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312 Rosa L. Parks, 8th Floor Snodgrass/TN Tower
Nashville, TN 37243
Phone: 615.741.2650
Fax: 615.741.5133
Email: register.information@tn.gov

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Sequence Number: 12-09-14
Notice ID(s): 2283
File Date: 12/8/14

Notice of Rulemaking Hearing

Hearings will be conducted in the manner prescribed by the Uniform Administrative Procedures Act, T.C.A. § 4-5-204. For questions and copies of the notice, contact the person listed below.

Agency/Board/Commission:	Environment and Conservation
Division:	Solid Waste Management
Contact Person:	Nick Lytle
	William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue, 14th Floor
Address:	Nashville, Tennessee 37243
Phone:	(615) 532-8004
Email:	nickolaus.lytle@tn.gov

Any individuals with disabilities who wish to participate in these proceedings (to review these filings) and may require aid to facilitate such participation should contact the following at least 10 days prior to the hearing:

ADA Contact:	ADA Coordinator
	William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue, 2nd Floor
Address:	Nashville, Tennessee 37243
	1-866-253-5827 (toll free) or (615) 532-0200
Phone:	Hearing impaired callers may use the TN Relay Service 1-800-848-0298.
Email:	Beverly.Evans@tn.gov

Hearing Location(s) (for additional locations, copy and paste table)

Address 1:	Nashville Room, 3 rd Floor		
Address 2:	William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue		
City:	Nashville, Tennessee		
Zip:	37243		
Hearing Date :	02/10/15		
Hearing Time:	9:00 a.m.	<input checked="" type="checkbox"/> CST/CDT	<input type="checkbox"/> EST/EDT

Videoconferencing Location(s): The public may videoconference the Nashville hearing at the following locations:

Address 1:	Jackson Environmental Field Office		
Address 2:	1625 Hollywood Drive		
City:	Jackson, Tennessee		
Zip:	38305		
Hearing Date :	02/10/15		
Hearing Time:	9:00 a.m.	<input checked="" type="checkbox"/> CST/CDT	<input type="checkbox"/> EST/EDT

Address 1:	Knoxville Environmental Field Office		
Address 2:	3711 Middlebrook Pike		
City:	Knoxville, Tennessee		

Zip:	37921		
Hearing Date :	02/10/15		
Hearing Time:	10.00 a.m.	CST/CDT	<input checked="" type="checkbox"/> EST/EDT

Additional Hearing Information:

The Division of Solid Waste Management is currently revising Rule 0400-11-01-.11 Requirements for Compost and Composting Facilities. This proposed rule revision is based on the Model Compost Rule Template as set forth by the U.S. Composting Council, 5400 Grosvenor Lane, Bethesda, MD 20814. The template is a compilation of composting information submitted by industry and regulatory leaders across the nation, including the U.S. EPA, who participated in the development of the model rule template. The revision is based on a three-tier facility classification with specific feedstocks that are used at the different tier levels. This revision provides better composting practices and composting opportunities for our State on a local level.

The Division has prepared a redline version of this notice of the Notice of Rulemaking Hearing to aid public review and comment on this notice. Copies of these initial draft rules (and its redline version) are available for review at the Tennessee Department of Environment and Conservation's (TDEC's) Environmental Field Offices located as follows:

Memphis Environmental Field Office
8383 Wolf Lake Drive
Bartlett, TN 38133
(901) 371-3000/ 1-888-891-8332

Cookeville Environmental Field Office
1221 South Willow Avenue
Cookeville, TN 38506
(931) 432-4015/ 1-888-891-8332

Jackson Environmental Field Office
1625 Hollywood Drive
Jackson, TN 38305
(731) 512-1300/ 1-888-891-8332

Chattanooga Environmental Field Office
1301 Riverfront Parkway
Suite 206
Chattanooga, TN 37402
(423) 634-5745/ 1-888-891-8332

Columbia Environmental Field Office
1421 Hampshire Pike
Columbia, TN 38401
(931) 380-3371/ 1-888-891-8332

Knoxville Environmental Field Office
3711 Middlebrook Pike
Knoxville, TN 37921-5602
(865)594-6035/ 1-888-891-8332

Nashville Environmental Field Office
711 R. S. Gass Blvd.
Nashville, TN 37243-1550
(615) 687-7000/1-888-891-8332

Johnson City Environmental Field Office
2305 Silverdale Road
Johnson City, TN 37601-2162
(423) 854-5400/1-888-891-8332

The redline version of this Notice of Rulemaking Hearing can be accessed for review using <http://tn.gov/environment/ppo/#swm>.

Copies are available for review at the Nashville Central Office (see address below).

Tennessee Department of Environment and Conservation
Division of Solid Waste Management
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 14th Floor
Nashville, Tennessee
(615) 532-0780

Office hours for the Division's offices are from 8:00 AM to 4:30 PM, Monday through Friday (excluding holidays). Appointments should be made for all file reviews.

Oral or written comments are invited at the hearing. Additionally, written comments may be submitted prior to or after the public hearing to: Division of Solid Waste Management; Tennessee Department of Environment and Conservation; Attention: Mr. Nick Lytle; William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 14th Floor, Nashville, Tennessee; telephone 615-532-8004 or FAX 615-532-0886. However, such written comments must be received by the Division by 4:30 PM CDT, February 13, 2015, in order to assure consideration. For

further information, please contact Mr. Nick Lytle at the above address or telephone number or by e-mail at nickolaus.lytle@tn.gov.

Revision Type (check all that apply):

- Amendment
 New
 Repeal

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

Chapter Number	Chapter Title
0400-11-01	Solid Waste Processing and Disposal
Rule Number	Rule Title
0400-11-01-.01	Solid Waste Disposal Control System: General
0400-11-01-.02	Permitting of Solid Waste Storage, Processing, and Disposal Facilities
0400-11-01-.11	Requirements for Compost and Composting Facilities

(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>)

Amendments

Chapter 0400-11-01
Solid Waste Processing and Disposal

Paragraph (2) of Rule 0400-11-01-.01 Solid Waste Disposal Control System: General is amended by deleting the definitions for "Board," "Compost disinfection," "Compostable material," "Foreign matter," "Manure," "Mesophilic stage," "Normal farming operations," "Stabilized" and "Thermophilic stage."

Authority: T.C.A. §§ 68-211-101 et seq., 68-211-701 et seq., 68-211-801 et seq. and 4-5-201 et seq.

Paragraph (2) of Rule 0400-11-01-.01 Solid Waste Disposal Control System: General is amended by adding the following definitions in alphabetical order:

"Aerated static pile composting" means a process in which decomposing organic material is placed in piles over an air supply system that can be used to supply oxygen and control temperature for the purpose of producing compost. Piles must be insulated to assure that all parts of the decomposing material reach and maintain temperatures at or above 55°C for a minimum of 3 days.

"Agricultural residuals" means materials generated by the customary and generally accepted activities, practices, and procedures that farmers engage in during the production and preparation for market of poultry, livestock and associated farm products; from the production and harvesting of agricultural crops, which include agronomic, horticultural, and silvicultural crops; and materials resulting from aquacultural production. Includes manures not managed as part of a Confined Animal Feeding Operation (CAFO) permit.

"Biosolids" means solids derived from primary, secondary or advanced treatment of sanitary wastewater that have been treated through one or more controlled processes that significantly reduce pathogens and reduce volatile solids or chemically stabilize solids to the extent that they do not attract vectors.

"Board" means the Tennessee Underground Storage Tanks and Solid Waste Disposal Control Board established by T.C.A. § 68-211-111.

"Capacity" means the amount of material, in tons or cubic yards, a compost facility can hold at any one time. Includes feedstocks, actively composting and curing material, and final product storage.

“Certificate of completion” means a document issued by a certifying organization stating that the compost facility operations manager has met the requirements for the specified operations manager program.

“Compost material” means solid organic waste that may be decomposed under controlled conditions by micro-organisms under aerobic or anaerobic conditions which result in a stable humus-like material free of pathogenic organisms (e.g., food wastes, yard wastes, and low moisture content wastewater sludge).

“Composting pad” means the ground on which composting activities take place. May be subdivided by function, such as “mixing pad”, “composting pad”, “curing pad” or “storage pad”. An “all weather composting pad” is one of sufficient construction, firmness and grading so that composting equipment can manage the process during normal inclement weather, including expected rain, snow and freezing temperatures.

“Contact water” means water that has come in contact with raw feedstocks or active composting piles. It does not include water from curing piles, finished compost or product storage piles.

“Crop residues” means materials generated by the production, harvesting and processing of agricultural or horticultural plants. These residues include but are not limited to stalks, stems, leaves, seed pods, husks, bagasse, and roots.

“Curing” means a continuation of the composting process after the high heat stage during which stability and maturity continues to increase. For the purposes of these regulations, compost enters the curing stage after completing the process to further reduce pathogens and the requirements for vector attraction reduction.

“Food processing residuals” means organic materials generated as a by-product of the industrial food processing sector that are non-toxic, non-hazardous, and contain no sanitary wastewater. The term does not include fats, oil, grease and Dissolved Air Flotation (DAF) skimmings.

“Industrial by-product” means materials generated by manufacturing or industrial processes that are non-toxic, non-hazardous, contain no domestic wastewater, and pass the paint filter test.

“In-vessel composting” means a process in which decomposing organic material is enclosed in a drum, silo, bin, tunnel, or other container for the purpose of producing compost; and in which temperature, moisture and air-borne emissions are controlled, vectors are excluded and nuisance and odor generation minimized.

“Mixed solid waste” means a mixture of organic and inorganic discards and may contain household and other municipal solid wastes that are excluded from regulation as hazardous wastes.

“Source separated organics” means organic material that has been separated from non-compostable material at the point of generation, including but not limited to yard trimmings, food residuals, vegetative materials, woody materials, and compostable products.

“Stability” means the inverse measure of the potential for a material to rapidly decompose. Measured by indicators of microbial activity, such as carbon dioxide production, oxygen uptake, or selfheating.

“Throughput” means the amount of material, not to include bulking agents, in tons or cubic yards, a facility can process in a given amount of time.

“Windrow composting” means a process in which decomposing organic materials are placed in long piles for the purpose of producing compost. The piles are periodically turned or agitated to assure all parts of the decomposing material reach the desired stability.

“Woody material” means residuals and by-products of cutting trees, including but not limited to tree stumps, sawdust, pallets, and dimensional lumber that has not been treated chemically or with adhesives and coatings such as paint, glue, or any other visible contaminant.

“Yard trimmings” means leaves, grass clippings, brush, garden materials, tree trunks, tree stumps, holiday trees, and prunings from trees or shrubs. Can also include vegetative materials resulting from the

use of commercial products, including but not limited to discarded flowers, potted flowers, or grave blankets that do not include plastic, metal, polystyrene foam, or other non-biodegradable material.

Authority: T.C.A. §§ 68-211-101 et seq., 68-211-701 et seq., 68-211-801 et seq. and 4-5-201 et seq.

Subparagraph (a) of paragraph (2) of Rule 0400-11-01-.02 Permitting of Solid Waste Storage, Processing, and Disposal Facilities is amended by adding a new part 7 to read as follows:

7. A Tier One composting facility, if:
 - (i) The operator complies with the notification requirements of subparagraph (b) of this paragraph;
 - (ii) The operator attaches to his notification all attachments required in the Composting Facility Operation Plan by subpart (2)(a)2(vii) of Rule 0400-11-01-.11; and
 - (iii) The facility is designed and operated in compliance with Rule 0400-11-01-.11.

Authority: T.C.A. §§ 68-211-101 et seq., 68-211-701 et seq., 68-211-801 et seq. and 4-5-201 et seq.

Rule 0400-11-01-.11 Requirements for Compost and Composting Facilities is amended by deleting it in its entirety and substituting instead the following:

Rule 0400-11-01-.11 Requirements for Compost and Composting Facilities

(1) General

- (a) Purpose - The purpose of this rule is to establish procedures, documentation, and other requirements which must be met in order for a person to operate a composting facility in Tennessee.
- (b) Scope/Applicability
 1. The requirements of this rule apply as specified to operators of composting facilities in Tennessee. Except as specifically provided elsewhere in these rules, no facility may compost solid waste without a permit as provided in paragraph (3) of Rule 0400-11-01-.02. Composting facilities, subject to a full permit on the effective date of this rule, must submit a part I and part II permit application to describe how it will comply with this rule. The application must be filed within 180 days of the effective date of this rule and implemented upon approval. The Division will not charge an application fee, nor require public notice of the application for facilities which already have permit-by-rule for composting.
 2. Composting facilities that process bio-solids or sewage sludge as a feedstock shall also comply with all other applicable federal or state laws regarding sludge management.
 3. The following facilities or activities are not subject to the requirement to have a permit.
 - (i) Backyard composting and the resulting compost;
 - (ii) Animal and crop production operations that compost yard trimmings, agricultural residuals, mortalities, woody materials, and/or food scraps provided that the following conditions are met:
 - (i) The owner of the composting facility is the same as the owner of the animal or crop production operation where the yard trimmings, agricultural residuals, food scraps, and woody materials are generated;

- (II) The composting facility is located on property owned or leased by the animal or crop production operation;
 - (III) The composting facility is operated in such a manner that noise, dust, and odors do not constitute a nuisance or health hazard and does not cause or contribute to surface or ground water pollution;
 - (IV) All compost produced is utilized exclusively at an animal or crop production operation;
 - (iii) Any composting facility with a throughput of less than 400 cubic yards of Type 1 feedstock during any calendar year;
 - (iv) Any composting facility with a throughput of less than 50 cubic yards of Type 2 feedstock during any calendar year; and
 - (v) Any composting facility with a throughput of less than 100 cubic yards of Type 2 feedstock in any calendar year using an in-vessel composting method.
4. A Tier One composting facility may process Type 1 feedstocks. Type 1 feedstocks include source separated yard trimmings, clean wood, crop residues, and other materials determined to pose a low level of risk to human health and the environment, including from physical contaminants and human pathogens.
 5. A Tier Two composting facility may process Type 1 and/or Type 2 feedstocks. Type 2 feedstocks include agricultural residuals, source-separated organics, and food processing residuals and industrial by-products as approved by the Department. Type 2 feedstocks are materials that the Department determines to pose a low level of risk to human health and the environment but have a higher level of risk from physical contaminants and human pathogens (as compared to Type 1 feedstocks).
 6. A Tier Three composting facility may process Type 1, Type 2 and/or Type 3 feedstocks. Type 3 feedstocks include mixed solid waste, diapers, sewage sludge, bio-solids, and industrial by-products and food processing residuals not covered in Type 2. They also include other materials the Department determines to pose a low level of risk to human health and the environment and a higher level of risk from physical contaminants and human pathogens (as compared to Types 1 and 2 feedstocks).
 7. Tier One composting facilities may apply for a permit by rule pursuant to part (2)(a)7 of Rule 0400-11-01-.02.
- (2) Facility Standards - Unless specifically noted otherwise, the standards of this paragraph shall apply to all compost facilities subject to a permit as provided at paragraph (3) of Rule 0400-11-01-.02 and Tier One permit by rule facilities.

(a) General Facility Design and Operating Standards

1. All compost facilities shall meet the following design standards in order to operate in a manner that is protective of human health and the environment:
 - (i) The feedstock receiving, processing and storage areas must be clearly defined and the maximum throughput and capacity specified.
 - (ii) The composting facility shall have all-weather access roads. The facility shall be designed such that access to the composting facility shall be limited to authorized entrances, which shall be secured from public access when the facility is not in operation.
 - (iii) Contact Water Collection

- (I) The facility shall have a contact water collection system that is properly managed.
 - (II) Contact water shall be reused in the process or otherwise properly managed as per all applicable laws and rules.
 - (iv) Litter Control - Fencing and/or other control shall be provided to confine loose waste to the area designated for storage or processing; Accidental dispersal from the designated areas shall be recovered daily.
 - (v) Personnel Facilities - There shall be provided:
 - (I) A building or other shelter which is accessible to facility personnel which has adequate heating and light.
 - (II) Potable water for washing and drinking.
 - (III) Toilet facilities.
 - (vi) Operating Equipment - The facility shall have on-site operational and monitoring equipment capable of maintaining the waste processing as designed.
 - (vii) Endangered Species - Facilities shall be located, designed, constructed, operated, maintained, closed, and cared for during the post-closure care period in a manner that does not:
 - (I) Cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife; or
 - (II) Result in the destruction or adverse modification of the critical habitat of endangered or threatened species.
 - (viii) Location in Floodplains- Facilities shall not be located in a 100-year floodplain, unless the demonstration is made to the Commissioner as required at subparagraph (2)(n) of Rule 0400-11-01-.04.
 - (ix) Wetlands - The facility shall not be located in a wetland unless the demonstration is made to the Commissioner as required at subparagraph (2)(p) of Rule 0400-11-01-.04.
 - (x) Buffer Zone Standards for Siting New Facilities - All waste management areas shall be located so as to conform to the distance standards at subparagraph (3)(a) of Rule 0400-11-01-.04.
2. All compost facilities shall meet the following operational standards:
- (i) Contingency operations shall identify proper management of all waste in the event of equipment failure, facility disaster, or receipt of unauthorized material such as oil, hazardous waste, etc.
 - (ii) Fire Safety
 - (I) No open burning is allowed.
 - (II) The facility shall have, on-site and continuously available, properly maintained fire suppression equipment capable of controlling accidental fires. If available, local firefighting service shall be acquired.
 - (iii) Communication - The facility shall have available during operating hours equipment capable of summoning emergency assistance as needed.

- (iv) Dust Control - The operator must take dust control measures as necessary to prevent dust from creating a nuisance or safety hazard to adjacent landowners or to persons engaged in supervising, operating, and using the site. The use of any dust suppressants (other than water) must be approved in writing beforehand by the Department.
- (v) The owner/operator of a compost facility permitted pursuant to paragraph (3) of Rule 0400-11-01-.02 shall file with the Commissioner a performance bond or equivalent cash or securities, payable to the State of Tennessee. Such financial assurance is intended to ensure that adequate financial resources are available to the Commissioner to insure 30 days operation and proper closure of the facility. The types of financial assurance instruments that are acceptable are those which are specified in subparagraph (3)(d) of Rule 0400-11-01-.03. Such financial assurance shall meet the criteria set forth in T.C.A. § 68-211-116 and at subparagraph (3)(b) of Rule 0400-11-01-.03.
- (vi) Facility operations managers, person responsible for the day-to-day operation, must be able to document training in the basics of compost facility operations within the first year of supervising the facility. Training must consist of classroom and hands-on course work and conclude with a certificate of completion that must be kept on site at all times. Appropriate compost operations training must be approved by the Department.
- (vii) Facilities must follow a Composting Facility Operations Plan (CFOP) — reviewed and approved as part of the permit application — that describes operational procedures (methods and practices) to comply with the intent of regulations to protect human health and the environment and not create nuisances. This includes measures to control nuisance odors, vectors, fires, contact water and stormwater, provisions for the annual maintenance of the all-weather composting pads, as well as provisions for prompt equipment repair or replacement when needed. The CFOP must be internally reviewed annually to ensure it continues to reflect current procedures, equipment and feedstock(s). The CFOP must be updated when there is a change to procedures (including equipment) or the types of feedstocks processed, and reflect how the facility will continue to comply with the intent of the rules. The CFOP must be available to the permitting authority upon request.
- (viii) Facilities shall be maintained in a clean and sanitary condition, e.g., free of unsecured trash at end of each operating day.
- (ix) Operators of composting facilities shall comply with all local rules, regulations, and ordinances pertaining to their facilities.
- (x) Contact water generated shall be directed to a containment, recycling, and/or treatment system sized to handle at a minimum a 24-hr 25-yr storm event.
- (xi) Storage of finished compost on site is limited to 12 months of production, unless approved by the Department on a case-specific basis.
- (xii) No material may be stored in excess of the designated capacity.
- (xiii) Non-compostable waste shall be removed or stored in a waste container and/or containment area, and disposed or recycled at a permitted solid waste facility in a timeframe approved in the CFOP.
- (xiv) The composting area shall be maintained and repaired, as needed.
- (xv) Closure - The facility must meet closure requirements described herein. The facility is finally closed by removal of all solid wastes and solid waste residues for proper disposal. The operator must notify the Commissioner in writing of his completion of closure of the facility. Such notification must include a certification

by the operator that the facility has been closed by removal of all the solid waste and residues. Within 21 days of the receipt of such notice the Commissioner shall inspect the facility to verify that closure has been completed. Within 10 days of such verification, the Commissioner shall approve the closure in writing to the operator. Closure shall not be considered final and complete until such approval has been made.

- (xvi) The facility shall have a sign at the entrance of the facility that lists the following: name of facility; operating permit number; hours of operation; and emergency contact information.
- (xvii) The facility must manage and process feedstocks in a timeframe that minimizes odors, contact water, release of feedstock liquids, fire and scavenging by vectors.

(b) Tier One Facility Design and Operating Standards

1. Tier One composting facilities may process Type 1 feedstocks only.
2. Tier One facilities shall meet the following design standards in order to operate in a manner that is protective of human health and the environment:
 - (i) The composting area should have run on and run off control and slope of 1 to 6 percent as determined by site conditions to direct contact water to the appropriate collection, storage and treatment system.
 - (ii) Tier One composting facilities shall include an all-weather composting pad, except for those facilities operating on a seasonal basis only (e.g., fall leaves and spring yard cleanouts). The all-weather pad must meet the following criteria:
 - (I) The pad surface shall be five feet or more from the top of the seasonal high water table of the uppermost aquifer or the top of the formation of a confined aquifer;
 - (II) Soils within the first 5 feet shall exhibit hydraulic conductivity of 1.0×10^{-6} cm/s. If soil depth to seasonal high water table is ten feet or greater, a geologic buffer consisting of 10 feet of clay with a maximum hydraulic permeability of 1.0×10^{-5} may be used;
 - (III) If less than 5-feet from the top of the seasonal high water table an improved low permeability surface is required for tipping, mixing and active composting areas. The improved low permeability surface shall consist of concrete, asphalt or other approved material capable of withstanding heavy equipment and preventing contamination of the uppermost aquifer; and
 - (IV) All weather pad shall be of sufficient slope to direct contact water to the appropriate collection, storage and treatment system. The pad shall also be constructed in such a manner as to prevent run-on of storm water to the extent practicable.
3. Tier One facilities shall meet the following operational standards:
 - (i) Compost processing time and temperatures shall be sufficient to kill weed seeds, reduce pathogens and vector attraction, and produce compost that meets the stability necessary for the intended use. Pathogen and vector attraction reduction compliance achieved as follows:
 - (I) Windrow composting: the compost material must be maintained at a minimum average temperature of 55°C or higher for 15 days or longer. During the period when the compost is maintained at 55°C or higher, there shall be a minimum of five turnings of the windrow with a minimum

of 3 days between turnings. The 15 or more days at or above 55°C do not have to be continuous; and

- (II) Aerated static pile or in-vessel composting process: Material maintained at a minimum average temperature of 55°C or higher for three continuous days, followed by at least 14 days with a minimum of 45°C.

(c) Tier Two Facility Design and Operating Standards

1. Tier Two composting facilities shall process Types 1 and/or 2 feedstocks only.
2. Tier Two facilities shall meet the following design standards in order to operate in a manner that is protective of human health and the environment:
 - (i) Owner or operator must submit an engineering design report for approval with facility application.
 - (ii) Tipping, mixing, active composting, curing, screening and finished compost storage areas must be on an all-weather pad as described at (b)2(ii) of this paragraph.
 - (iii) The maximum composting process windrow or pile size and minimum composting process windrow or pile spacing shall match the capability and requirements of the equipment used at the facility. As pile height increases, windrows or piles should be monitored to minimize compaction, a potential cause of odor.
 - (iv) A plan and procedure for monitoring the temperature and moisture during composting shall be provided, and should demonstrate that PFRP (Process to Further Reduce Pathogens, USEPA 40 CFR Part 503) is met. The temperature and moisture ranges for the composting cycle shall be specified. The plan shall include contingencies for not meeting the specified ranges for the composting process.
3. Tier Two facilities shall meet the following operational standards:
 - (i) Feedstocks with free liquid shall be mixed with drier feedstocks, bulking material or compost so that the liquid is promptly adsorbed and not allowed to flow as free liquid from the compost piles or windrows. Free liquid that is not adsorbed shall be managed as contact water and directed to a containment or treatment system.
 - (ii) By the end of each operating day, all incoming feedstocks must be processed into the active composting pile, transferred to leak-proof containment or mixed with bulking material and covered in a manner that minimizes nuisance odors and scavenging by vectors.
 - (iii) Compost processing time and temperatures shall meet PFRP and vector attraction reduction requirements, and produce compost that meets the stability necessary for the intended use. Pathogen and vector attraction reduction compliance is achieved as follows:
 - (I) Windrow composting: the compost material must be maintained at a minimum average temperature of 55°C or higher for 15 days or longer. During the period when the compost is maintained at 55°C or higher, there shall be a minimum of five turnings of the windrow with a minimum of 3 days between turnings. The 15 or more days at or above 55°C do not have to be continuous; and
 - (II) Aerated static pile or in-vessel composting process: Material maintained at a minimum average temperature of 55°C or higher for three continuous days, followed by at least 14 days with a minimum of 45°C.

(d) Tier Three Facility Design and Operating Standards

1. Tier Three composting facilities may process Types 1, 2 and/or 3 feedstocks.
2. Tier Three composting facilities shall comply with design standards for Tier 2 composting facilities and the additional design standards listed below:
 - (i) The working surfaces for all receiving, mixing, active composting and storage areas must be designed, constructed, and maintained to prevent conditions of contamination, pollution, and nuisance. All working surfaces must have a hydraulic conductivity of 1×10^{-5} cm/s or less, and meet one the following construction and material specifications:
 - (I) Asphalt concrete or Portland cement concrete designed to minimize the potential for cracking and to allow equipment to operate without damage;
 - (II) Compacted soil, with a minimum thickness of one foot and protected from desiccation and installed in a manner such that the integrity will not be impaired by the operation of heavy equipment used at the composting and storage area; or
 - (III) An equivalent engineered alternative.
3. Tier Three composting facilities shall meet the operational standards for Tier Two composting facilities and the additional operational standard listed below:
 - (i) Facilities that compost bio-solids or sewage sludge shall comply with all applicable federal regulations regarding sludge management at 40 CFR 501; 40 CFR 503; and 40 CFR 503, Subpart B.

(3) Testing – Tier 2 and 3 facilities shall meet the following test standards and requirements:

- (a) Samples and measurements taken for the purpose of product testing shall be representative of the composting activity and shall be conducted in a manner consistent with Test Methods for Evaluation of Compost and Composting (TMECC) or other applicable standards pre-approved by the relevant agency.
- (b) The minimum number of samples that shall be collected and analyzed is shown below. Samples to be analyzed shall be composted prior to the analysis.

Compost Quantity ¹	Frequency
1 – 2500 tons ²	1 per quarter (or less for seasonal operation)
2501 – 6200 tons	1 per quarter
6201 – 17500 tons	1 per 2 months
17501 tons and above	1 per month

¹ Either the amount of finished compost applied to the land or prepared for sale or give away for application to the land (on as “as is” (wet weight) basis).

² For facilities without scales use 800 lb/yd³ conversion factor.

If test results show the finished product is stable and in compliance with both metals and pathogens standards for a two year period the facility may request a reduction in the frequency of testing. Compost produced from non-bio-solids feedstock may test for pathogens and trace metals at half the frequency, but overall testing for all other characteristics must be as defined in the table above.

- (c) All compost shall be tested for stability using one of the methods listed in TMECC 5.08, Respirometry. The stability results must be recorded.

- (d) All compost shall be tested for the presence of pathogens using the methods in TMECC 7.00, Pathogens. Before the compost may be sold, given away or applied to the land, either:
1. The density of fecal coliform in the finished compost shall be less than 1,000 Most Probable Number (MPN) per gram of total solids (dry weight basis); or
 2. The density of *Salmonella* sp. bacteria in the finished compost shall be less than three MPN per four grams of total solids (dry weight basis).
- (e) All composts shall be analyzed for metals listed in 40 CFR, Section 503.13(b)(3), as amended using methods described in TMECC 4.00 Chemical Properties. The concentration of metals in compost to be sold, given away or applied to the land shall not exceed the pollutant concentration (milligrams per kilogram) limits for Exceptional Quality compost as defined in the following table contained in 40 CFR, Section 503.13, Table 3.

METAL CONSTITUENT	TOTAL METAL CONCENTRATION (PPM)
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2800

- (4) Records - Facility owner or operators shall record and maintain at the facility for three years the following information regarding their activities for each month of operation of the facility. Records shall be available for inspection by Department personnel during normal business hours and shall be sent to the Department upon request to include:
- (a) Analytical results on composting testing;
 - (b) The type and quantity of feedstock and the source of feedstock received;
 - (c) The quantity of compost produced; and
 - (d) The quantity of compost removed for use or for disposal, and the market or permitted disposal facility. The operator must identify the market for compost removed for use. The operator must identify the permitted disposal facility for compost removed for disposal.
- (5) Design and Construction Plans
- (a) Master Plan - A master plan shall be provided that is drawn at a scale of not less than 1" = 400' with not more than 20 foot contour interval and which clearly depicts:
 1. The boundary of the proposed facility;
 2. The existing drainage pattern of all site runoff;
 3. Runoff monitoring stations;
 4. Primary access roads;
 5. Wells within one quarter mile of the site boundary;
 6. The location of all 100-year floodplain boundaries; and

7. All residences within one quarter mile of the site boundary (If in an urban area residential properties may be delineated).
- (b) Design Plans - Design plans shall be provided that are drawn at a suitable scale of not less than 1" = 50 feet and with contour intervals of not greater than five feet, which clearly depicts:
1. All structures;
 2. Proposed waste processing areas;
 3. Proposed waste storage areas;
 4. All drainage appurtenances that control run-on/run-off and the direction of flow;
 5. The location of all existing and proposed utilities and roads (defining surface material); and
 6. The location of all contact water collection/treatment structures, piping, storage appurtenances, and any other associated unit.
- (c) Narrative Description of the Facility and Operation - A narrative description of the facility and operation shall be provided that defines all procedures and activities pertinent to the design and operation of the facility. This narrative shall include, but not necessarily be limited to:
1. A description of how the facility will achieve the compliance of all standards defined in paragraphs (2), (3), (4), and (5) of this rule;
 2. A description of the waste handling and processing equipment to be used;
 3. A description of the management of run-on/runoff with design calculations of all structures designed to meet the 24hr – 25 yr storm event;
 4. A description of the management of the contact water system and the disposition of the contact water;
 5. A description of the odor control measures; and
 6. A description of the procedures for the final closure of the facility.
- (6) Annual Report
- Owners and operators of facilities producing compost shall submit to the Department an annual report by March 1 of each year. The report and shall include at a minimum:
- (a) The facility name, address and permit number;
 - (b) The reporting year with all quantities expressed in tons (sludge expressed in dry weight);
 - (c) The total quantity and type of feedstock received at the facility during the year covered by the report;
 - (d) The total quantity of compost produced during the year covered by the report; and
 - (e) The total quantity of compost removed for use or for disposal, and the market(s) or permitted disposal facility(s). The operator must identify the market for compost removed for use. The operator must identify the permitted disposal facility for compost removed for disposal.

Authority: T.C.A. §§ 68-211-101 et seq., 68-211-701 et seq. and 4-5-201 et seq.

I certify that the information included in this filing is an accurate and complete representation of the intent and scope of rulemaking proposed by the agency.

Date: December 8, 2014

Signature: *[Handwritten Signature]*

Name of Officer: Glen Pugh

Title of Officer: Solid Waste Program Manager



Subscribed and sworn to before me on: December 8, 2014

Notary Public Signature: *Mary Evans*

My commission expires on: November 6, 2017

Department of State Use Only

Filed with the Department of State on: 12/8/14

Tre Hargett
Tre Hargett
Secretary of State

2014 DEC -8 PM 12:20
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