spill within 24 hours of occurrence.

(10) Reserved

(11) Reserved

(12) Appendix .02-A – Example Agronomic Rate Calculation

Agronomic Loading Rate Calculation Sheet for Nitrogen

1. Biosolids Analysis:

CONSTITUENTS	mg/kg (Dry Weight)
TKN	39,500
Ammonia (N)	7,600
NO <sub>3</sub> + NO <sub>2</sub> (N)	5

- 2. Mineralization Rate (MR) = 20% (Anaerobically Digested Sewage Sludge) – See part (4)(d)2 of this rule.
- 3. Plant Available Nitrogen (PAN) = [(MR) x (TKN – NH<sub>3</sub>)] + 0.5 x (NH<sub>3</sub>) + (NO<sub>3</sub>+NO<sub>2</sub>)
  - (i) PAN = [(0.2) x (39,500 – 7,600)] + 0.5 x (7,600) + (5) = 10, 185 mg/kg  
PAN (mg/kg) x 0.002 = 20.37 lbs/dry ton
  - (ii) PAN = 20.37 lbs/dry ton or 5.09 lbs/wet ton (assuming 25% solids)

Authority: T.C.A. §§ 69-3-101 et seq. and 4-5-201 et seq.

0400-40-15-.03 Reserved

Authority: T.C.A. §§ 69-3-101 et seq. and 4-5-201 et seq.

Rule 0400-40-15-.04 Pathogens and Vector Attraction Reduction [40 CFR 503 Subpart D]

(1) Scope [40 CFR 503.30]

- (a) This rule contains the requirements for biosolids and sewage sludge to be classified either Class A or Class B with respect to pathogens.
- (b) This rule contains the site restrictions for land on which Class B biosolids are applied.
- (c) This rule contains alternative vector attraction reduction requirements for biosolids that are applied to the land.

(2) Special definitions [40 CFR 503.31]

“Aerobic digestion” is the biochemical decomposition of organic matter in sewage sludge into carbon dioxide and water by microorganisms in the presence of air.

“Anaerobic digestion” is the biochemical decomposition of organic matter in sewage sludge into methane gas and carbon dioxide by microorganisms in the absence of air.

“Density of microorganisms” is the number of microorganisms per unit mass of total solids (dry weight) in the biosolids or sewage sludge.

“Land with a high potential for public exposure” is land that the public uses frequently. This includes, but is not limited to, a public contact site and a reclamation site located in a populated area (e.g., a construction site located in a city).

“Land with a low potential for public exposure” is land that the public uses infrequently. This includes, but is not limited to, agricultural land, forest, and a reclamation site located in an unpopulated area (e.g., a strip mine located in a rural area).

“Pathogenic organisms” are disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.

“pH” means the logarithm of the reciprocal of the hydrogen ion concentration measured at 25° Centigrade or measured at another temperature and then converted to an equivalent value at 25° Centigrade.

“Specific oxygen uptake rate” or “SOUR” is the mass of oxygen consumed per unit time per unit mass of total solids (dry weight basis) in the biosolids or sewage sludge.

“Total solids” are the materials in biosolids or sewage sludge that remain as residue when they are dried at 103° to 105° Celsius.

“Unstabilized solids” are organic materials in biosolids or sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

“Vector attraction” is the characteristic of biosolids or sewage sludge that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.

“Volatile solids” is the amount of the total solids in biosolids or sewage sludge lost when they are combusted at 550° Celsius in the presence of excess air.

(3) Pathogens [40 CFR 503.32]

(a) Biosolids—Class A.

- 1. The requirement in part 2 of this subparagraph and the requirements in either parts 3, 4, 5, 6, 7, or 8 of this subparagraph shall be met for a biosolids to be classified Class A with respect to pathogens.
- 2. The Class A pathogen requirements in parts 3 through 8 of this subparagraph shall be met either prior to meeting or at the same time the vector attraction reduction

requirements in paragraph (4) of this rule, except the vector attraction reduction requirements in parts (4)(b)6 through 8 of this rule, are met.

3. Class A—Alternative 1

(i) Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the biosolids shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the biosolids are applied or disposed; at the time the biosolids are prepared for sale or given away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids are prepared to meet the requirements in subparagraph (1)(b) of Rule 0400-40-15-.02.

(ii) The temperature of the biosolids that are applied or disposed shall be maintained at a specific value for a period of time.

(I) When the percent solids of the biosolids are seven percent or higher, the temperature of the biosolids shall be 50° 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.

Equation (1)

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

Where,

D = time in days.

t = temperature in degrees Celsius.

(II) When the percent solids of the biosolids are seven percent or higher and small particles of sewage sludge are heated by either warmed gases or an immiscible liquid, the temperature of the biosolids shall be 50° Celsius or higher; the time period shall be 15 seconds or longer; and the temperature and time period shall be determined using Equation (1).

(III) When the percent solids of the biosolids are less than seven 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).

(IV) When the percent solids of the biosolids are less than seven percent; the temperature of the biosolids are 50° 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)

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

Where,

D = time in days.

t = temperature in degrees Celsius.

4. Class A—Alternative 2

- (i) Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the biosolids shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the biosolids are applied or disposed; at the time the biosolids are prepared for sale or given away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids are prepared to meet the requirements in subparagraph (1)(b) of Rule 0400-40-15-.02.
- (ii)
  - (I) The pH of the biosolids that are applied or disposed shall be raised to above 12 and shall remain above 12 for 72 hours.
  - (II) The temperature of the biosolids shall be above 52° Celsius for 12 hours or longer during the period that the pH of the biosolids is above 12.
  - (III) At the end of the 72 hour period during which the pH of the biosolids are above 12, the biosolids shall be air dried to achieve a percent solids in the biosolids greater than 50 percent.

5. Class A—Alternative 3

- (i) Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in biosolids shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the biosolids are applied or disposed; at the time the biosolids are prepared for sale or given away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids are prepared to meet the requirements in subparagraph (1)(b) of Rule 0400-40-15-.02.
- (ii)
  - (I) The biosolids shall be analyzed prior to pathogen treatment to determine whether the biosolids contains enteric viruses.
  - (II) When the density of enteric viruses in the biosolids prior to pathogen treatment is less than one Plaque-Forming Unit per four grams of total solids (dry weight basis), the biosolids are Class A with respect to enteric viruses until the next monitoring episode for the biosolids.
  - (III) When the density of enteric viruses in the biosolids prior to pathogen treatment is equal to or greater than one Plaque-Forming Unit per four grams of total solids (dry weight basis), the biosolids are Class A with respect to enteric viruses when the density of enteric viruses in the biosolids after pathogen treatment is less than one Plaque-Forming Unit per four grams of total solids (dry weight basis) and when the values or ranges of values for the operating parameters for the pathogen treatment process that produces the biosolids that meet the enteric virus density requirement are documented.
  - (IV) After the enteric virus reduction in item III of this subpart is demonstrated for the pathogen treatment process, the biosolids continue to be Class A with respect to enteric viruses when the values for the pathogen treatment process operating parameters are consistent with the values or ranges of values documented in item III of this subpart.
- (iii)
  - (I) The biosolids shall be analyzed prior to pathogen treatment to determine whether the biosolids contain viable helminth ova.

- (II) When the density of viable helminth ova in the biosolids prior to pathogen treatment is less than one per four grams of total solids (dry weight basis), the biosolids are Class A with respect to viable helminth ova until the next monitoring episode for the biosolids.
  - (III) When the density of viable helminth ova in the biosolids prior to pathogen treatment is equal to or greater than one per four grams of total solids (dry weight basis), the biosolids are Class A with respect to viable helminth ova when the density of viable helminth ova in the biosolids after pathogen treatment is less than one per four grams of total solids (dry weight basis) and when the values or ranges of values for the operating parameters for the pathogen treatment process that produces the biosolids that meet the viable helminth ova density requirement are documented.
  - (IV) After the viable helminth ova reduction in item III of this subpart is demonstrated for the pathogen treatment process, the biosolids continue to be Class A with respect to viable helminth ova when the values for the pathogen treatment process operating parameters are consistent with the values or ranges of values documented item III of this subpart.
- (iv) The use of Alternative 3 for Class A pathogen reduction requires prior written approval from the State Biosolids Coordinator.

6. Class A—Alternative 4

- (i) Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the biosolids shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the biosolids are applied or disposed; at the time the biosolids are prepared for sale or given away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids are prepared to meet the requirements in subparagraph (1)(b) of Rule 0400-40-15-.02.
- (ii) The density of enteric viruses in the biosolids shall be less than one Plaque-Forming Unit per four grams of total solids (dry weight basis) at the time the biosolids are applied or disposed; at the time the biosolids are prepared for sale or given away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids are prepared to meet the requirements in subparagraph (1)(b) of Rule 0400-40-15-.02, unless otherwise specified by the State Biosolids Coordinator.
- (iii) The density of viable helminth ova in the biosolids shall be less than one per four grams of total solids (dry weight basis) at the time the biosolids are applied or disposed; at the time the biosolids are prepared for sale or given away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids are prepared to meet the requirements in subparagraph (1)(b) of Rule 0400-40-15-.02, unless otherwise specified by the State Biosolids Coordinator.
- (iv) The use of Alternative 4 for Class A pathogen reduction requires prior written approval from the State Biosolids Coordinator.

7. Class A—Alternative 5

- (i) Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella, sp. bacteria in the biosolids shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the biosolids

are applied or disposed; at the time the biosolids are prepared for sale or given away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids are prepared to meet the requirements in subparagraph (1)(b) of Rule 0400-40-15-.02.

- (ii) Biosolids that are applied or disposed shall be treated in one of the Processes to Further Reduce Pathogens described in paragraph (5) of this rule.

8. Class A—Alternative 6

- (i) Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of *Salmonella*, sp. bacteria in the biosolids shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the biosolids are applied or disposed; at the time the biosolids are prepared for sale or given away in a bag or other container for application to the land; or at the time the biosolids or material derived from biosolids are prepared to meet the requirements in subparagraph (1)(b) of Rule 0400-40-15-.02.

- (ii) Biosolids that are applied or disposed shall be treated in a process that is equivalent to a Process to Further Reduce Pathogens as determined by EPA Region 4.

(b) Biosolids—Class B.

- 1. (i) The requirements in either part 2, 3, or 4 of this subparagraph shall be met for biosolids to be classified Class B with respect to pathogens.

- (ii) The site restrictions in part 5 of this subparagraph shall be met when biosolids that meet the Class B pathogen requirements in part 2, 3, or 4 of this subparagraph are applied to the land.

2. Class B—Alternative 1

- (i) Seven representative samples of the biosolids that are applied or disposed shall be collected.

- (ii) The geometric mean of the density of fecal coliform in the samples collected in subpart (i) of this part shall be less than either 2,000,000 Most Probable Number per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

3. Class B—Alternative 2

Biosolids that are applied or disposed shall be treated in one of the Processes to Significantly Reduce Pathogens described in paragraph (5) of this rule.

4. Class B—Alternative 3

Biosolids that are applied or disposed shall be treated in a process that is equivalent to a Process to Significantly Reduce Pathogens, as determined by EPA Region 4.

5. Site restrictions

- (i) Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.

- (ii) Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for four months or longer prior to incorporation into the soil.
- (iii) Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than four months prior to incorporation into the soil.
- (iv) Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.
- (v) Animals shall not be grazed on the land for 30 days after application of biosolids.
- (vi) Turf grown on land where biosolids are applied shall not be harvested for one year after application of the biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the State Biosolids Coordinator.
- (vii) Public access to land with a high potential for public exposure shall be restricted for one year after application of biosolids.
- (viii) Public access to land with a low potential for public exposure shall be restricted for 30 days after application of biosolids.

(4) Vector attraction reduction [40 CFR 503.33]

- (a)
  - 1. One of the vector attraction reduction requirements in parts (b)1 through 10 of this paragraph shall be met when bulk biosolids are applied to agricultural land, forest, a public contact site, or a reclamation site.
  - 2. One of the vector attraction reduction requirements in parts (b)1 through 8 of this paragraph shall be met when bulk biosolids are applied to a lawn or a home garden.
  - 3. One of the vector attraction reduction requirements in parts (b)1 through 8 of this paragraph shall be met when biosolids are sold or given away in a bag or other container for application to the land.
- (b)
  - 1. The mass of volatile solids in the biosolids shall be reduced by a minimum of 38 percent (see calculation procedures in "Environmental Regulations and Technology—Control of Pathogens and Vector Attraction in Sewage Sludge," EPA-625/R-92/013, 1992, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268).
  - 2. When the 38 percent volatile solids reduction requirement in part 1 of this subparagraph cannot be met for an anaerobically digested biosolids, vector attraction reduction can be demonstrated by digesting a portion of the previously digested biosolids anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37° Celsius. When at the end of the 40 days, the volatile solids in the biosolids at the beginning of that period are reduced by less than 17 percent, vector attraction reduction is achieved.
  - 3. When the 38 percent volatile solids reduction requirement in part 1 of this subparagraph cannot be met for an aerobically digested biosolids, vector attraction reduction can be demonstrated by digesting a portion of the previously digested biosolids that have a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20° Celsius. When at the end of the 30 days, the volatile solids in the biosolids at the beginning of that period are reduced by less than 15 percent, vector attraction reduction is achieved.

4. The specific oxygen uptake rate (SOUR) for biosolids 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° Celsius.
5. Biosolids shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the biosolids shall be higher than 40° Celsius and the average temperature of the biosolids shall be higher than 45° Celsius.
6. The pH of biosolids shall be raised to 12 or higher by the addition of alkaline material and, without the addition of more alkaline material, shall remain at 12 or higher for two hours and then at 11.5 or higher for an additional 22 hours.
7. The percent solids of biosolids that do 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 biosolids that contain 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.
9.
  - (i) Biosolids shall be injected below the surface of the land.
  - (ii) No significant amount of the biosolids shall be present on the land surface within one hour after the biosolids are injected.
  - (iii) When the biosolids that are injected below the surface of the land are Class A with respect to pathogens, the biosolids shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.
10.
  - (i) Biosolids applied to the land surface shall be incorporated into the soil within six hours after application to or placement on the land, unless otherwise specified by the State Biosolids Coordinator.
  - (ii) When biosolids that are incorporated into the soil are Class A with respect to pathogens, the biosolids shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.

(5) Pathogen Treatment Processes [Appendix B to Part 503]

(a) Processes To Significantly Reduce Pathogens (PSRP).

1. Aerobic digestion—Sewage sludge or biosolids are agitated with air or oxygen to maintain aerobic conditions for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 40 days at 20° Celsius and 60 days at 15° Celsius.
2. Air drying—Sewage sludge or biosolids are dried on sand beds or on paved or unpaved basins. The sewage sludge or biosolids dry for a minimum of three months. During two of the three months, the ambient average daily temperature is above 0° Celsius.
3. Anaerobic digestion—Sewage sludge or biosolids are treated in the absence of air for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 15 days at 35 to 55° Celsius and 60 days at 20° Celsius.
4. Composting—Using either the within-vessel, static aerated pile, or windrow composting methods, the temperature of the sewage sludge or biosolids is raised to 40° Celsius or higher and remains at 40° Celsius or higher for five days. For four hours during the five days, the temperature in the compost pile exceeds 55° Celsius. Passively aerated static pile composting is not an acceptable PSRP.

5. Lime stabilization—Sufficient lime is added to the sewage sludge or biosolids to raise the pH of the sewage sludge or biosolids to 12 after two hours of contact.

(b) Processes to Further Reduce Pathogens (PFRP).

1. Composting—Using either the within-vessel composting method or the static aerated pile composting method, the temperature of the sewage sludge or biosolids is maintained at 55° Celsius or higher for three days. Passively aerated static pile composting is not an acceptable PSRP.

Using the windrow composting method, the temperature of the sewage sludge or biosolids is maintained at 55° or higher for 15 days or longer. During the period when the compost is maintained at 55° or higher, there shall be a minimum of five turnings of the windrow.

2. Heat drying—Sewage sludge or biosolids are dried by direct or indirect contact with hot gases to reduce the moisture content of the sewage sludge or biosolids to 10 percent or lower. Either the temperature of the biosolids particles exceeds 80° Celsius or the wet bulb temperature of the gas in contact with the biosolids as the biosolids leaves the dryer exceeds 80° Celsius.
3. Heat treatment—Liquid sewage sludge or biosolids are heated to a temperature of 180° Celsius or higher for 30 minutes.
4. Thermophilic aerobic digestion—Liquid sewage sludge or biosolids are agitated with air or oxygen to maintain aerobic conditions and the mean cell residence time of the sewage sludge or biosolids is 10 days at 55 to 60° Celsius.
5. Beta ray irradiation—Sewage sludge or biosolids are irradiated with beta rays from an accelerator at dosages of at least 1.0 megarad at room temperature (ca. 20° Celsius).
6. Gamma ray irradiation—Sewage sludge or biosolids are irradiated with gamma rays from certain isotopes, such as <sup>60</sup> Cobalt and <sup>137</sup> Cesium, at dosages of at least 1.0 megarad at room temperature (ca. 20° Celsius).
7. Pasteurization—The temperature of the sewage sludge or biosolids is maintained at 70° Celsius or higher for 30 minutes or longer.

Authority: T.C.A. §§ 69-3-101 et seq. and 4-5-201 et seq.

0400-40-15-.05 Reserved

Authority: T.C.A. §§ 69-3-101 et seq. and 4-5-201 et seq.

0400-40-15-.06 Permitting

(1) Applicable facilities – Application required

All treatment works treating domestic sewage that want to land apply Class B biosolids are considered to be applicable facilities and shall apply for a permit for the land application of Class B biosolids or submit a notice of intent certification with regard to a general permit for the land application Class B of biosolids.

(a) Designation as a treatment works treating domestic sewage.

In addition to facilities meeting the definition of a treatment works treating domestic sewage in paragraph (8) of Rule 0400-40-15-.01, the Director may designate any person, site, or facility that treats, uses, transports, stores, or applies biosolids, as a treatment works treating domestic sewage, and require the owner or operator to apply for a permit if any of the following conditions are met:

1. The Director determines that a permit is necessary to protect human health or the environment from the adverse effect of a contaminant in biosolids;
  2. The Director determines that a permit is necessary to protect human health or the environment from poor biosolids management practices;
  3. The Director determines that a permit is necessary to ensure compliance with any of the requirements in these rules; or
  4. Bulk biosolids or sewage sludge originating from a source or location outside the jurisdiction of the State of Tennessee are being applied to the land or received at any site or facility.
- (b) It is a violation of these rules for a facility to fail to submit a permit application or notice of intent to the Division as required by these rules.

(2) General and individual permits

The Division will issue permits for the land application of biosolids.

- (a) The Division will issue, modify, revoke and reissue, and terminate a general permit in accordance with the provisions of paragraph (23) Appendix .06-E of this rule.
- (b) The Division will accept and consider notices of intent seeking coverage under a general permit and revoke or terminate coverage under a general permit in accordance with the provisions of this rule.
- (c) The Division will issue, modify, revoke and reissue, or terminate individual permits in accordance with the provisions of this rule.

(3) Requirements to apply for coverage under a general permit or to request an individual permit

- (a) After the Division has issued a general permit for the land application of biosolids, all applicable facilities shall apply for coverage under the general permit in accordance with paragraph (4) of this rule unless any of the following apply:
  1. The facility has a current individual permit issued in accordance with these rules;
  2. The Division requires a facility to apply for an individual permit;
  3. On written request of the applicant, the Division has granted permission to apply for an individual permit;

(Note: (i) A facility may request an individual permit if a practice it proposes is not addressed in a general permit issued by the Division.

(ii) A facility may seek coverage under a general permit for any portion of its biosolids management practices that are applicable under the general permit and may also request an individual permit for any portion of its biosolids management practices that are not applicable under the general permit.)

  4. The Division may require any facility applying for an individual permit in accordance with part 3 of this subparagraph to limit its practices for the land application of biosolids to those that are authorized in a general permit and to apply for coverage under a general permit; or
  5. The facility produces EQ Biosolids and submits documentation in the form of an annual report in accordance with 40 CFR Part 503.18 that the product is EQ Biosolids to the State Biosolids Coordinator on or before February 19<sup>th</sup> of each calendar year.

- (b) Facilities that apply to the Division for coverage under a general permit through the submittal of a notice of intent (NOI) will be self-centered for coverage and will not require a notice of coverage (NOC) from the Division if they meet one of the following criteria:
  - 1. The facility is a certified biosolids management agency under that National Biosolids Partnership's Environmental Management System, in which case the facility shall submit documentation of certification to the State Biosolids Coordinator on or before January 15<sup>th</sup> of each calendar year; or
  - 2. The facility land applies Class B biosolids to their own property. To land apply Class B biosolids to a site(s) not owned by the facility would require the facility to obtain an NOC from the Division only for the site(s) not owned by the facility.
  
- (4) Timing of permit applications
  - (a) Existing facilities seeking coverage under the initial general permit.
 

Existing facilities seeking coverage under a general permit shall submit a notice of intent for coverage within 60 days after issuance of the applicable general permit by the Division. However, on a case-by-case basis the Division may grant an extension up to a maximum of one year after issuance of the applicable general permit. Requests for an extension shall be made in accordance with the following:

    - 1. Requests shall be made in writing to the State Biosolids Coordinator; and
    - 2. Requests shall be made within 60 days after issuance of the applicable general permit.
  - (b) Existing facilities requesting an individual permit.
 

Existing facilities that wish to request an individual permit under part (3)(a)3 of this rule shall do so within 60 days of issuance of the applicable general permit by the Division.
  - (c) Facilities required or approved to apply for an individual permit.
 

Facilities that have been directed by the Director to apply for an individual permit in accordance with part (3)(a)2 of this rule or approved to apply for an individual permit requested in accordance with part (3)(a)3 of this rule shall submit a permit application within 60 days of receiving notification.
  
- (5) Timing of notices of intent – continuing coverage
  - (a) All facilities permitted in accordance with this rule shall submit a notice of intent to continue coverage under a general permit or an application for a new individual permit at least 180 days prior to the expiration date of their applicable permit.
  - (b) When a facility has submitted a timely and sufficient notice of intent or application as required in this paragraph, coverage under an expiring permit remains in effect and enforceable until any of the following occur:
    - 1. The application or notice of intent has been denied and time for any appeal has expired; or
    - 2. A replacement individual or general permit has been issued by the Division and time for any appeal has expired.
  - (c) Coverage under a permit for permittees who fail to submit a timely and sufficient notice of intent or application shall cease on the expiration date of the permit.
  
- (6) Individual permit application contents

All facilities shall submit a complete and factually correct individual permit application in accordance with the schedule in paragraph (4) of this rule on a form or in a format specified by the Division. The content requirements are listed in paragraph (23) Appendix .06-A of this rule.

(7) Notice of intent contents

Facilities submitting a notice of intent to be covered under an applicable general permit shall do so on a form provided by the Division in the general permit.

(8) Land application plans

(a) Exemptions for exceptional quality biosolids. Land application plans are not required when exceptional quality biosolids are applied to the land.

(b) Land application plans are required when biosolids are applied to the land. Facilities that propose to apply nonexceptional quality biosolids to the land shall do one or both of the following:

1. Submit with their permit application or notice of intent a site specific land application plan for each site where biosolids will be applied during the life of the permit; and/or
2. Submit with their permit application or notice of intent a general land application plan, a letter dated at least 60 days prior to applying biosolids, and a site specific land application plan for each site where biosolids will be applied to the land.

(c) Any site specific land application plans shall be consistent with a facility's general land application plan, if a general land application plan has been submitted.

(d) Site specific land application plan contents.

Each site specific land application plan shall provide information necessary to determine if the site is appropriate for land application of biosolids and a description of how the site will be managed. The minimum content for site specific land application plans is listed in paragraph (23) Appendix .06-C of this rule.

(e) General land application plan contents.

Applicants intending to apply nonexceptional quality biosolids to sites for which a site specific land application plan is not submitted as a part of the permit application shall submit for approval, as a part of their permit application, a general land application plan. The minimum content for general land application plans is listed in paragraph (23) Appendix .06-D of this rule.

(f) As individual sites are identified in accordance with the general land application plan in subparagraph (e) of this paragraph, facilities that seek to apply nonexceptional quality biosolids shall develop and submit site specific land application plans in accordance with subparagraph (d) of this paragraph.

(g) All land application plans are subject to review and final approval by the State Biosolids Coordinator. If a land application plan is found to be insufficient, the State Biosolids Coordinator may either request additional information or may impose additional requirements as a condition of approval in accordance with paragraph (16) of this rule.

(9) Submitting permit applications and notices of intent

Facilities shall submit their permit application and notice of intent to the State Biosolids Coordinator.

(10) Signatories to permit applications and reports

(a) Applications. All permit applications shall be signed as follows:

1. For a municipality, state, federal, or other public agency.

By either a principal executive officer or ranking elected official. For purposes of this rule, a principal executive officer of a federal agency includes either of the following:

- (i) The chief executive officer of the agency; or
- (ii) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

- (b) Reports and other information.

All reports and other information required by permits and other information requested by the Division shall be signed by a person described in subparagraph (a) of this paragraph or by a duly authorized representative of that person. A person is a duly authorized representative only if the following conditions are met:

1. The authorization is submitted to the State Biosolids Coordinator in writing by a person described in subparagraph (a) of this paragraph; and
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

- (c) Changes to authorization.

If an authorization in accordance with subparagraph (b) of this paragraph is no longer accurate, a new authorization satisfying the requirements of subparagraph (b) of this paragraph shall be submitted to the State Biosolids Coordinator prior to or together with any reports or other information.

- (d) Certification.

Any person signing a document in accordance with subparagraph (a) or (b) of this paragraph shall make the following certification, unless a different certification is applicable in accordance with another related requirement of these rules:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- (11) Reserved

- (12) Recordkeeping required for permit application

Applicants shall keep records of all information used to complete permit applications, and any supplemental information submitted, for a period of five years, or longer if otherwise required by these rules, the conditions of the applicable permit, or other state laws.

- (13) Public notice and comment period

Public notices and comment periods shall be in conformance with Rule 1200-04-05-.06 requirements.

- (14) Compliance schedules

- (a) A permit may specify a schedule leading to compliance with the federal Clean Water Act and these rules. Any compliance schedule in accordance with this paragraph shall require compliance as soon as possible, but not later than any applicable statutory deadline under the CWA or the Tennessee Water Quality Control Act.
  - (b) Interim dates. If a permit establishes a compliance schedule that exceeds one year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement. The time between interim dates shall not exceed six months.
  - (c) Reporting. The permit shall require that no later than 14 days after each interim date and the final date of compliance, the permittee shall notify the Division in writing of its compliance or noncompliance with the interim or final requirements.
- (15) Fact sheet required for individual permits
- (a) The Division shall prepare a fact sheet for every draft individual permit for biosolids application.
    - 1. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit.
    - 2. The Division shall send this fact sheet to the applicant and, on request, to any other person.
  - (b) Fact sheet content. The facts sheet shall include all of the following:
    - 1. A brief description of the type of facility or activity that is the subject of the draft permit;
    - 2. Any calculations or other necessary explanation of the derivation of conditions for biosolids application, including a citation to the applicable standards for biosolids application and reasons why they are applicable, or in the case of conditions developed on a case-by-case basis to implement § 405(d)(4) of the CWA, an explanation of and the basis for the conditions; and
    - 3. For permits that include a general land application plan, a brief description of how each of the required elements of the land application plan is addressed in the permit.
- (16) Additional or more stringent requirements
- (a) On a case-by-case basis, the Division may impose requirements for the land application of biosolids that are in addition to or more stringent than the requirements in these rules if the Division finds that the additional or more stringent requirements are necessary to protect public health or the environment from any adverse effect of a contaminant in the biosolids or to ensure compliance with these rules. Imposition of such requirements will be done through issuance of an individual permit.
  - (b) In addition to other considerations, failure of a generator, applier, or landowner to conform to any applicable requirements of these rules may be cause to impose additional or more stringent requirements through issuance of an individual permit.
- (17) Prohibition
- The Division may not issue a permit when the Regional Administrator of EPA has objected in writing in accordance with 40 CFR 123.44.
- (18) Duration of permits
- (a) Permits are issued for fixed terms up to, but not exceeding, 5 years from the effective date of the permit. Final coverage under a general permit may be issued for a period up to the remaining term of issuance for the permit.

(b) The term of a permit may not be extended by modification beyond 5 years.

(19) Transfer of permit coverage

(a) Except as provided in subparagraph (b) of this paragraph, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, to identify the new permittee and incorporate other requirements as may be necessary to assure compliance with the requirements of these rules.

(b) Automatic transfer.

Coverage under a permit is automatically transferred from the old permittee to a new permittee on the date agreed to if all of the following conditions are met:

1. A written, signed agreement between the old and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability is submitted to the Division; and

2. The Division has not notified both permittees of any objection to the transfer, or of the intent to revoke the permit.

(c) No condition or requirement of a permit or these rules may be waived by the transfer of permit coverage from one party to another.

(20) Modification or revocation and reissuance of permits

(a) When the Division receives any information (for example, upon inspection of a facility, receipt of information submitted by the permittee as required in the permit, receipt of a request for modification or revocation and reissuance, or upon a review of the permit file), the Division may determine whether or not one or more of the causes listed in subparagraph (b) or (c) of this paragraph for modification, or revocation and reissuance, or both, exist.

1. If cause for modification, or revocation and reissuance, or both, exists, the Division may modify or revoke and reissue a permit and may request an update application, if necessary.

2. When a permit is modified, only the conditions subject to modification are reopened.

3. If a permit is revoked and reissued, the entire permit is reopened and subject to revision, and the permit may be reissued for a new term.

4. If cause does not exist in accordance with this paragraph, the Division may not modify or revoke and reissue a permit.

(b) Causes for modification. The following are causes for modification, but not revocation and reissuance of permits except when the permittee requests or agrees.

1. Alterations. There are material and substantial alterations or additions to the permitted facility or activity that occurred after permit issuance that justify the application of permit conditions that are different from or absent in the existing permit.

2. Information. The Division has received new information. A permit may be modified during its term for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance.

3. New regulations. New regulations have been adopted or the standards or regulations on which the permit was based have been changed by adoption of amended standards or regulations or by judicial decision after the permit was issued.

4. Compliance schedules. The Division determines good cause exists for modification of a compliance schedule, such as an act of God, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonable available remedy. However, in no case may a compliance schedule be modified to extend beyond an applicable CWA statutory deadline.
  5. Land application plans. When required by a permit condition to incorporate a general land application plan for beneficial use of biosolids, to revise a general land application plan, or to add a general land application plan.
- (c) Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:
1. Cause exists for termination in accordance with paragraph (21) of this rule and the Division determines that modification or revocation and reissuance is appropriate; or
  2. The Division has received notification of a proposed transfer of the permit.
- (21) Causes for termination of permits, denying permit applications, or denying expansion of an existing permit
- The following are causes for terminating a permit during its term, or for denying a permit application, or for denying an expansion of an existing permit:
- (a) Noncompliance by the permittee with any condition of the permit;
  - (b) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;
  - (c) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; and/or
  - (d) A change in any condition that requires either a temporary or a permanent reduction or elimination of any activity controlled by the permit.
- (22) Reserved
- (23) Appendices

#### Appendix .06-A Minimum Content for a Permit Application

- (1) The activities conducted by the applicant that require it to obtain a permit.
- (2) Name, mailing address, and location of the facility for which the application is submitted.
- (3) The operator's name, address, telephone number, ownership status, and status as federal, state, private, public, or other entity.
- (4) Whether or not the facility or any associated facilities or land applications sites are located on federal lands.
- (5) A map extending 1 mile (1.6 kilometers) beyond the property boundaries of the facility, showing the location and means of access to the facility.
- (6) Any biosolids monitoring data the applicant has for the last 2 years.
- (7) A description of the applicant's biosolids application practices including, where applicable, the location of any sites where the applicant transfers biosolids for treatment, as well as the name of the applicator or other contractor who applies the biosolids to land if different from the applicant.
- (8) Land application plans, as required by paragraph (8) of Rule 0400-40-15-.06.

- (9) The amount of biosolids produced and the amount of biosolids applied to the land during the previous year.
- (10) Any information required to determine the appropriate standards for permitting in accordance with these rules, and any other information the Division may request and reasonably require to assess biosolids application, to determine whether or not to issue a permit, or to ascertain appropriate permit requirements in accordance with these rules.

Appendix .06-B (Reserved)

Appendix .06-C Minimum Content for a Site Specific Land Application Plan

- (1) If biosolids containing contaminants in excess of the values in Table 3 of part (3)(b)3 of Rule 0400-40-15-.02 have ever been applied to the site, then provide the following:
  - (a) The date(s) when the biosolids were applied;
  - (b) The amount of biosolids applied;
  - (c) The concentration of the contaminants in the biosolids; and
  - (d) The area(s) of the site to which the biosolids were applied.
- (2) A discussion of the types of crops grown or expected to be grown, their intended end use (e.g., pasture grass for a feed crop, corn as a feed crop), and the current distribution of crops on the site.
- (3) An explanation of how agronomic rates will be determined during the life of the site, along with any currently available calculations. Whenever agronomic rates or the method used to determine agronomic rates change, an update of the agronomic rate calculations shall be filed with the Division.
- (4) Method(s) of application.
- (5) Seasonal biosolids applications.
- (6) The name of the county where biosolids will be applied.
- (7) A description of how biosolids will be stored at the site that also addresses related off-site storage.
- (8) Map(s) for the site(s) shall be submitted. Maps shall be of an appropriate scale to show the detail necessary for evaluation of the proposed application areas and so that a person may reasonably be able to locate the sites and any application units within a site (for example, 1:7920 [8 inches to the mile] for detailed information with an overview map at 1:63,360 [1 inch to the mile]). Minimally, maps shall provide the following information:
  - (a) A legend;
  - (b) The location and means of access;
  - (c) Specific areas of the site where biosolids may be applied (If there is more than one site or more than one application unit within a site, a site or unit ID number should be included);
  - (d) The number of acres in the site or in any distinct application unit within a site;
  - (e) Location and extent of any wetlands on the site;
  - (f) A topographic relief of the application site and surrounding area;
  - (g) Any seasonal surface water bodies located on the site;

- (h) Any perennial surface water bodies located on the site;
- (i) The location of any wells located on the site that are listed in public records or otherwise known to the applicant, whether for domestic, irrigation, or other purposes;
- (j) Buffer zones to surface waters, wells, and sink holes;
- (k) The location and size of any areas that will be used to store biosolids;
- (l) A description of how access to the site will be restricted (e.g., signs posted around the site or other approved method of access restriction);
- (m) A copy of any landowner agreement; and
- (n) Any additional information requested by the State Biosolids Coordinator that is needed to evaluate the appropriateness of the site for biosolids application.

#### Appendix .06-D Minimum Content for a General Land Application Plan

- (1) Describes the geographical area covered by the plan, including the names of all counties where biosolids may be applied.
- (2) Identifies site selection criteria.
- (3) Describes how sites will be managed.
- (4) Provides for not less than 30 days advance notice to the State Biosolids Coordinator of new or expanded land application sites to allow time for the State Biosolids Coordinator to object prior to the biosolids application.

#### Appendix .06-E Procedures for Issuing General Permits

- (1) General permit coverage
  - (a) The Division may issue general permits to satisfy any or all of the biosolids management requirements in these rules or other applicable state or federal biosolids management requirements.
  - (b) The Division may issue general permits to cover categories or subcategories of facilities with appropriate geographic areas.
  - (c) General permits may be written to cover categories of treatment works treating domestic sewage that meet all of the following requirements:
    - 1. Involve the same or substantially similar types of operations;
    - 2. Engage in the same types of biosolids application practices;
    - 3. Require the same or substantially similar operating conditions or standards for biosolids application;
    - 4. Require the same or substantially similar monitoring; and
    - 5. In the opinion of the Director, are more appropriately controlled under a general permit than under individual permits.
- (2) General permit preparation – preliminary determination

For all general permits, the Director shall make a preliminary determination to develop a general permit.

- (a) Interested persons may petition the Director requesting that a category of facilities be considered for the development of a general permit.
  - (b) The Director shall respond to such a petition within 90 days of receipt.
- (3) Fact sheets
- (a) The Director shall prepare a fact sheet for every general permit determination. Such fact sheet shall summarize the following:
    - 1. The legal basis of the permitting program;
    - 2. The type of facility or activity which is the subject of the general permit;
    - 3. The geographical area for which the general permit is valid;
    - 4. The criteria for which coverage under a general permit will be approved;
    - 5. If available, a listing or some other means of identifying the facilities proposed to be covered under the general permit;
    - 6. The information required to be submitted as part of the application for coverage under the general permit;
    - 7. The general characteristics of the facilities being authorized under the general permit;
    - 8. Standards and limitations imposed in the general permit;
    - 9. A general description of the conditions in the general permit;
    - 10. Any compliance schedules proposed as part of the general permit;
  - (b) The Division shall provide copies of general permit fact sheets to any interested person upon request.
- (4) Reserved
- (5) Public notice

The Division shall provide public notice of all preliminary determinations to develop a general permit, all determinations not to develop a general permit after publishing such a preliminary determination, all draft general permit determinations, and the issuance of a final general permit. All public notices shall be circulated in a manner designated to inform interested and potentially affected persons of the proposed general permit.

- (a) Public notice for preliminary determinations. The Division shall provide public notice of all preliminary determinations to develop a general permit as follows:
  - 1. Public notice shall be circulated within the geographical area of the proposed general permit. Such notice may include any or all of the following:
    - (i) Publishing, as a paid advertisement or legal notice, the Division's preliminary determination in one or more major newspaper(s) throughout the area of proposed coverage; and/or
    - (ii) Issuance of news releases, focus sheets, or newsletters.
  - 2. The Division shall request comments on whether a general permit is appropriate for the proposed category of facilities or whether individual permits are necessary.

3. The public notice shall provide an opportunity for any interested or potentially affected party to submit information on facilities proposed to be covered under a general permit including:
    - (i) Any documented information on the characteristics of the biosolids including quantity, quality, and any land application sites. Information may be from an individual facility or be representative of the category as a whole; and
    - (ii) Any other relevant information.
  4. The Division shall add the name of any person, upon request, to a general permit specific mailing list to receive information and notices related to the development of the general permit.
- (b) In the event that the Division determines not to develop a general permit after publishing a preliminary determination in accordance with subparagraph (a) of this paragraph, the Division shall provide public notice to that effect.
- (c) Public notice for draft general permits. The Division shall provide public notice of every draft general permit as follows:
1. The notice shall be circulated throughout the geographical area covered by the general permit. Such circulation may include any or all of the following:
    - (i) Posting for a period of 30 days in post offices, public libraries, and public places within the geographical area covered by the general permit.
    - (ii) Publishing the notice as a paid advertisement, display advertisement, or legal notice, in one or more major local newspapers of general circulation serving the area covered by the general permit.
    - (iii) Issuance of news releases, focus sheets, or newsletters.
  2. Notice shall be mailed to any person upon request, including all persons on the general permit specific mailing list established in accordance with (a)4 of this paragraph and all known potential permittees.
  3. Reserved
  4. Public comment period. The Division shall provide a period of not less than 30 days following the last publication of the public notice, during which time interested persons may submit their written views on a draft general permit determination. All written comments submitted during the comment period shall be retained by the Division and considered in the formulation of its final determination with respect to the draft general permit. The period for comment may be extended at the discretion of the Division.
  5. The Division shall make available during the public comment period:
    - (i) The draft general permit;
    - (ii) The fact sheet on the draft general permit required in accordance with paragraph (3) of this Appendix; and
    - (iii) A copy of the proposed application for coverage.
  6. The contents of the draft general permit public notice shall, at a minimum, summarize the following:
    - (i) The name, address, and phone number of the agency issuing the public notice;

- (ii) The type of facilities and activities which are the subject of the general permit;
- (iii) The geographical area for which the general permit is valid;
- (iv) The criteria for which coverage under the general permit will be approved;
- (v) If available, a listing or some other means of generally identifying the facilities proposed to be covered under the general permit;
- (vi) The tentative determination to issue a general permit;
- (vii) The procedures for the formulation of final determinations, including the 30-day comment period required by part (c)4 of this paragraph and any other means by which interested persons may comment upon those determinations;
- (viii) The date, time, and place when the public hearing(s) required in paragraph (7) of this Appendix will be held;
- (ix) The address and phone number of locations at which interested persons may obtain further information; and
- (x) The date and time after which comments will not be considered by the Division in formulating the final determination on the draft general permit.

(d) Public notice for final general permits.

The Division shall provide public notice of the issuance of a final general permit as follows:

1. The notice of general permit issuance shall be circulated in a manner similar to that used to circulate the notice on the draft general permit in part (c)1 of this paragraph.
2. The notice of general permit issuance shall be provided to all persons on the general permit specific mailing list established in accordance with part (a)4 of this paragraph and all known potential permittees.
3. The public notice of the issuance of a general permit shall contain:
  - (i) The name, address, and phone number of the agency issuing the public notice;
  - (ii) The type of facilities and activities which are the subject of the general permit;
  - (iii) The geographical area for which the general permit is valid;
  - (iv) The criteria for which coverage under a general permit will be approved;
  - (v) If available, a listing or some other means of generally identifying the facilities proposed to be covered under the general permit;
  - (vi) A summary of the application process by which eligible facilities may obtain coverage under the general permit;
  - (vii) An explanation of any changes to the final general permit, other than editing changes, and the principal reasons for adopting the changes;
  - (viii) A notice that the terms and conditions of the general permit may be appealed and include the necessary instruction regarding the appeal process; and
  - (ix) The date after which the general permit will be effective. The effective date of a general permit shall be no sooner than 30 days after the publication of the public notice in accordance with part 1 of this subparagraph.

(6) Notice to other government agencies

The Division shall notify other appropriate government agencies of each draft general permit determination and shall provide such agencies an opportunity to submit their written views and recommendations.

(7) Public hearings

(a) The Division shall hold one or more public hearing(s) on all draft general permits. The public hearing shall be held during the public comment period provided in accordance with part (5)(c)4 of this Appendix.

(b) The date, time, and place will be at the discretion of the Division provided:

1. At least 30 days is provided between the time the public notice is published in accordance with part (5)(c)1 of this Appendix and the time the hearing is held; and
2. The hearing location is within the geographical area covered by the general permit.

(c) The Division shall cause a record to be made of all hearings required by this Appendix. The record may be stenographic, mechanical, or electronic.

(8) Public access to information

(a) The Division shall make identifiable public records related to all general permits available to the public for inspection and copying in accordance with the Division's copying policies.

(b) Reserved

(c) General permit development file.

The Division shall prepare a general permit development file for each issued general permit. The general permit development file shall be available for public inspection subject to the provisions of this Appendix. The general permit development file shall contain:

1. Copies of all public notices required in accordance with paragraph (5) of this Appendix;
2. A copy of the fact sheet required in accordance with paragraph (3) of this Appendix and any other documents not readily available to the public which were used in developing the terms and conditions of the general permit;
3. Reserved
4. Copies of the draft and final general permits and the application for coverage;
5. All written comments received during the public comment period in accordance with part (5)(c)4 of this Appendix on the draft general permit, fact sheet, and application for coverage;
6. The record of public hearings produced in accordance with subparagraph (7)(c) of this Appendix; and
7. The response to comments prepared in accordance with subparagraph (9)(a) of this Appendix.

(d) The Division shall add the name of any person, upon request, to a mailing list to receive notices of Division actions associated with a general permit.

- (e) The Division shall provide facilities for the inspection of information relating to general permits and shall ensure that employees honor requests for such inspection promptly without undue requirements or restrictions. The Division shall either:
  - 1. Ensure that a machine or device for the copying of papers and documents is available for a reasonable fee; or
  - 2. Otherwise provide for, or coordinate with, copying facilities or services such that requests for copies of nonconfidential, identifiable public records be honored promptly.

(9) Issuance of general permits

- (a) At the close of the public comment period required by part (5)(c)4 of this Appendix, the Division shall prepare a response to all relevant comments received (both written and verbal) and shall briefly describe any changes, other than editing changes, and the principal reasons for making the changes to the draft general permit.
- (b) General permits shall be deemed issued upon signing by the Director.
- (c) The Division shall provide public notice of the issuance of all final general permits in accordance with subparagraph (5)(d) of this Appendix.
- (d) General permits become effective 30 days after the date of publication of the public notice issued in accordance with subparagraph (5)(d) of this Appendix, unless a later date is specified by the Division.

(10) Appeals

- (a) The terms and conditions of a general permit, as they apply to the appropriate class of facilities, are subject to appeal within 30 days of issuance of the general permit.
- (b) The terms and conditions of a general permit, as they apply to an individual facility, are appealable within 30 days of the effective date of coverage of that facility. This appeal is limited to the general permit's applicability or non applicability to that individual facility.
- (c) The appeal of general permit coverage of an individual facility does not affect any other facilities covered under the general permit. If the terms and conditions of a general permit are found to be inapplicable to any individual facility, the matter shall be remanded to the Director for consideration of issuance of an individual permit or permits.

(11) Modification, revocation and reissuance, and termination of general permits

A general permit may be modified, revoked and reissued, or terminated, during its term for cause including, but not limited to, the following:

- (a) A change occurs in the technology or practices for control or abatement of contaminants applicable to the category of facilities covered under the general permit.
- (b) New biosolids or sewage sludge guidelines or standards are promulgated pursuant to the Tennessee Water Quality Control Act, §§ T.C.A 69-3-101 et seq., for the category of facilities covered under the general permit.
- (c) Information is obtained which indicates that cumulative effects on the environment from facilities covered under the general permit are unacceptable.

(12) Notice for determinations to modify or revoke

In the event that the Division has determined to modify or revoke, in whole or in part, a general permit in accordance with paragraph (11) of this Appendix, the Division shall notify, in writing, all facilities covered under the general permit. The notification shall include:

- (a) The reason(s) why the general permit is being revoked or modified;
- (b) The process for appealing the determination;
- (c) An application form and a time limit for submitting the application; and
- (d) Any other information determined to be relevant by the Division.

Authority: T.C.A. §§ 69-3-101 et seq. and 4-5-201 et seq.

\* If a roll-call vote was necessary, the vote by the Agency on these rulemaking hearing rules was as follows:

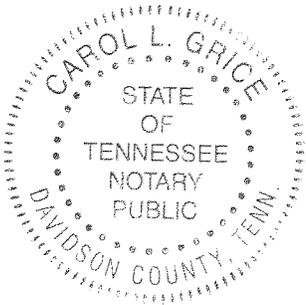
Board Member	Aye	No	Abstain	Absent	Signature (if required)
James W. Cameron III	X				
Jill E. Davis	X				
Mayor Kevin Davis	X				
Derek Gernt	X				
John Guoynes	X				
C. Monty Halcomb	X				
Chuck Head	X				
Charlie R. Johnson	X				
Judy Manners		X			
John McClurkan	X				
Frank McGinley	X				
D. Anthony Robinson	X				

I certify that this is an accurate and complete copy of rulemaking hearing rules, lawfully promulgated and adopted by the Tennessee Board of Water Quality, Oil and Gas on 12/18/2012, and is in compliance with the provisions of T.C.A. § 4-5-222.

I further certify the following:

Notice of Rulemaking Hearing filed with the Department of State on: 05/23/12

Rulemaking Hearing(s) Conducted on: (add more dates). 07/23/12, 07/24/12, 07/30/12, and 07/31/12



Date: December 18, 2012

Signature: James W. Cameron III

Name of Officer: James W. Cameron III

Title of Officer: Chairman

Subscribed and sworn to before me on: December 18, 2012

Notary Public Signature: Carol L. Grice

My commission expires on: June 21, 2016

All rulemaking hearing rules provided for herein have been examined by the Attorney General and Reporter of the State of Tennessee and are approved as to legality pursuant to the provisions of the Administrative Procedures Act, Tennessee Code Annotated, Title 4, Chapter 5.

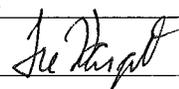
Robert E. Cooper, Jr.  
 Attorney General and Reporter  
3-28-13

Date

Department of State Use Only

Filed with the Department of State on: 4/1/13

Effective on: 6/20/13

  
\_\_\_\_\_  
Tre Hargett  
Secretary of State

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SECRETARY OF STATE

## Public Hearing Comments

One copy of a document containing responses to comments made at the public hearing must accompany the filing pursuant to T.C.A. § 4-5-222. Agencies shall include only their responses to public hearing comments, which can be summarized. No letters of inquiry from parties questioning the rule will be accepted. When no comments are received at the public hearing, the agency need only draft a memorandum stating such and include it with the Rulemaking Hearing Rule filing. Minutes of the meeting will not be accepted. Transcripts are not acceptable.

**Comment 1:** There is no need for state rules for the land application of Class B biosolids, because there will be another 42 pages of regulations in addition to the federal 40 CFR Part 503 regulations, two permits, more paper works, and more costs with no benefits. Things are working pretty good now—leave them as they are. Several commenters shared this opinion.

**Response 1:** The federal 40 CFR Part 503 program has been in existence since 1993 and is regulated by EPA in all but 8 states (OK, UT, AZ, TX, WI, MI, SD, and OH). There are no delegated states for biosolids in EPA-Region 4, and only Tennessee and Alabama do not currently have state rules regulating biosolids. Overall, the biosolids program from a federal standpoint has not worked very well, because there been very little oversight by EPA in the past and there will be virtually none in future, because of the agency's divestment in biosolids enforcement and compliance.

The fact that 40 CFR Part 503 is a "self-implementing" rule means that no permits have to be issued but compliance is still required. Much like the IRS rules--they are self-implementing also--if you don't comply, there are potentially significant penalties. The same is basically true for 40 CFR Part 503, except there has been little to no enforcement by EPA on biosolids issues.

The self-implementing aspect of 40 CFR Part 503 is especially problematic because as one commenter noted, the 40 CFR Part 503 is very complex and confusing, with more than 300 different ways to interpret the regulation. This statement can probably be made about many laws and regulations, one of which would be NPDES permitting. There is a large volume of material relative to NPDES permitting, but all of that gets boiled down into an NPDES permit that serves as a compliance checklist for the permittee. The same concept applies to eliminating the confusion and uncertainty under the self-implementing aspect of 40 CFR Part 503 by having state rules.

History with the self-implementing aspect of 40 CFR Part 503 has revealed that even some of most knowledgeable and trusted wastewater professionals do not have a full understanding of 40 CFR Part 503. In one instance an instructor in a wastewater operator training class was using an outdated version of 40 CFR Part 503. Many municipal utilities in Tennessee have limited and sometimes incorrect information regarding 40 CFR Part 503 and the guidance documents supporting the regulation. Placing all of the up to date regulatory requirements regarding the land application of Class B biosolids into state rules will do much to resolve this problem.

Deborah G. Nagle, Director, Water Permits Division, EPA-HQ in Washington, D.C. wrote a comment letter stating: "*The Environmental Protection Agency (EPA) expects that the state rules will place Tennessee in a much stronger position to ensure that Class B biosolids are properly managed and public health is appropriately protected. EPA thus encourages Tennessee to finalize State rules that are as stringent as the 40 CFR Part 503 for land application of Class B biosolids.*"

The proposed biosolids rules are not more restrictive than 40 CFR Part 503 in terms of contaminant (metals or pollutant) concentrations, pathogen reduction requirements and vector attraction reduction requirements. Those are the big 3 compliance areas and compliance with our states rules means compliance with 40 CFR Part 503.

One of the areas that is important to us is the protection of waters of the state. This requires among other things, the proper application of biosolids in terms of nutrients. Waters of the state include surface water and ground water whereas, waters of the United States is confined to only

surface water. Furthermore, 40 CFR Part 503 requires applications at an "agronomic rate" but is silent on how to determine that rate.

Another short coming of 40 CFR Part 503 is the lack of adequate buffers/setbacks. The only setback required by 40 CFR Part 503 is 10 meters from waters of the U.S. This setback alone is not adequate to protect surface waters.

Therefore the proposed states rules provide specific guidance that will help to ensure that an over application of nutrients does not occur, which helps to ensure protection of our state ground and surface waters. Our rules also propose additional setbacks.

One commenter stated that the proposed biosolids rules are more stringent than federal statutes and will result in increased expenditure requirements on rate payers and other biosolids producers across the state, beyond those required to meet the federal requirements.

The proposed state rules are more restrictive than 40 CFR Part 503 in regard to setbacks and agronomic rate. However, the current requirements in Tennessee to land apply Class B biosolids are more restrictive than 40 CFR Part 503, because state guidelines are also used. The proposed rules will combine the current requirements contained in 40 CFR Part 503 and state guidelines and make a seamless transition for municipal utilities.

It is important to note that it was expected by EPA that states would need to be more restrictive to properly consider local and regional condition. Terrains vary greatly across the United States, for example compare the desert southwest to the Pacific Northwest. As such EPA provided 40 CFR Part 503.5 (b) allowing for state requirements to be more stringent than in 40 CFR Part 503.

EPA's position on the matter of states being expected to be more restrictive than 40 CFR Part 503 when it comes to agronomic rate and setbacks is well documented by the written comments received relative to the proposed state rules.

**Rick Stevens, EPA-HQ:**

*"I am in favor of state or local regulations that may be more restrictive than the EPA regulations to address local concerns about the application. Such regulations may include setback distances."*

**Mike Hom, EPA-Region 4**

*Other states have setbacks from other structures other than waters of the state, eg, public roads, drinking wells, houses, etc. I like that you will require a specific ag rate, something Part 503 does not specify in detail."*

**Bob Brobst, EPA-Region 8**

*"If 503 is enough --- then 503.5(b) is also enough which allow States to be more stringent. Remember 503 is a National rule using national condition not conditions that are unique to a specific state like Tennessee."*

*"Your agronomic rate calculation instructions are NOT more stringent but instead clarify how it is to be implemented. The 503 regulations are not clear in the meaning of calculating the agronomic rate or how to do it in the field. I would expect nothing less from Tennessee."*

**Dr. Alan B. Rubin, retired EPA-HQ, the person who was in responsible charge of drafting 40 CFR Part 503**

*"Indeed, EPA expected that the States would supplement the qualitative agronomic rate standard found in Part 503 with specific calculations leading to agronomic rate standards to fully protect public health and the environment for all State citizens."*

It was noted by one commenter that currently municipalities in the state that apply wastewater sludge to land are regulated by the EPA through 40 CFR Part 503. While the EPA is the

permitting authority, NPDES permits specify that Tennessee municipalities comply with the federal rule, along with Tennessee Guidelines Land Application issued by TDEC. The question was asked as to what authority this permit language gives TDEC. Without TDEC being a delegated state for biosolids management, this permit language gives TDEC very little if any authority.

The Clean Water Act (CWA) §405(f), requires that all NPDES permits issued to municipalities contain the requirement to comply with 40 CFR Part 503. It is important for municipalities to comply with 40 CFR Part 503 and to know that they are in compliance. We also believe that in order to ensure protection of our state waters (surface and ground) that biosolids land application be properly managed with additional management practices employed beyond that of 40 CFR Part 503. These additional requirements beyond those specifically states in 40 CFR Part 503 are currently contained in state guidelines which are difficult to enforce. For these reasons, compliance with state rules via an individual or general permit will provide a significantly value added element to all municipal utilities that land apply Class B biosolids in the State of Tennessee.

Comments were made that additional rules are not needed and put a burden on rate payers. The proposed state rules for the land application of Class B biosolids are needed for the reasons stated above. These rules will not impose any noticeable or significant financial burden on municipal utilities or their rate payers. There are no fees associated with the proposed biosolids rules.

Having state rules ensures a level playing field. It also helps to provide assurance and confidence to elected officials that their program is in compliance with all applicable laws, rules and regulations, because the State of Tennessee is overseeing a program that mimics 40 CFR Part 503 requirements.

Additionally, with 8 environmental field office and approximately 500 sites where biosolids are being applied, having consistency across the state is imperative and is another benefit of having state rules.

The comment was made: "*Why do we need approximately 42 pages of additional rules?*" 40 CFR Part 503 is 52 pages and the proposed state rules are 43 pages, but the rules are not "additional rules" because they mimic 40 CFR Part 503 with regard to contaminants (metals, pollutants), pathogen reduction and vector attraction reduction. Whether one is using 40 CFR Part 503 or the proposed state rules, in either case only a few pages are applicable to any one biosolids scenario.

**Comment 2:** **One commenter stated that a colleague had contacted him in 2008 and stated that TDEC was meeting with certain individuals on the development of new rules for biosolids. The commenter said this was the first time he had heard this and that his municipality along with other biosolids producers in the state should have been individually notified. The commenter said that suggestion was conveyed to TDEC on numerous occasions, but to no avail.**

**Response 2:** The comments included in his comments package a copy of email exchanges between him and TDEC dating back to 2008, in which proposed state biosolids rules were discussed. Furthermore, the commenter was also a member of the Technical Advisory Committee (TAC) for the State of Tennessee Biosolids Rules. The TAC consisted of over 40 people who received numerous mailings and drafts of the proposed rules dating back to 2008.

Every attempt was made by TDEC to have an open, interactive and transparent process for drafting the proposed rules for the land application of Class B biosolids in Tennessee. In fact, the Tennessee Association of Utility Districts (TAUD) sent a letter to TDEC's Commissioner, Robert J. Martineau, Jr. stating that TAUD and its members appreciated the opportunity to work with TDEC staff concerning the proposed draft biosolids rules and general permit rule making process. TAUD stated that it felt that the proposed draft biosolids rules had been reviewed and amended fairly and were ready for the public comment process. It should be noted that through TAUD's

Tennessee Utility News magazine that TAUD informed over 5,000 subscribers with articles pertaining to TDEC's proposed draft biosolids rules and general permit rule making process.

**Comment 3:** **One commenter said that TDEC has written and tried to enforce unenforceable guidelines for years and that this has been pointed out to TDEC on numerous occasions. There already is consistency in permitting, oversight, and enforcement and that is provided by the Federal 503 Rule and enforced by EPA. So stating that we need 42 additional pages of rules to create consistency and timeliness is simply not true.**

**Response 3:** There is no consistency in permitting, oversight and compliance, because EPA has done very little in Tennessee in the almost 2 decades since the promulgation of 40 CFR Part 503. There is no permitting and during these 20 years EPA has inspected 26 municipalities. EPA first visited Tennessee in 1998, five years after the promulgation of 40 CFR Part 503, so initially, EPA provided little if any training to municipal utilities to help them to understand and comply with 40 CFR Part 503. EPA has made it clear that the agency is divesting itself in the area of biosolids compliance and enforcement. The proof is in their words and actions. EPA-Region 4 has not made a biosolids inspection in the State since 2010. Mike Hom, EPA-Region 4 recently wrote: *"It is a safe bet that R4 will not be in Tennessee in FY-12 or FY-13 to conduct Part 503 inspections."*

**Comment 4:** **One commenter did not believe that EPA is divesting itself of responsibility of compliance enforcement. The commenter noted, and if they are then one must assume that EPA has not experienced significant problems with the 503 rule within Tennessee.**

**Response 4:** EPA's Office of Enforcement and Compliance Assurance (OECA) published their FY 2013 – National Program Manager Guidance in which they stated: *"All states now have their own safety program for biosolids, and there are also third party verification programs that support compliance in this area. In light of these facts, and the scientific studies indicating that biosolids present a lower risk than other substances, EPA expects to reduce investment in this area to support other high priority enforcement work. OECA is considering a number of program areas in which to reduce resources devoted to monitoring, compliance, and enforcement, as well as rely more on states or local entities to do the work."*

EPA has stated that they plan to reduce investment in biosolids compliance and enforcement in 2013. The proof is in EPA's actions. EPA has not made a biosolids inspection since 2010 in Tennessee and they don't plan to make any in FY 2012 and FY 2013, as noted by their correspondence. EPA's actions are divestment. The agency expects the states to do the job with assistance from the National Biosolids Partnership.

Furthermore, the absence of evidence of biosolids problems by EPA, is not proof of the absence of problems, especially since there have been a very limited number of inspections by EPA and none in Tennessee since 2010.

The same comment can be made relative to complaints. One commenter noted that they had requested information on all of the complaints that the state received regarding biosolids from July 1, 2009 through July 6, 2012. There were 37 recorded complaints and issues associated with biosolids, most of these were odor complaints and none of those had documented water quality problems. Complaints do not document water quality problems and the lack of complaints, problems and evidence, do not provide evidence that there are not problems. Odor issues are not addressed in 40 CFR Part 503 nor in the proposed state rules for biosolids.

**Comment 5:** **Several commenters questioned if there were "huge" biosolids problems in Tennessee. One commenter said this sort of reminds me of a situation from a book that I recently read where one of the characters asked the question, "If something is real, if it is a genuine problem that requires action, then why does anybody have to exaggerate their claims?"**

**Response 5:** Everything is relative, but the following incidents are considered huge problems:

1. Dumping 4.5 million gallons of biosolids on a site with karst topography with no crop harvesting.
2. Dumping over 1 million pounds of BOD into a sink hole over a 10 year period.

3. Dumping approximately 500,000 pounds of nitrogen on a site adjacent to an Exceptional Tennessee Water with no crop harvesting over the 20 year period. This is enough nitrogen to supply the fertilizer needs for about 10,000 acres of wheat.

**Comment 6:** One commenter asked why is the National Biosolids Partnership named specifically in the rule when there are engineering firms located within the State of Tennessee that can provide the same services? Just because a municipality has the ability to pay the National Biosolids Partnership to certify their program should not exempt that municipality from complying with all of the requirements of the rule. This creates a disadvantage to the rate payers of smaller, more rural biosolids systems, in that those systems cannot afford to “buy” their way out of complying with certain aspects of the proposed rule.

Response 6: National Biosolids Partnership certified agencies are not exempt from the proposed rules—they must comply with every aspect of these rules. However, by being a certified program via a 3<sup>rd</sup> party independent auditor, these agencies will be able to self-certify for coverage under the general permit. No agency can “buy” their way in—this is payment for a 3<sup>rd</sup> party audit much like the audits conducted in ISO programs.

**Comment 7:** Several commenters took issue with the concept that compliance with state rules and a state permit provided compliance assurance safeguards to all municipal utilities in the state.

Response 7: Having the State of Tennessee issue rules that mimic 40 CFR Part 503 and place a municipal utility under a permit in accordance with those rules provides compliance safeguards to the municipal utility. The State of Tennessee is defining what is necessary for compliance in a permit rather than leave the municipal utility on its own in a cloud of confusion and uncertainty under the self-implementing aspects of 40 CFR Part 503.

**Comment 8:** One commenter stated that one reason given for the need of these rules is that the State’s rules will be a compliance safeguard and that the definition of alkali does not include lime.

Response 8: Compliance safeguards are associated with the proposed state rules because of the self-implementing aspect of 40 CFR Part 503. This is especially problematic because as one commenter noted, 40 CFR Part 503 is very complex and confusing, with more than 300 different ways to interpret the regulation. Without state rules and the municipal utility applying biosolids under a permit, the utility is on their own if questions arise as to their compliance with 40 CFR Part 503. If this situation happens, then the State of Tennessee is standing with the utility and not leaving the utility on their own, trying to defend their position under the “self-implementing” aspect of 40 CFR Part 503. State rules help to eliminate the confusion and uncertainty under the self-implementing aspect of 40 CFR Part 503.

The fact that the definition of alkali does not include lime has been pointed out to EPA by the National Lime Association, yet the 40 CFR Part 503 regulations have not yet been changed to correct this problem. The commenter points to the EPA White House Manual and Preamble, but these are not the regulations which trump any guidance or preamble language. From a practical standpoint, EPA and other regulatory agencies recognize the intent of the 40 CFR Part 503, but nevertheless, that does not change the fact that anyone using lime to adjust pH is in technical violation of 40 CFR Part 503. The facts of the matter are that an “alkali” is defined as any of the hydroxides and carbonates of alkali metals. The alkali metals are: Lithium, Sodium, Potassium, Rubidium, Cesium and Francium. Since Calcium is not an alkali metal, then lime is not an alkali and as such using lime to comply with certain provisions of 40 CFR Part 503 is a technical violation of the rule.

There are similar problems with certain analytical methods and this is yet another reason why there is added protection to municipal utilities if the State of Tennessee also acknowledges the reality of these errors in 40 CFR Part 503 and stands with the municipal utilities in the case there are challenges.

**Comment 9:** One commenter stated that another reason given is it promotes, encourages and supports the recycling of an organic material. However, the commenter hadn’t found one comment

in the proposed rules that supports this claim. Changing the status quo and having new regulations to follow will force utilities to reevaluate what they are doing with their biosolids and this change may be enough for them to opt to take their sludge to the landfill. The addition of these regulations may reduce the beneficial reuse of biosolids in Tennessee. The commenter certainly didn't want to see that. Another commenter said that these rules will be a barrier to the reuse of a valuable resource. If they are implemented they will result in a decrease in land application and an increase in landfill disposal.

Response 9: The state rules remove the confusion and uncertainty associated with the self-implementing aspects of 40 CFR Part 503 with over 300 different scenarios for compliance. The logical assumption is that this will encourage land application rather than landfilling. Recent surveys indicate that more than 50% of all biosolids in Tennessee are either landfilled or surface disposed of and thus not being beneficially recycled. By eliminating confusion and uncertainty, it is anticipated that the proposed rules will encourage and promote more beneficial recycling of biosolids.

**Comment 10:** On page 2 in the Additional Hearing Information (6<sup>th</sup> paragraph), it states that the monitoring frequency is the same. While this is initially true 40 CFR Part 503.16 (a)(2) allows for a reduction in monitoring frequency whereas the proposed state rules do not. The proposed rules should be changed to allow this reduction in monitoring frequency if approved by EPA.

Response 10: TDEC agrees and the appropriate changes have been made to Rule 0400-40-15-.02(7)(a).

**Comment 11:** On page 5 in the table of contents, there is a section titled Surface Disposal yet it doesn't exist. It appears that this type of activity will be regulated solely by the 40 CFR Part 503 regulations.

Response 11: TDEC agrees and appropriate changes have been made to the Table of Contents.

**Comment 12:** On page 5 in the table of contents, there is a section titled fees. Also on page 40 subparagraph (e) there is a mention of fees. This leads one to believe that it is the intent to start charging fees in the not too distant future. If the state is intending to eventually start charging for the permit this should be brought up now so that it would get people's attention so they would read these proposed rules. I think a lot of people assume they are virtually the same as the 40 CFR Part 503 regulations and haven't bothered to read them.

Response 12: There are no fees associated with these proposed rules and the noted references to fees have been deleted.

**Comment 13:** On page 5, subparagraph (1)(b) Applicability, this seems to require EQ biosolids producers to complete the requirements of the annual report in paragraph (9) of Rule 0400-40-15-.02 which includes nutrients applied on each field, latitude and longitude of each site, and information on each field just to prove that they produce EQ biosolids. The way I interpret these rules, I'll spend more time preparing the report for the state than I do preparing the report for EPA even though the EQ biosolids that we produce are supposed to be exempt from these rules. What would be simpler, and just as effective, would be that EQ producers submit to the state a copy of the report prepared for EPA. Making this change is the only way to effectively exempt EQ biosolids producers.

Response 13: TDEC agrees and appropriate changes have been made to Rule 0400-40-15-.01(1)(b).

**Comment 14:** On page 6, paragraph (6) and on page 38, paragraph (16) there is the ability for the Director or the Division to implement additional or more stringent requirements. This appears to allow implementation of additional rules without the rule making process being followed.

Response 14: The proposed Rule 0400-40-15-.01(4), additional or more stringent requirements is similar to the provision in 40 CFR Part 503.5. It allows the Director, on a case-by-case basis to impose more stringent requirements when necessary to protect public health or the environment from any

reasonable anticipated adverse effect that may occur due to any characteristic of the biosolids or the site.

Rule 0400-40-15-.06(16)(c) has been modified to make it clear that in the case where the general permit is not used because of different conditions that the individual permit will impose additional or more stringent requirements as compared to the general permit. In this case, the issuance of an individual permit will follow the public notice and comment period associated with individual permits.

**Comment 15:** Looking on page 8, the City of Cookeville does not meet the definition of Exceptional Quality Biosolids or EQ Biosolids. I think this is a typographical error in that the 3 in the next to last line needs to be an 8.

Response 15: TDEC agrees and the typographical error has been corrected in the definition of Exceptional Quality Biosolids or EQ Biosolids in Rule 0400-40-15-.01(8).

**Comment 16:** On page 10, the definition of “Staging of biosolids” allows only 7 days. This should be changed to at least 21 days. There needs to be the time to allow the biosolids to be hauled to the different land application sites and the spreading equipment moved from site to site, and this would also allow some flexibility for the weather and equipment breakdowns.

Response 16: The definition of Staging of biosolids in Rule 0400-40-15-.01(8) has been removed.

**Comment 17:** On page 10, the definition of surface disposal of biosolids and the definition of surface disposal of sewage sludge are very different, but seem to mean the same thing—in looking at this I think that both are only regulated by the 40 CFR Part 503 regulations – More confusion.

Response 17: TDEC agrees and both the definition of “surface disposal of biosolids” and the definition of “surface disposal of sewage sludge” have been deleted from Rule 0400-40-15-.01(8). The proposed Chapter 0400-40-15 regulates the land application of Class B biosolids only and does not cover surface disposal of biosolids or sewage sludge.

**Comment 18:** On page 15 subparagraph (5)(c) the setbacks from the creek are greater than in the 40 CFR Part 503 regulations. In some cases setbacks larger than in the 40 CFR Part 503 regulations are needed. When spreading manure, if the ground was steeper or the ground cover was thinner we’d stay a little further away from the creek. There is no reference to slope or ground cover mentioned in the proposed rules. Neither is the application method, such as whether it is surface applied or injected. It appears these things should be taken into consideration in determining the buffer zones and that’s why EPA just established a minimum setback. In the 40 CFR Part 503 regulations the 10 meter setback is probably sufficient under ideal conditions and should then be based on the conditions I have mentioned. An alternate way of doing this would be to have a provision in the proposed rule to decrease the setbacks with better site conditions.

Response 18: TDEC agrees with the comment that in some cases setbacks larger than in the 40 CFR Part 503 regulations are needed. This is also the position of EPA officials and is discussed in Comment 1 above. Rule 0400-40-15-.02(5)(c) does consider gradient or slope, but not in specifics. The commenter is correct that differences and allowances could be made for different sites, if the product is liquid or cake, injected or incorporated, etc. However, if there are significant differences these situations could be covered under an individual permit rather than coverage under a general permit.

**Comment 19:** Page 34, part 6, exempts agencies certified under the National Biosolids Partnership’s Environmental Management System from applying for coverage under a general permit. It appears that these agencies with Class B biosolids must still comply with the other parts of the rules such as the management practices and reporting, but if the goal is to regulate the Class B biosolids and to provide consistency in permitting, oversight and enforcement across the State of Tennessee, then why exempt agencies from being permitted that have some type of certification. This is especially troublesome when about half of the

**complaints received are on certified agencies.**

Response 19: The intent of the proposed Rules is to recognize exemplar agencies that are certified under the National Biosolids Partnership's Environmental Management System and allow those certified agencies to self-certify under the general permit. As such these certified agencies must comply with all of the requirements of the proposed rules, including submitting and notice of intent (NOI) or an application for an individual permit. If a certified agency submits an NOI, the rule intends to allow those agencies to be self-certified which means they do not have to wait for TDEC to issue a notice of coverage (NOC). However, Rule 0400-40-15-.06(3)(a)6 has been deleted because a certified agency is not exempt from the rules as is an agency producing Exception Quality (EQ) biosolids. It is also important to note that complaints, especially about odor are not directly related to non-compliance with 40 CFR Part 503 or other applicable laws and regulations governing the land application of Class B biosolids. (See additional comments in Response 4 above).

**Comment 20: Rule 0400-40-15-.01(8) General Definitions Agronomic Loading Rate: this definition is confusing because it appears to mix requirements of the metals tables and the nitrogen loading rate.**

Response 20: TDEC agrees with the commenter, there is a typographical error in the proposed rules, the reference in the definition of agronomic rate should read (5)(d) rather than (4)(d) of Rule 0400-40-15-.02. This correction has been made to the proposed rules.

**Comment 21: Rule 0400-40-15-.01(8) Contaminant: changing the 40 CFR Part 503.13 term from "pollutant" to "contaminant" will be confusing. If you mean "metals" use "metals."**

Response 21: This was a change recommended by legal staff to avoid confusion and conflict with other state statutes. 40 CFR Part 503 uses pollutant concentrations, not metals.

**Comment 22: Rule 0400-40-15-.01(8) Cover Crop: what about annual and perennial grasses or legumes?**

Response 22: The definition has been changed to a quick growing crop planted between periods of regular crop production to prevent soil erosion and provide humus or nitrogen.

**Comment 23: Rule 0400-40-15-.01(8) Forest: most forest acres receive little management but simply grow naturally. Does the second sentence mean TDEC is regulating agricultural land?**

Response 23: TDEC is not regulating agricultural only a product that is sometimes used in agricultural. The definition has been modified in the proposed rule.

**Comment 24: Rule 0400-40-15-.01(8) Staging: a confusing term when paired with storage. Is this definition establishing a requirement? What is temporary storage as different from temporary small-scale storage? Is there temporary storage for dry or dewatered biosolids? Staging restrictions should be omitted from the rules. If implemented as written, it will be a major barrier to land application and will result in current land application stopping with a return to landfill disposal.**

Response 24: TDEC agrees with the commenter and the definition of staging and temporary small-scale storage has been removed from the proposed rules.

**Comment 25: Rule 0400-40-15-.01(8) Store or storage of biosolids or sewage sludge: these need clarification along with staging. There is great potential for multiple interpretations.**

Response 25: TDEC agrees with the commenter and the definition of store or storage of biosolids or sewage sludge has been removed from the proposed rules.

**Comment 26: Rule 0400-40-15-.02(2)(c)2(i) Land Application: How should EPA be contacted which office, position, or person?**

Response 26: The proposed rules specify EPA Region 4, since Tennessee is in EPA-Region 4. 40 CFR Part

503.12 (General Requirements) says the permitting authority; otherwise the requirement and wording is the same.

**Comment 27: Rule 0400-40-15-.02(2)(d) Land Application: Where is the NANI information specified?**

Response 27: The proposed rules states exactly the same thing as 40 CFR Part 503.12 (f) with regard to the NANI.

**Comment 28: Rule 0400-40-15-.02(4)(d)3 Land Application: Shouldn't Table 1 be included here also?**

Response 28: TDEC agrees with the commenter and has made the appropriate change in the proposed rules.

**Comment 29: Rule 0400-40-15-.02(5)(a) Land Application: How is adverse effect determined?**

Response 29: This wording is the same as 40 CFR Part 503.14(a).

**Comment 30: Rule 0400-40-15-.02(5)(b) Land Application: What does frozen mean? Is it a thin layer of ice from a cold night with dry or moist soil underlying or deep frozen soil with thawed soil on top? Another commenter stated that liquid injection should not be prohibited on frozen ground.**

- Injection typically takes place at depth of between 8-12”.
- Ground in Tennessee is rarely actually frozen at this depth.
- Injection poses no runoff threat, whether the ground is frozen or not.

Response 30: The wording in the proposed rules has been changed to match the wording in 40 CFR Part 503.14(b).

**Comment 31: Rule 0400-40-15-.02(5)(d) Land Application: This appears to require two approvals? The second sentence has problems. It appears to say TDEC will make a blanket rate for the entire state.**

Response 31: The only situation that would require two approvals is when an application rate would exceed the agronomic rate, in the case of a reclamation site. To be as stringent as 40 CFR Part 503 this requirement is necessary. Nothing has changed because regardless of what EPA-Region 4 says the State of Tennessee would have to approve the application with or without the proposed rules. TDEC is by no means making a “blanket rate” for the entire state. There are many variables that have to be considered in determining the agronomic rate and many crop options with varying nitrogen requirements. All of this information is contained in Rule 0400-40-15-.02(5)(d).

**Comment 32: Rule 0400-40-15-.02(7)(c) Land Application: Does this include all TCLP parameters or just the nine 40 CFR Part 503.13 metal?**

Response 32: There is no TCLP for just the nine 40 CFR Part 503.13 metals. The proposed rules require the toxicity characteristic leaching procedure (TCLP) to be the test method, Method 1311 (1992 or latest version) of Test Methods for Evaluating Solid Wastes (EPA Publication SW-846), Volume IC: Laboratory Manual, Physical/Chemical Methods) used to determine the mobility of both organic and inorganic contaminants present in liquid, solid and multiphasic wastes.

**Comment 33: Rule 0400-40-15-.02(8)(a)7 Land Application: This full list is not applicable for many systems. It should read “...shall record the applicable information on a truck....” For example in a small system, the transporter will always be the City. The date hauled and delivered will be the same and the point of origin will always be the same as well as the application method. This appears to be lots of redundant and trivial information, but in some cases it could be necessary.**

Response 33: TDEC agrees that this full list is not applicable for many systems and has been deleted from the proposed rules.

**Comment 34: Rule 0400-40-15-.02(9)(b) Land Application: The Biosolids Coordinator “should” not “may” issue a waiver if electronic submittal is not available.**

- Response 34: The proposed rules have been changed to “will” issue a waiver if it is demonstrated that the electronic submittal is not available.
- Comment 35: Rule 0400-40-15-.02(9)(d)1 Land Application: Why latitude and longitude? This gives the perception of cradle to grave tracking as though biosolids are a highly dangerous material.**
- Response 35: Knowing the exact location of a site is important information, especially when there are many application sites in the same proximity.
- Comment 36: Rule 0400-40-15-.02(9)(d)3 Land Application: What does “Residual source” mean?**
- Response 36: Residual source means where did the residual come from—animal manure, commercial fertilizer or municipal utility.
- Comment 37: Rule 0400-40-15-.02(9)(d)5 and 6 Land Application: Why is target application rate of PAN and PAN applied requested? What happened to agronomic loading rate? This appears to be another change of terminology that will only add confusion.**
- Response 37: TDEC agrees with the commenter and has changed “target application” to agronomic in the proposed rules.
- Comment 38: Rule 0400-40-15-.02(10)(b) Land Application: Where blowing dust is possible this is understandable, but many biosolids are transported in a semi-solid, relatively high moisture condition that does not leak from a truck or blow off. Stating “all” biosolids must be covered is extreme.**
- Response 38: TDEC agrees with the commenter and has deleted this requirement from the proposed rules.
- Comment 39: Rule 0400-40-15-.02(10)(d) Land Application: What makes up an adequate Spill Control and Prevention Plan?**
- Response 39: TDEC agrees with the commenter and has deleted this requirement from the proposed rules.
- Comment 40: Rule 0400-40-15-.06(1)(a) Permitting: This paragraph states that “all” facilities shall apply... Don’t these rules only apply to certain facilities that actually land apply biosolids and not to “all” facilities.**
- Response 40: TDEC agrees with the commenter and has made the appropriate changes to the proposed rules.
- Comment 41: Throughout this rule there is conflicting verbiage about a NOI and/or and application. Rule 0400-40-15-.06(2)(b) Permitting states that those seeking coverage under a General Permit submit a NOI; (3)(b) appears to state that a permit application be submitted for a General Permit; and (4)(a) States for a General Permit submit a permit application.**
- Response 41: The proposed rules have been modified to ensure that it is clear that a notice of intent (NOI) is used only with regard to a general permit and a permit “application” is used for an individual permit.
- Comment 42: Under Rule 0400-40-15-.06(7) Permitting is there a “form provided by the Division?” Also, reference to Appendix .06-B. But in Appendix .06-A (1) it appears to state that an application in needed if seeking coverage under the general permit.**
- Response 42: There is no form as yet provided by the Division. If the proposed rules are adopted, the Division most likely will develop a standard form. Nevertheless, the minimum requirements for the content of an individual permit application for the land application of Class B biosolids are listed in Appendix .06-A. The minimum requirements for the content of notice of intent (NOI) for the land application of Class B biosolids under a general permit are listed in Appendix .06-B.

**Comment 43: Under Rule 0400-40-15-.06(10) Permitting, for simplicity, why not require the same person who signs the DMR's to sign this document?**

Response 43: Signatory requirements for applications and reports are always different. While application(s) can be signed only by relatively narrow list of executive or elected personnel, the reporting portion of the permitting process can be delegated. In other words, we consider that it would be an unnecessary regulatory burden for a mayor or a CEO to have to sign a DMR form every month. Reverse authorization is not possible; that is, a mayor cannot authorize a wastewater treatment plant operator to sign a permit application.

**Comment 44: Under Rule 0400-40-15-.06(17) Permitting is the current Regional Administrator on-board with these Rules?**

Response 44: The Regional Administrator (US EPA, Region 4, Atlanta) will be provided with an opportunity to review and comment of this General Permit at the time it is placed on a public notice.

**Comment 45: Under Rule 0400-40-15-.06(18) Permitting what would happen if a permit expired because of a TDEC delay?**

Response 45: It is likely that the final version of the General Permit will contain a provision for the permit coverage could be administratively extended if the next permit issuance is delayed.

**Comment 46: Under Rule 0400-40-15-.06(20)(b)4 does the term "strike" refer to a labor strike or a lightning strike?**

Response 46: The proposed rules were modified to remove this confusion.

**Comment 47: Under Rule 0400-40-15-.06(21)(a) Permitting: Could a permit be terminated for noncompliance with administrative or paperwork issues that may arise due to the confusing nature of the multiple rules, guidance documents and regulators and which has no negative impact upon public health or the environment?**

Response 47: The rule is self-explanatory as to reasons and conditions under which the Director can terminate permits, deny permit applications, or deny an expansion of an existing permit. However, the Division has always been very deliberate when making such decisions. There is no reason to believe such enforcement discretion would not be used in the future.

**Comment 48: Under Rule 0400-40-15-.06(21)(e) Permitting: It appears that Rule 0400-40-15-.07 has been omitted.**

Response 48: The commenter is correct, Rule 0400-40-15-.07 dealt with fees and since there are no fees associated with the proposed rules; Rule 0400-40-15-.07 was not needed. The reference to Rule 0400-40-15-.07 has been deleted from the proposed rules.

**Comment 49: Appendices .06-A(5): Is staging regulated? It appears to be through the definition. This should be omitted from the Rules. Without the ability to stage or store for times ranging from days to months many land application processes will be forced back to landfilling. For example, few sewer plants have on-site storage but the sludge dewatering processes will operate daily or weekly in order to prevent solids backups and possible effluent violations. Without on-farm storage either through the crop growing season or winter there is simply no location to put the dewatered biosolids until favorable spreading conditions are available.**

Response 49: Staging and storage requirements and references have been deleted from the proposed rules and Appendices .06-A(5) has been modified accordingly in the proposed rules.

**Comment 50: Appendices .06-C(5): What is Daily Timing? How is this related to proper land application?**

Response 50: Daily timing has been deleted from Appendices .06-C(5) in the proposed rules.

- Comment 51: Appendices .06-C(7): This issue of storage, on-site, off-site and staging needs to be more clearly described. As it reads there is significant perplexity about what is appropriate and acceptable. This leaves open the possibility of misinterpretation and possibility abuse from regulators as well as appliers.**
- Response 51: References to staging have been deleted from the proposed rules; however, it is appropriate to require a site specific land application plan to address storage. The lack of adequate storage can pose significant problems. Additionally, the type, size and location of storage facilities are important to ensure that any potential runoff and/or leaching does not jeopardize waters of the state.
- Comment 52: Appendices .06-C(8)(a): How much legend information is needed? Is simple distance acceptable?**
- Response 52: The legend information should match what is required on the map to ensure that anyone looking at the map can identify the features on the map. An accurate distance scale is mandatory.
- Comment 53: Appendices .06-C(8)(c): What is a Unit ID number?**
- Response 53: A Unit ID or site(s) may be needed where multiple land application units exist within a single site or where multiple sites are located on the same map.
- Comment 54: Appendices .06-C(8)(m): What is an adequate Land Owner agreement?**
- Response 54: What is an adequate land owner agreement will be at the discretion of the permittee. The importance of the land owner agreement is to ensure that land owner understands his responsibilities with regard to the land application of Class B biosolids under the proposed rules.
- Comment 55: Appendices .06-E(b): The word "of" should be "or".**
- Response 55: TDEC agrees with the commenter and the typographical error in Appendices .06-E(b) has been corrected from "of" to "or".
- Comment 56: What will become of the *Guidelines*? Many of those requirements are incorporated in these Rules, but not all of them. The Guidelines had restrictions or suggestions on land applications on land with steeper slopes. Because most of the state has gently rolling to steep farmland, is there a way to facilitate application to these slopes such as using application rates that are less than the agronomic loading rate?**
- Response 56: The Guidelines will go away if the proposed rules are adopted. It is true that many of the requirements from the Guidelines are incorporated in the proposed rules but not all of them. The Guidelines contain provisions that are "more restrictive" than 40 CFR Part 503 in terms of setbacks and suggestions relative to steeper slopes. The proposed rules eliminate most of the setbacks which will allow much more land to be utilized than in the past under the old Guidelines. Slopes could be a factor, but TDEC's thinking on this issue is that most sites will be properly managed under rules and a general permit. For difficult sites with problematic slopes there will always be the option to issue an individual permit and address all of the site specific conditions in that individual permit.
- Comment 57: Two permits will create confusion, will require more time with reporting processes, more chances for error, seems impossible to keep up with 2 permits.**
- Response 57: Currently, there are no permits being issued by either the state or EPA-Region 4. Being subject to a self-implementing federal rule that is very complex and has over 300 different scenarios for interpretation is extremely confusion and provides a great deal of uncertainty relative to compliance. A program under the proposed state rules and general permit will solve this dilemma.
- Comment 58: Farms? Will existing farms qualify under new permit? Will they be grandfathered in? Will inspectors have a set of rules to go by so all utilities are treated the same?**

Response 58: It is anticipated that all farms, existing land application sites where Class B biosolids are being applied will qualify for coverage under the general permit and the plan is to grandfather all of those sites in under the general permit. Inspectors will have rules and/or the general permit or individual permit and it will be a level playing field across the state, because all utilities will be treated the same. The uncertainty and any inconsistencies will be eliminated under the proposed rules.

**Comment 59: Loading rates Table 3 Selenium changed from 36 to 100 and PCB's and TCLP not monitoring now.**

Response 59: Table 3 of 40 CFR Part 503.13 was amended several years ago and one of changes was changing the Selenium value from 36 mg/kg to 100 mg/kg. The proposed state rules are the same as 40 CFR Part 503 for all metal limits. 40 CFR Part 503 and the proposed state rules have requirements for PCB's (must be less than 50 mg/kg) and the requirement to be non-hazardous, but there is no monitoring requirement for either PCB's or TCLP (a test to determine if a solid waste is hazardous) contained in 40 CFR Part 503. The only way to document that the biosolids is less than 50 mg/kg in PCB's and is non-hazardous is to do analytical testing to prove it.

**Comment 60: Time? We have had a couple of farms for over a year waiting for TDEC to check, TDEC claims they are under staffed, so what will this new permit create?**

Response 60: Under the proposed rules and general permit, once the applicant certifies via a notice of intent (NOI), TDEC will have no more than 60 days to issue a notice of coverage. If TDEC fails to act, coverage will automatic. The proposed rules and general permit will eliminate confusion and uncertainty about compliance with the requirements for the land application of Class B biosolids and will create a consistent and level playing field for all municipal utilities in the State of Tennessee.

**Comment 61: Costs—this rule will add unnecessary costs at a time of extreme budget stress.**

**Response 61:** The overall costs for municipal utilities applying Class B biosolids should not change significantly from the current situation. For all practical purposes the information required now for site approvals is the same as will be required under the proposed rules. Municipal utilities should find it easier and quicker to obtain site approvals and more land base will be available per site under the proposed rules as opposed the old Guidelines. The added cost of PCB and TCLP testing is once per 5 years and will average about \$40 per month. There is no anticipated scenario for a municipal utility that would require any kind of a rate increase.

**Comment 62: One commenter stated that most cities understand that it is their responsibility to follow the NPDES permit and they make every effort to comply with 40 CFR Part 503 and the Guidelines. If these requirements already exist, why are rules needed.**

Response 62: TDEC agrees that most cities make an effort to comply with 40 CFR Part 503 and the Guidelines. The problem is centered on the confusion and uncertainty for a municipal utility to try to understand accurately and completely a very complex 40 CFR Part 503 regulations that has at least 300 different ways to be interpreted. The problem expands since the municipal utility must comply via self-implementation. State rules will remove the uncertainty and confusion for municipal utilities that land applies Class B biosolids.

**Comment 63: The proposed TN rule will not replace 40 CFR Part 503, but will add another layer of regulation on top of the EPA authority. Why do we need two regulators? If TDEC wants to be the land application regulator, why doesn't the Department seek delegation of 40 CFR Part 503 from the EPA.**

Response 63: The proposed Tennessee biosolids rules will not replace 40 CFR Part 503, but mimic and enhance those federal regulations and also make them enforceable by the State of Tennessee. There is not another layer of regulation, just enhancement and clarification that was anticipated by EPA when they promulgated 40 CFR Part 503 in 1993. Theoretically, there are two

regulators, but for all practical purposes there has not been one, since EPA has had a very limited presence in Tennessee, has not conducted a biosolids inspection since 2010 and has stated that it unlikely that they will return any time soon, if at all. This is one of the primary reasons that TDEC believed that it was time to have state rules to cover the land application of Class B biosolids. These proposed rules do not, and are not intended, to lay the ground work for TDEC seeking delegation of 40 CFR Part 503. Seeking delegation of 40 CFR Part 503 would require a significant expansion of TDEC's biosolids program and require fees to fund the activity. What is proposed is to keep the status quo on costs and staff oversight and make a seamless transition from the current program of self-implementation of Part 503 and compliance with state guidelines to rules which will facilitate a general permit or an individual permit for the land application of Class B biosolids.

**Comment 64:** One commenter noted that “Table 1- Crop Nitrogen Requirements” that Bermuda grass, which has a nitrogen requirement of 200 lbs/acre/year is not listed in Table 1. In item 4 below Table 1, the proposed rule states: “All nitrogen requirements greater than 150 lbs/ac/yr, must be approved in advance by the Director.” We have established a good beneficial reuse program with Bermuda hay as a summertime crop, and would like to see it listed in Table 1.

Response 64: TDEC agrees with the commenter and has made the appropriate changes to Table 1 in Rule 0400-40-15-.02(5)(d)3, and the wording in Rule 0400-40-15-.02(5)(d)4.

**Comment 65:** With regard to Rule 0400-40-15-.02(9)(c), one commenters stated that this refers to providing per application event or monthly, a Farm Operator Report to the grower. We would like to see wording inserted that relieves generators, who also are the growers from this requirement.

Response 65: TDEC agrees with the commenter and the appropriate changes have been made to Rule 0400-40-15-.02(9)(c).

**Comment 66:** One commenter noted that Rule 0400-40-15-.02(8)(a)7(i) through (vii) refer to: “Each load of biosolids hauled must be recorded on a truck report that maintained on file for five years and includes the following:” Do these subparts refer solely to biosolids being hauled on public roadways? If this is not clarified, it could lead to confusion later.

Response 66: Rule 0400-40-15-.02(8)(a)7(i) through (vii) have been deleted from the proposed rules.

**Comment 67:** One commenter noted that Rule 0400-40-15-.02(10) contains subparagraphs (a) through (e). Although it seems that this pertains solely to biosolids that are being transported on public roadways, this is not completely clear. Do any of these subparagraphs apply to biosolids that are generated and applied on the same property? Language should be inserted that clarify this position.

Response 67: TDEC agrees with the commenter and has made the appropriate changes to the proposed rules.

**Comment 68:** Will the language related to preventing the land application of biosolids at sites below the 100-year flood plain elevation be removed from the Final Rule? [ref. 0400-40-15-.02(5)(f)]. This management practice as stated is more stringent than the current Guidance from TDEC and 40 CFR Part 503. The inclusion of this management practice as is would be a detriment to many biosolids management programs throughout the state affecting WWTP facilities, farmers. One program would incur a loss of an estimated 40% of its agricultural land base.

Response 68: Rule 0400-40-15-.02(5)(f) has been deleted from the proposed state rules.

**Comment 69:** Will the fee identified in the Draft Rule be removed from the Final Rule? [ref. 0400-40-15-.06(21)(e)]

Response 69: There are no fees associated with the proposed rules and Rule 0400-40-15-.06(21)(e) has been deleted from the proposed draft rules.

**Comment 70:** For facilities currently land applying Class B biosolids utilizing “Site Suitability” letters from TDEC, will a re-submittal of all land base book information, including application maps, vicinity maps, soil maps, etc., be required to achieve coverage under the general permit?

Response 70: It is anticipated that all existing sites that have site suitability letters from TDEC will be grandfathered in at the time of issuance of the general permit.

**Comment 71:** If and when the final general permit is issued, what time frame should a municipality expect to achieve coverage under the general permit granted no special circumstances exist?

Response 71: It is anticipated that once the general permit is issued that all existing sites that have been approved by TDEC will be grandfathered in and that other new sites submitting a notice of intent will receive a notice of coverage within 60 days.

**Comment 72:** One commenter stated that they manage several biosolids programs in the state which offsite staging and offsite storage is utilized as part of the management process. The definition of staging of biosolids is included in the definitions section but not addressed in the rules and also the definition imposes impractical limitations on storage of biosolids in the field. The offsite staging and storage of biosolids is essential for programs which do not have sufficient onsite storage capabilities

Response 72: The definitions relative to staging and storage have been deleted from the proposed rules. If there are special situations with regard to staging and storage that cannot be covered sufficiently by the general permit, TDEC will have the option to issue an individual permit for the land application of Class B biosolids.

**Comment 73:** One commenter objected to the definition included for the “*staging of biosolids*” in Rule 0400-40-15-.01(8). This definition does not appear to be used in the new rules and puts impractical time limitations on the storage of biosolids in the field prior to land application. The definition also states that “*staging of biosolids*” is not temporary storage but does not provide sufficient clarification. The commenter requested that this definition be removed to avoid confusion since it is not included anywhere else in the proposed rules

Response 73: TDEC agrees with the commenter and has made the appropriate changes to the proposed rules.

**Comment 74:** One commenter objected to the definition included for “*temporary, small scale storage*” in Rule 0400-40-15-.01(8). This definition does not appear to be used in the new rules and requires storage in a tank constructed of non-earthen material with a limited capacity of 20,000 gallons. Temporary storage in the field on the farm is sometimes necessary, and it is impractical to require construction of tanks to do so. The commenter requested that this definition be removed to avoid confusion since it is not used anywhere else in the new rules.

Response 74: TDEC agrees with the commenter and has made the appropriate changes to the proposed rules.

**Comment 75:** One commenter objected to the sentence included in Rule 0400-40-15-.02(5)(f) Management Practices that states “*Biosolids shall not be applied to a site that is below the 100-year flood plain elevation unless the application is approved in writing by the State Biosolids Coordinator.*” While we agree that land application programs should not impact the Waters of the State, this requirement is not included in 40 CFR Part 503. 40 CFR Part 503.14 (b) Management Practices limits its guidance to the statement that “*Bulk sewage sludge shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk sewage sludge enters a wetland or other waters of the United States, as defined in 40 CFR 122.2, except as provided in a permit issued pursuant to section 402 or 404 of the CWA.*”

The commenter noted that the new biosolids rules also do not include sufficient information regarding which entity will officially designate land areas as being within a 100 year floodplain. Without clear guidance, this subparagraph can result inconsistencies in approvals and practices by the (state biosolids) coordinator.

Response 75: TDEC agrees and notes a similar statement in comment #68. Rule 0400-40-15-.02(5)(f) has been deleted from the proposed state rules.

**Comment 76:** One commenter noted that the Notice of Rulemaking indicates that there are no fees associated with these new rules or the general permitting process for land application of biosolids. Rule 0400-40-15-.06(21)(e) indicates that *“Failure by the permittee to pay all or part of the annual permit maintenance fee in accordance with Rule 0400-40-15-.07”* can result in termination of a permit. This statement should be removed. Rule 0400-40-15-.07 does not appear to be included anywhere in the rules but in the Table of Contents.

Response 76: TDEC agrees with the commenter--similar to comment #69. There are no fees associated with the proposed rules and Rule 0400-40-15-.06(21)(e) has been deleted from the proposed rules.

**Comment 77:** One commenter stated, per Notice of Rulemaking Hearing SS-7037, “Biosolids are currently regulated under 40 CFR Part 503. However, the State of Tennessee has no authority to enforce 40 CFR Part 503. EPA-Region 4 is the permitting authority per 40 CFR Part 503 but has had a very small presence in Tennessee since the promulgation of 40 CFR Part 503 in 1993. Furthermore, with EPA’s national divestment in biosolids’ enforcement, it is highly unlikely that there will be a future EPA presence in Tennessee relative to biosolids.”

The commenter believes that this is speculative on the State’s part and if any utility does not follow 40 CFR Part 503 regulations, the EPA would insure that these rules be enforced and that the alleged perpetrators be held accountable.

Response 77: EPA’s Office of Enforcement and Compliance Assurance (OECA) published their FY 2013 – National Program Manager Guidance in which they stated: *“All states now have their own safety program for biosolids, and there are also third party verification programs that support compliance in this area. In light of these facts, and the scientific studies indicating that biosolids present a lower risk than other substances, EPA expects to reduce investment in this area to support other high priority enforcement work. OECA is considering a number of program areas in which to reduce resources devoted to monitoring, compliance, and enforcement, as well as rely more on states or local entities to do the work.”*

EPA has stated that they plan to reduce investment in biosolids compliance and enforcement in 2013. The proof is in EPA’s actions. EPA has not made a biosolids inspection since 2010 in Tennessee and they don’t plan to make any in FY 2012 and FY 2013, as noted by their correspondence. EPA’s actions are divestment. The agency expects the states to do the job with assistance from the National Biosolids Partnership.

The commenter believes that any utility does not follow 40 CFR Part 503 regulations, the EPA would insure that these rules be enforced and that the alleged perpetrators be held accountable. But there is no evidence that EPA has done this, especially since EPA has not made a biosolids inspection in the State of Tennessee since 2010 and made it clear that they won’t be back any time soon, if at all.

Furthermore, there have been several huge problems as noted in response #5 which are as follows:

1. Dumping 4.5 million gallons of biosolids on a site with karst topography with no crop harvesting.
2. Dumping over 1 million pounds of BOD into a sink hole over a 10 year period.
3. Dumping approximately 500,000 pounds of nitrogen on a site adjacent to an Exceptional Tennessee Water with no crop harvesting over the 20 year period.

In each of the above 3 situations there is no record to document that EPA insured that 40 CFR Part 503 was enforced by taking action against the alleged perpetrators and held them accountable. This again makes the point as to why the State of Tennessee needs the proposed rules for the land application of Class B biosolids.

**Comment 78:** One commenter stated that “The monitoring frequency, the recording keeping and reporting requirements are also the same. The only “differences” are that these proposed rules provide specifics for the agronomic rate calculation and add a few more setbacks to ensure protection of the waters of the State of Tennessee.”

The commenter noted that with the addition of the new setbacks, the commenter would be required to acquire additional land and transport biosolids off the existing treatment plant site. Both instances would require additional cost to the commenter and its ratepayers. The current practices followed by the 40 CFR Part 503 regulations have not impaired the waters of Tennessee nor brought any public harm.

Response 78: The proposed state rules have fewer and less restrictive setback requirements than the old state guidelines. Thus, more land base will be available than under the old system which we provide cost savings by reducing land base requirements and transportation costs; thus, there will be no additional costs to rate payers.

One of the areas that is important is the protection is waters of the state. This requires among other things, the proper application of biosolids in terms of nutrients. Waters of the state include surface water and ground water whereas, waters of the United States is confined to only surface water. Furthermore, 40 CFR Part 503 requires applications at an "agronomic rate" but is silent on how to determine that rate.

Another short coming of 40 CFR Part 503 is the lack of adequate buffers/setbacks. The only setback required by 40 CFR Part 503 is 10 meters from waters of the U.S. This setback alone is not adequate to protect surface waters.

Therefore the proposed states rules provide specific guidance that will help to ensure that an over application of nutrients does not occur, which helps to ensure protection of our state ground and surface waters. As noted the proposed rules propose additional setbacks compared to 40 CFR Part 503, but fewer when compared to old state guidelines.

**Comment 79:** Rule 0400-40-15-.01(4) Additional or more stringent requirements [40 CFR Part 503.5]: On a case-by-case basis, the Director may impose requirements for the application of biosolids in addition to or more stringent than the requirements in these rules when necessary to protect public health or the environment from any reasonably anticipated adverse effect that may occur due to any characteristic of the biosolids or the site.

One commenter stated that they would prefer this part of the rule be deleted in its entirety. If a utility is not abiding by the existing rules, then that utility should be held accountable. The State should not impose more rules that may not be followed and would impose more burdens on the other utilities.

Response 79: The proposed Rule 0400-40-15-.01(4), Additional or more stringent requirements is similar to the provision in 40 CFR Part 503.5. It allows the Director, on a case-by-case basis to impose more stringent requirements when necessary to protect public health or the environment from any reasonable anticipated adverse effect that may occur due to any characteristic of the biosolids or the site.

**Comment 80:** One commented referenced Rule 0400-40-15-.02(7)(b) Frequency of Monitoring/PCBs shall be monitored at least once every 5 years unless otherwise specified by the State Biosolids. The commenter believes this would impose more unnecessary cost on the utility which would in turn impose higher cost to the ratepayer. PCBs are already tested on industries every five years and the plant effluent based on the utilities' NPDES permit at the same interval.

The same commented referenced 0400-40-15-.02(7)(c) Frequency of Monitoring/A Toxicity Characteristic Leaching Procedure (TCLP) using SW-846 Method 1311 in accordance with 40 CFR 261.24 shall be conducted at least once every 5 years unless otherwise specified by the State Biosolids Coordinator. The commenter considers this to be more unnecessary cost to the utility and the ratepayer. Metals are already tested on industries and treatment plant influent, effluent, and biosolids. These analyses are conducted at a minimum semiannually.

Response 80: 40 CFR Part 503 and the proposed state rules have requirements for PCB's (must be less than 50 mg/kg) and the requirement to be non-hazardous, but there is no monitoring requirement for either PCB's or TCLP (a test to determine is a solid waste is hazardous) contained in 40 CFR Part 503. The only way to document that the biosolids is less than 50 mg/kg in PCB's and is non-hazardous is to do analytical testing to prove it.

The overall costs for municipal utilities applying Class B biosolids should not change significantly from the current situation. For all practical purposes the information required now for site approvals is the same as will be required under the proposed rules. Municipal utilities should find it easier and quicker to obtain site approvals and more land base will be available per site under the proposed rules as opposed the old Guidelines. The added cost of PCB and TCLP testing is once per 5 years and will average about \$40 per month. There is no anticipated scenario for a municipal utility that would require any kind of a rate increase.

**Comment 81: One commenter referenced the following: Rule 0400-40-15-.06(16) Permitting/Additional or more stringent requirements:**

- (a) On a case-by-case basis, the Division may impose requirements for the land application of biosolids that are in addition to or more stringent than the requirements in these rules if the Division believes that the additional or more stringent requirements are necessary to protect public health or the environment from any adverse effect of a contaminant in the biosolids or to ensure compliance with these rules.
- (b) In addition to other considerations, failure of a generator, applier, or landowner to conform to any applicable requirements of these rules may be cause to impose additional or more stringent requirements.
- (c) The Division will impose any additional or more stringent requirements in an individual permit issued to a facility in general permits issued in accordance with paragraph (23) of Appendix .06-E of this rule, and in the issuance of final coverage under a general permit.
- (d) Any additional or more stringent requirements imposed in accordance with this paragraph are considered to be permit requirements, fully enforceable in accordance with the provisions of these rules and the applicable permit.
- (e) If known, any additional requirements shall be disclosed at a public hearing if a public hearing is held.

The commenter considers this to be another opportunity by the State to impose more regulations on a utility that is not following existing rules. Again, the current rules are enforceable and should be sufficient for environmental protection.

Response 81: Rule 0400-40-15-.06(16)(c) has been modified to make it clear that in the case where the general permit is not used because of different conditions that the individual permit will impose additional or more stringent requirements as compared to the general permit. In this case, the issuance of an individual permit will follow the public notice and comment period associated with individual permits.

**Comment 82: In reference to Land Application Rule 0400-40-15-.02(4)(b)3. One commenter suggested removing "monthly" from column in Table 3. The use of "monthly" implies that the**

generator should be calculating monthly averages, when in fact, the standard applies to the average over the minimum monitoring frequency for the generator (based on annual biosolids production). There are several places in the regulations where “average” should be inserted, as follows:

- a. Land Application Rule 0400-40-15-.02(4)(a)2(ii): Suggest using: The “average” concentration.....to be clear that this is different from the ceiling concentration in Table 1.
- b. Land Application Rule 0400-40-15-.02(4)(a)3: Is “average” concentration also being considered for use in home garden or sold or given away? Or is Table 3 being used here to indicate a ceiling concentration?
- c. Land Application Rule 0400-40-15-.02(4)(a)4: Here reference is made to Table 1 and Table 3. Suggest using the term “average” to indicate use of Table 3, to be clear.

Response 82: The changes suggested have made in the proposed rules for clarification of meaning.

Comment 83: One commenter referenced Land Application Rule 0400-40-15-.02(5)(d)1: Yields should be based on all criteria required in the rules, with the exception of the “recommendation of owner”. Using the average of the actual yields documented from the best 3 years during a 5-year cycle is typical and is suggested.

Response 83: TDEC agrees with the commenter and has made the appropriate changes to the proposed rules.

Comment 84: One commenter referenced: Land Application Rule 0400-40-15-.02(9)(d). The commenter suggested the following language be substituted to enhance organization and clarity. A key change is to remove the requirement to report detailed daily activity. The following summary information for each field captures the information necessary to convey field activity. It is reasonable to require daily information for recordkeeping, but is onerous for reporting purposes.

Rule 0400-40-15-.02(9)(d): A form shall be included in the annual report submitted to the State Biosolids Coordinator which contains at a minimum:

1. A summary of calendar year annual activity, for all sites.
  - a. Residual sources and annual dry tons applied of each
2. For each site, provide:
  - a. Summary information:
    - i. The applier
    - ii. Land owner or operator
    - iii. Latitude and longitude
    - iv. County
    - v. Summary of overall site activity:
      1. Approved acres
      2. Applied acres
      3. Total tonnage or volume (wet weight)
      4. Dry tons total
  - b. Detailed information for each field:
    - i. Field number/name
    - ii. Field acres, excluding setbacks
    - iii. Crop
    - iv. First application date
    - v. Last application date
    - vi. PAN applied (plant available nitrogen in pounds per acre)
    - vii. Application method

- viii. Calculated application rate (DT/Ac) to meet crop PAN need
- ix. Actual dry tons per acre
- x. Actual per acre tonnage or volume (wet weight)
- xi. Total dry tons
- xii. Total tonnage or volume (wet weight)

Response 84: TDEC agrees with the commenter and has made the appropriate changes to the proposed rules.

**Comment 85: One commenter referenced Land Application Rule 0400-40-15-.02(5)(b) and asked to consider adding definitions for “flooded, frozen, or snow-covered” ground.**

Response 85: Rule 0400-40-15-.02 has been modified to match the wording in 40 CFR Part 503.14.

**Comment 86: One commenter referenced Land Application Rule 0400-40-15-.02(5)(c) and asked if reservoirs and/or public wells be given separate setbacks?**

Response 86: Rule 0400-40-15-.02 contains a 100 foot setback from public wells and a 100 foot setback is being added for water supply reservoirs to avoid confusion with the setbacks relative to surface waters.

**Comment 87: One commenter referenced Land Application 0400-40-15-.02(5)(d)5. And noted that the rules state that in cases where the biosolids has substantial liming value, the agronomic rate shall be the lesser of the whole biosolids application rate that provides crop nitrogen needs as determined by parts 1 and 2 of this subparagraph or required liming equivalent necessary to raise the soil pH to the value most conducive for productivity of the crop(s) to be grown. As you know, crops generally have an optimum range of pH requirements. However, this optimum range does not denote limitations to crop growth or environmental harm. We suggest requiring multi-year cycles for application of lime amended biosolids when soil pH levels reach a certain maximum. It is common for land application sites downwind of quarries and lime kilns to have soil pH close to or greater than a value of 8. There was no crop yield reduction noted in these cases. The United States Department of Agricultural Natural Resources Conservation Districts states that a moderately alkaline soil ranges from 7.9 to 8.4. We suggest that this upper limit should be used for soil pH.**

Response 87: TDEC agrees with the commenter and the appropriate changes have been made to the proposed rules.

**Comment 88: One commenter referenced Land Application 0400-40-15-.02(5)(d)2, and asked TDEC to consider adding “lime stabilized sewage sludge” to the table, with a mineralization rate of 30%. Or, consider adding a footnote that directs generators to use the mineralization rate that applies to their biosolids digestion type, prior to lime addition.**

Response 88: TDEC recognizes this oversight and has corrected Rule 0400-40-15-.02(5)(d)2 by adding alkaline stabilized sewage sludge to the table with a mineralization rate of 30%.

**Comment 89: One commenter referenced Pathogens and Vector Attraction Reduction Rule 0400-40-15-.04(2) and noted that in the rule, “unstabilized solids” are defined as organic materials in biosolids or sewage sludge that have not been treated in either an aerobic or anaerobic treatment process. Does this definition also apply to lime amended biosolids that has not been aerobically or anaerobically digested first?**

Response 89: The answer to the commenter’s question is “no”. The definition of “unstabilized solids” in Rule 0400-40-15-.04(2) is the same as the definition in 40 CFR Part 503.31(j). The key to the definition is treatment in either an aerobic or anaerobic treatment process. Lime or alkaline stabilization would not meet the definition of an aerobic or anaerobic treatment process. As noted in the White House Manual (page 62), the addition of alkaline material reduces biological activity, but this reduction is not permanent. If the pH drops, surviving bacteria become biologically active and the biosolids will again putrefy and potentially attract vectors.

**Comment 90:** One commenter referenced Permitting Rule 0400-40-15-.06(3)(a)5 and 6 and noted that we also commend the TDEC for providing incentives to generators to consider EQ processes, and for participating in the National Biosolids Partnership's Environmental Management System program. However, it is unclear as to which other biosolids program requirements will also be exempted; such as recordkeeping.

Response 90: The intent of the proposed Rules is to recognize exemplar agencies that are certified under the National Biosolids Partnership's Environmental Management System and allow those certified agencies to self-certify under the general permit. As such these certified agencies must comply with all of the requirements of the proposed rules, such as recordkeeping, etc., including submitting a notice of intent (NOI) or an application for an individual permit. If a certified agency submits an NOI, the rule intends to allow those agencies to be self-certified which means they do not have to wait for TDEC to issue a notice of coverage (NOC). However, Rule 0400-40-15-.06(3)(a)6 has been deleted because a certified agency is not exempt from the rules as is an agency producing Exception Quality (EQ) biosolids. Rule 0400-40-15-.06(3)(c)1, has been added to clarify this situation.

**Comment 91:** One commenter referenced Reporting Rule 0400-40-15-.06(3)(a)5 and 6 and asked TDEC to clarify whether sites exempted from general/individual permits are also exempted from Recordkeeping and Reporting requirements. It is assumed that all biosolids generators, whether EQ or Class B, must comply with recordkeeping requirements.

Response 91: Refer to response 90. Keep in mind that EQ Biosolids are exempt under the proposed state rules for the land application of Class B biosolids; however, EQ Biosolids are still regulated under 40 CFR Part 503 and must keep records and report. EQ Biosolids are exempt from the general requirements (503.12) and management practices (503.14).

**Comment 92:** One commenter referenced Appendix.06-E(7)(a) Public Hearings and noted that the rules require the Division to hold one or more public hearing(s) on all draft general permits. Is it correct that each generator that applies for coverage under this general permit would be considered a new general permit? If this is correct, unless required by other Tennessee law or regulation, it is suggested that requiring public hearings for each general permit is unwarranted. Biosolids quality data used to support an application for this general permit is straight forward and doesn't lend itself well to public hearing setting. Furthermore, it represents a significant cost for the state and the generators. It is unlikely that the public will provide constructive comments or will identify technical deficiencies that a generator or regulator hasn't already uncovered. We strongly suggest that public hearings NOT be mandatory, and when held, be based on (1) amount of public interest, (2) past compliance history of applicant, and/or (3) special request or circumstances. Or, as in other states, there is one general permit issued for the state, and generators can "register" under that general permit. Only the issuance of the "state-wide" general permit will trigger public notice requirements.

Response 92: Appendix .06-E are the procedures for issuing General Permits and all of listed requirements relative to public hearings are specific to one general permit, in this case the general permit for the land application of Class B Biosolids. This will be a state-wide general permit. Once the general permit has been issued, generators can certify via a notice of intent (NOI) that they will comply with the general permit. TDEC will review the NOI and if we agree with the applicant, we will issue a notice of coverage (NOC). When a generator applies for coverage under the general permit via the NOI, this is not considered a new general permit. Only the issuance of the state-wide general permit will trigger public notice requirements. A new general permit will have to be issued every 5 years.

**Comment 93:** Another commenter referenced Land Application Rule 0400-40-15-.02(5)(f) and noted that the current draft rules state that "Biosolids shall not be applied to any site area with standing surface water or if the annual high groundwater level is known or suspected to reach the surface of the land application site. Biosolids shall not be applied to a site that is below the 100-year flood plain elevation unless the application is approved in writing by the State Biosolids Coordinator".

Comment: The prohibition of applying biosolids on soils in areas where high groundwater levels may reach the surface, or in 100-year flood plains is not contained in 40 CFR Part 503 biosolids regulations. 40 CFR Part 503 does prohibit biosolids applications to areas where the potential for reaching surface water and groundwater is high; such as entering a wetland and/or within 33 feet of surface water, as noted below. We believe these protections are adequate to safeguard surface water and groundwater. 40 CFR Part 503 language is noted below.

*Management Practices § 503.14(b). Bulk sewage sludge shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk sewage sludge enters a wetland or other waters of the United States, as defined in 40 CFR 122.2, except as provided in a permit issued pursuant to section 402 or 404 of the CWA.*

*Management Practices § 503.14(c). Bulk sewage sludge shall not be applied to agricultural land, forest, or a reclamation site that is 10 meters or less from waters of the United States, as defined in 40 CFR 122.2, unless otherwise specified by the permitting authority.*

We agree that application in standing water or to land that is flooded should be prohibited, but that requirement is addressed adequately in TN Draft Rule 0400-40-15-.02(5)(b) that states “Bulk biosolids shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered”.

The requirement that biosolids applications be limited in areas where “annual high groundwater level is known or suspected to reach the surface of the land application site” is too vague. Other states have added standards to their biosolids regulations that do not allow application to soils classified as poorly drained, or require at least 11 inches of soils without evidence of seasonal water. These types of standards would be more precise and measurable than the one provided.

Additionally, the standards/criteria for granting approval by the State Biosolids Coordinator for application to flood plain soils are not known. Additional information is needed regarding (1) the standards/criteria to be used and/or (2) the approach regulators plan to use when a request is made for utilizing such a site.

Response 93: TDEC agrees with the commenter and has made the appropriate changes. Also see comments #30 and #75.

Comment 94: Another commenter referenced Land Application Rule 0400-40-15-.02(5)(f) and noted it also states “Where biosolids will be land applied on 100-year flood plains, the soils on these landscape positions shall, at a minimum, be well drained, shall be undisturbed (natural), shall not be a wetland, and shall not contain any drains or artificially constructed conduits to Waters of the State”.

Comment: We suggest that the entire subparagraph (5)(f) be removed from the Draft Rule as there is no similar language in 40 CFR Part 503. The language in 40 CFR Part 503.14(b) and 40 CFR Part 503.14(c) is sufficient.

However, if the paragraph does remain, there is no evidence that only well drained soils on flood plains are acceptable. Soils classified by the NRCS as “poorly drained” should be the only soils excluded from biosolids application areas, and only when they exist on a flood plain. As an alternative to the NRCS classification for poorly drained soils, field work could be required that would show that poorly drained soils do not exist where biosolids application will take place. We suggest changing “be well drained” to “not be poorly drained” in the rule.

Note that most flood plain soils are very productive and do not pose a risk for pollution, unless active flooding is occurring or is forecast to occur. We are also not aware of a requirement to limit commercial fertilizers or manures to 100-year flood plains, and believe biosolids pose no additional risk.

Response 94: TDEC agrees with the commenter and has made the appropriate changes to the proposed rules.

**Comment 95: In the instructions for submitting the NOI application, it mentions the form must be signed by an elected official. Many utilities do not have elected officials as part of their District Board/Management does the utility need to have the General Manager sign?**

Response 95: The General Manager is acceptable, as he/she would be considered a principal executive. State rules (<http://www.state.tn.us/sos/rules/1200/1200-04/1200-04-05.20110531.pdf>) say:

- (6) Applications must be submitted in accordance with the following:
  - (a) For a corporation:
    1. By a responsible corporate officer, i.e., a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision making functions for the corporation;
    2. By a manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility to assure long term environmental compliance with environmental laws and regulations; or
    3. By a person in a corporate position to which signatory authority has been delegated by a corporate officer.
  - (b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
  - (c) For a municipality, state, federal, or other public agency:
    1. A principal executive officer (i.e., the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency)
    2. Ranking elected official.

### **Regulatory Flexibility Addendum**

Pursuant to T.C.A. §§ 4-5-401 through 4-5-404, prior to initiating the rule making process as described in T.C.A. § 4-5-202(a)(3) and T.C.A. § 4-5-202(a), all agencies shall conduct a review of whether a proposed rule or rule affects small businesses.

- (1) The type or types of small business and an identification and estimate of the number of small businesses subject to the proposed rule that would bear the cost of, or directly benefit from the proposed rule.

There are no small businesses subject to the proposed biosolids rules.

- (2) The projected reporting, recordkeeping, and other administrative costs required for compliance with the proposed rule, including the type of professional skills necessary for preparation of the report or record.

The state biosolids rules will not increase costs for either the municipal utilities in Tennessee or the State of Tennessee compared to what is currently required by the self-implementing aspects of 40 CFR Part 503 and state guidelines.

- (3) A statement of the probable effect on impacted small businesses and consumers.

Small businesses and consumers will not be impacted by the proposed biosolids rules.

- (4) A description of any less burdensome, less intrusive or less costly alternative methods of achieving the purpose and objectives of the proposed rule that may exist, and to what extent the alternative means might be less burdensome to small business.

These proposed rules are the less intrusive and less costly alternative method of achieving compliance with the biosolids requirements of 40 CFR Part 503 and the current State Guidelines.

- (5) A comparison of the proposed rule with any federal or state counterparts.

These proposed rules mimic 40 CFR Part 503 and only add clarification to requirements contained in those federal rules.

- (6) Analysis of the effect of the possible exemption of small businesses from all or any part of the requirements contained in the proposed rule.

Small businesses are not subject to any part of the proposed rules for biosolids.

## **Impact on Local Governments**

Pursuant to T.C.A. §§ 4-5-220 and 4-5-228 “any rule proposed to be promulgated shall state in a simple declarative sentence, without additional comments on the merits of the policy of the rules or regulation, whether the rule or regulation may have a projected impact on local governments.” (See Public Chapter Number 1070 (<http://state.tn.us/sos/acts/106/pub/pc1070.pdf>) of the 2010 Session of the General Assembly)

These new rules will have a beneficial impact on local governments.

## Additional Information Required by Joint Government Operations Committee

All agencies, upon filing a rule, must also submit the following pursuant to T.C.A. § 4-5-226(i)(1).

- (A) A brief summary of the rule and a description of all relevant changes in previous regulations effectuated by such rule;

**Biosolids** are solid organic matter recovered from a sewage treatment plant and used especially as fertilizer. Essentially, biosolids are sewage sludge that has been treated via digestion, pasteurization and disinfection to a degree that they can be beneficially used as a fertilizer product.

Biosolids are currently regulated under 40 CFR Part 503. However, the State of Tennessee has no authority to enforce 40 CFR Part 503. EPA-Region 4 is the permitting authority per Part 503, but has had a very small presence in Tennessee since the promulgation of 40 CFR Part 503 in 1993. Furthermore, with EPA's national divestment in biosolids' enforcement, it is highly unlikely that there will be a future EPA presence in Tennessee relative to biosolids.

For all practical purposes the requirements of the proposed Tennessee rules are virtually the same as those stipulated in 40 CFR Part 503 for the land application of Class B biosolids.

In order to land apply Class B biosolids under 40 CFR Part 503, a level of pathogen reduction and vector attraction reduction option must be achieved and the concentrations of certain metals (pollutants or contaminants) must not exceed safe levels. With regard to pathogen reduction, vector attraction reduction and metal concentrations, the requirements of these proposed rules for the land application of Class B biosolids are the same as the requirements in 40 CFR Part 503.

The monitoring frequency, the recording keeping and reporting requirements are also the same. The only "differences" are that these proposed rules provide specifics for the agronomic rate calculation and add a few more setbacks to ensure protection of the waters of the State of Tennessee.

There are no fees associated with the biosolids rules and general permit for the land application of Class B biosolids.

Biosolids rules and general permit for the land application of Class B biosolids are needed for the following reasons:

1. Regulates a product/activity that has **the potential to negatively impact the quality of life of citizens of the State of Tennessee.**
2. Regulates a product/activity that has **the potential to negatively impact waters of the State of Tennessee.**

- (B) A citation to and brief description of any federal law or regulation or any state law or regulation mandating promulgation of such rule or establishing guidelines relevant thereto;

These rules are virtually the same as those stipulated in 40 CFR Part 503 for the land application of Class B biosolids and are being promulgated under the authority of T.C.A. §§ 69-3-101 et seq.

- (C) Identification of persons, organizations, corporations or governmental entities most directly affected by this rule, and whether those persons, organizations, corporations or governmental entities urge adoption or rejection of this rule;

These rules have the potential to directly affect all municipal utilities in the State of Tennessee that land applies biosolids that are not Exceptional Quality (EO) Biosolids. EO Biosolids are exempt from coverage under the proposed rules. Five municipal utilities made comments on the proposed rule, and three of these municipal utilities were opposed to the adoption of these rules.

- (D) Identification of any opinions of the attorney general and reporter or any judicial ruling that directly relates to the rule;

The Department is not aware of any.

- (E) An estimate of the probable increase or decrease in state and local government revenues and expenditures, if any, resulting from the promulgation of this rule, and assumptions and reasoning upon which the estimate is based. An agency shall not state that the fiscal impact is minimal if the fiscal impact is more than two percent (2%) of the agency's annual budget or five hundred thousand dollars (\$500,000), whichever is less;

The state biosolids rules will not increase costs for either the municipal utilities in Tennessee or the State of Tennessee compared to what is currently required by the self-implementing aspects of 40 CFR Part 503 and state guidelines.

- (F) Identification of the appropriate agency representative or representatives, possessing substantial knowledge and understanding of the rule;

Robert O'Dette  
6<sup>th</sup> Floor, L & C Annex  
401 Church Street  
Nashville, Tennessee 37243-1534  
(615) 253-5319

- (G) Identification of the appropriate agency representative or representatives who will explain the rule at a scheduled meeting of the committees;

Alan M. Leiserson  
Legal Services Director  
Office of General Counsel

- (H) Office address, telephone number, and email address of the agency representative or representatives who will explain the rule at a scheduled meeting of the committees; and

Office of General Counsel  
Tennessee Department of Environment and Conservation  
20<sup>th</sup> Floor L & C Tower  
Nashville, Tennessee 37243-1548  
(615) 532-0131  
[Alan.Leiserson@tn.gov](mailto:Alan.Leiserson@tn.gov)

- (I) Any additional information relevant to the rule proposed for continuation that the committee requests.

The Department is not aware of any.