



Solid Waste Composting Rule Re-Adoption Meeting – 11/1/17

Location: Green Square, Raleigh, NC

Participants:

- Shawn McKee, NC DEQ DWM
- Donna Wilson, NC DEQ DWM
- Perry Sugg, NC DEQ DWM
- Steve Cockman, McGill Compost
- John Ennis, City of Raleigh
- Tim Gainer, City of Raleigh
- Eric Wallace, Wallace Farms
- Jim Lanier, Earth Farms
- Joe Hack, Mecklenburg County
- Mike Wagner, City of Goldsboro
- Albert Rubin

Objective: To discuss the re-adoption of the .1400 compost rules. Additionally, these meetings are about getting feedback and ideas for changes to the rules from the regulated community. The rule changes for composting rules will be based on two parts; first, to better clarify the rules; and second, to address rules within the composting program that should be modified.

Composting rules (.1400): The Solid Waste Compost program is covered in the following North Carolina General Statutes; 130A-294; 130A-309.03; 130A-309.11; 130A-309.29. The process and management of Solid Waste compost is referenced from the Code of Federal Regulations (CFR) that include sections of 40 CFR 503. Composting solid waste material must be managed in a way that does not cause harm to public health or the environment.

Link to where to find information on the compost rule readoption process:

<https://deq.nc.gov/about/divisions/waste-management/solid-waste-section/rules-review>

Small and Large facilities - Proposed Revisions .1402(f)(6) and (7)

The Solid Waste Section presented preliminary rule revisions (attached) concerning area & volume criteria. Area: clarify two-acre area count does not include buffer. Volume: revise volume criteria from “xx volume per quarter” to “xx volume onsite any one time”.

Discussions around what material would be counted toward the volume: material received, active composting/processing, and curing material. Finished product not counted. Some discussion on need to define curing versus finished product.

- Definition of “curing”? Already included in .0101. Should it be amended?

Odor Minimization Plan & Odor Corrective Action Plan – Proposed new in .1405 and .1406

The Solid Waste Section presented preliminary rule language (attached) requiring all Type 2, 3, 4 facilities to have a site-specific Odor Minimization Plan.

The proposed Odor Corrective Action Plan would be required if implementation of the Odor Minimization Plan protocols is determined insufficient, and persistent and documented odor problems continue.

Input and questions from meeting participants included:

- General agreement among group for the need for and support of odor management plans and corrective action protocols.
- Recommendation to include only what's essential to a workable plan
- Would identifying potential receptors create more odor issues (i.e. identifying neighbors might make them more sensitive to thinking that they smell odors from a facility)?
- Concern about whether an odor management plan would trigger the need for a public hearing.
- When a plan is established, who would be identifying the potential "odors"?
- How will the term "minimize" be defined?
- What happens to a facility if they run out of odor minimization options?

Training – Proposed new in .1406

The Solid Waste Section presented preliminary rule language (attached) requiring compost facility training requirements for Large Type 2, Large Type 3, and all Type 4 facilities.

Input and questions from meeting participants:

- General agreement and support among meeting participants for some type of training requirements for operators.
- Would training language be included in new permits? Possibly would increase employees' awareness of training requirement.
- Making training requirements similar to those for transfer stations would be a good idea.
- Coordinating training with training requirements from the NCDEQ Division of Water Resources would be a good idea. Would it be possible to "get credit" for any of the training that they require?
- Training for operators/managers helps validate the industry
- Large Type 1 facilities should also be required to have trained staff, as well as Large Type 2, All Type 3, and all Type 4 facilities.
- Should there be a defined time period to get new staff trained if the trained staff person leaves the facility?
- A phase-in period of longer than 24 months is requested. Thirty-six months is recommended.
- DEQ would approve the contact hours; both class hours and field hours necessary for a successful class.



Open Discussion Topics/Comments

- Pile size requirements? Should pile sizes be set in rule and should it be for staging of woody materials only? Permits may include a 30' x 50' pile size unless otherwise approved.
- Discussion regarding using drywall or WTP “filtercake” in the composting recipe. Is this an amendment or a feedstock?

Topics for Next Meeting

- Prioritized topics: Present revised working draft of rule changes on training requirements, yard waste notification sites, and odor management/corrective action.
- Definition of “curing”? Already included in .0101. Should it be amended?

NEXT MEETING: **Thursday November 30, 2017**
 1:30-3:30pm
 Green Square, Raleigh, NC

made based upon prior knowledge of the waste. Test methods shall be in accord with Appendices A and B to Table 3.

- ~~(6) Small facilities are those that receive less than 1000 cubic yards of material for composting per quarter, and occupy less than two acres of land, except that a Small Type 1 facility shall process or store less than 6,000 cubic yards of material per quarter.~~
- ~~(7) Large facilities are those that receive 1000 cubic yards or more of material for composting per quarter or occupy two acres or more of land, except that a Large Type 1 facility shall process or store more than 6,000 cubic yards of material per quarter.~~

- (6) Small facilities are those that occupy less than two acres of land, not including buffers, and that have onsite at any one time less than 1000 cubic yards of material as waste receipt storage (feedstock), active composting, and curing, except that a Small Type 1 facility shall have onsite at any one time less than 6000 cubic yards of material as waste receipt storage (feedstock), active composting, and curing.
- (7) Large facilities are those that occupy two acres or more of land, not including buffers, and have onsite at any one time 1000 cubic yards or more of material as waste receipt storage (feedstock), active composting, and curing, except that a Large Type 1 facility shall have onsite at any one time more than 6000 cubic yards of material as waste receipt storage (feedstock), active composting, and curing.

(g) A permit is not required for the following operations:

- (1) Backyard Composting.
- (2) Farming operations and silvicultural operations where the compost is produced from materials grown on the owner's land and re-used on the owner's land or in his associated farming operations and not offered to the public.
- (3) Small Type 1 Facilities meeting the following conditions:
 - (A) Notification of the Solid Waste Section prior to operation and on an annual basis as to:
 - (i) Facility location;
 - (ii) Name, address and phone number of owner and operator;
 - (iii) Type and amount of wastes received;
 - (iv) Composting process to be used; and
 - (v) Intended distribution of the finished product; and
 - (vi) For new facilities only, a letter from the unit of government having zoning jurisdiction over the site which states that the proposed use is allowed within the existing zoning, if any, and that any necessary zoning approval or permit has been obtained.
 - (B) Agreement to operate in accordance with operational requirements as set forth in Rule and the setbacks in Rule .1404(a)(1) - (9) of this Section.
 - (C) Facility operates in accordance with all other state or local laws, ordinances, rules, regulations or orders.
 - (D) Facility is not located over closed-out disposal site.
 - (E) Safety measures are taken to prevent fires and access to fire equipment or fire fighting services is provided.

History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29;
Eff. December 1, 1991;
Amended Eff. May 1, 1996.

15A NCAC 13B .1403 GENERAL PROHIBITIONS FOR SOLID WASTE COMPOST FACILITIES

- (a) Neither hazardous waste nor asbestos containing waste shall be accepted at a facility or processed into compost.
- (b) Household hazardous waste shall not be accepted by a facility, except in an area designated by facility site plans for storage, and shall not be processed into compost.
- (c) Any compost made from solid waste which cannot be used pursuant to the requirements of this Rule shall be reprocessed or disposed of pursuant to the requirements of 15A NCAC 13B.

- (J) A description of the air emission and control technologies;
 - (K) A description of the method to control surface water run-off; and the method to control, collect, treat, and dispose of leachate generated; and
 - (L) A description of any recycling or other material handling processes used at the facility.
- (8) **An Odor Minimization Plan**
- (A) Operators of Types 2, 3, and 4 facilities shall prepare and implement an odor minimization plan that details site specific conditions. The plan shall contain the following:
 1. Identification of all onsite potential odor sources.
 2. Description of onsite weather conditions that would affect odor migration, such as prevailing wind direction, topography, and seasonal variations
 3. Identifying potential offsite odor receptors, based on proximity to the odor sources and weather patterns
 4. Plan to monitor onsite odor and record odor data, as needed, for the odor sources with the potential to migrate offsite. Data would include date, time, site specific condition, and weather conditions.
 5. Description of odor complaint protocol, to include forms used, odor verification by operator both onsite and offsite, what the response will be, and who will be contacted.
 6. Description of odor control design and operating measures to be used onsite, to including, but not limited to:
 - a. Personnel training
 - b. Feedstock characteristics
 - c. Initial mixing of feedstocks to reach targeted C:N ratios, moisture levels
 - d. Maintenance of compost piles for moisture
 - e. Aeration methods, frequency, and protocol
 - f. Leachate and liquids management
 - g. Weather monitoring and protocol
 - h. Management of airborne emissions
 - i. Windrow covering
 - (B) Operators shall review and update the odor minimization plan annually. Copies of amended plans shall be submitted to the Department within 30 days.
 - (C) Facility operators must operate in accordance with their specific odor minimization plan. The Department may initiate enforcement action if it determines the plan is not being followed.
 - (D) If the Department determines that the Odor Minimization Plan is being followed, and offsite odors are not being minimized, the Department shall direct the facility operator to prepare and implement an Odor Corrective Action Plan, in accordance with Rule XXX.
- (8) A description of the label or other information source that meets the requirements of Rule .1407(k) of this Section.
- (9) Engineering plans and specifications for the facility, including manufacturer's performance data for all equipment selected.
- (c) The following information is required for reviewing an application for a permit to operate a Type 4 or Large Type 2 or 3 solid waste composting facility:
- (1) Contingency plans detailing corrective or remedial action to be taken in the event of equipment breakdown; air pollution; non-conforming waste delivered to the facility; spills, and undesirable conditions such as fires, particulates, noise, vectors, odors, and unusual traffic conditions;
 - (2) A detailed operation and maintenance manual. The manual must contain general design information, a discussion of compliance with operational requirements as outlined in Rule .1406 of this Section, detailed operational information and instruction, equipment maintenance, list of personnel, required personnel training, outline of reports to be submitted in compliance with this Section, and safety instructions;
 - (3) A quality assurance plan for the process and final product which lists the procedures used in inspecting incoming materials; monitoring, sampling and analyzing the compost process and final product, testing schedule, and record keeping requirements;
 - (4) A fact sheet and process flow diagram that summarizes actual equipment sizing, aeration capacity, detention times, storage capacity, and flow rates (wet weight and volumetric) for the system and equipment chosen;

higher than 45 degrees Celsius (113 degrees F) or, Types 2, 3 and 4 facilities shall meet the vector attraction reduction requirements in 40 CFR 503.33(b)(4) or (7). Requirements of 40 CFR 503.33(b)(4) and (7) are hereby incorporated by reference, including any subsequent amendments or additions.

- (12) The composting process shall qualify as a process to further reduce pathogens for all Type 3 and Type 4 facilities. The following are acceptable methods:
 - (A) The windrow composting method, in which the following requirements apply: Aerobic conditions shall be maintained during the compost process. A temperature of 131 degrees F (55 degrees Celsius) or greater shall be maintained in the windrow for at least 15 days. During the high temperature period, the windrow shall be turned at least five times.
 - (B) The static aerated pile composting method, in which the following requirements apply: Aerobic conditions shall be maintained during the compost process. The temperature of the compost pile shall be maintained at 131 degrees F (55 degrees Celsius) or greater for at least three days.
 - (C) The within-vessel composting method, in which the temperature in the compost piles shall be maintained at a minimal temperature of 131 degrees F (55 degrees Celsius) for three days.
- (13) Nitrogen bearing wastes shall be incorporated as necessary to minimize odor and the migration of nutrients.
- (14) **Odor Corrective Action Plan**
 - (A) The Department shall require the submittal of an Odor Corrective Action Plan if it determines that continuing offsite odors are not being minimized at a facility. The report shall be prepared by a professional engineer, and contain the following:
 - (i) A summary of the actions taken in the Odor Minimization Plan.
 - (ii) Identification of onsite odor sources, in order of severity.
 - (iii) A description of new odor reduction methods, based on research of odor reducing practices.
 - (iv) For each new method, an evaluation of the feasibility, in terms of effectiveness, cost, equipment needs.
 - (v) Recommendations for implementing new odor reducing practices, including a plan and schedule.
 - (B) The Odor Corrective Action Plan shall be submitted to the Department within 14 days of notification, unless otherwise specified by the Department.
 - (C) The Department may initiate enforcement action for the implementation of the Odor Corrective Action Plan.
- (14) **Miscellaneous Requirements:**
 - (A) The finished compost shall meet the classification and distribution requirements outlined in Rule .1407 of this Section.
 - (B) The quality of the final product shall determine the allowable uses as outlined in Rule .1407 of this Section.
 - (C) The final product shall be approved by the Solid Waste Section as outlined in Rule .1407 Subparagraph (6)(b) of this Section.
 - (i) Non-compostable solid waste and unacceptable compost shall be disposed in a solid waste management facility permitted to receive the particular type of waste under 15A NCAC 13B.
 - (ii) The amount of compost stored at the facility shall not exceed the designed storage capacity.

- (15) **Compost Facility Training Requirements:**
- (A) Facilities permitted as Large Type 2, Large Type 3, and all Type 4 shall have an operator, supervisor, or manager trained in accordance with the requirements in General Statute 130A-309.25.
- (i) Unless otherwise approved by the Department all currently permitted facilities are required to have at least one operator or employee classified as a supervisor or manager who has completed an approved training course within 24 months of the effective date of this regulation,
- (ii) Persons who have achieved and maintain compost manager certification by the U.S. Composting Council (USCC), the Solid Waste Association of North America (SWANA), or another Department approved compost manager certification program shall be considered as having met these training requirements for the permitted facility.
- (iii) Documentation of training shall be maintained at all permitted facilities and made available to the Department upon request unless otherwise approved by the Department.
- (B) Unless otherwise approved by the Department, operator training shall be required every five years.
- (C) The Department may approve Continuing Education Units to meet the requirements for training.

*History Note: Authority G.S. 130A-294; 130A-309.03; 130A-309.11; 130A-309.29
 Eff. December 1, 1991;
 RRC objection Eff. April 18, 1996 due to lack of statutory authority;
 Amended Eff. June 1, 1996.*

15A NCAC 13B .1407 CLASSIFICATION/DISTRIBUTION OF SOLID WASTE COMPOST PRODUCTS

(a) Compost shall not be applied to the land or sold or given away if the concentration of any metal exceeds the concentration in 40 CFR 502.13(b)(3) [See Table 1 below], unless the concentration of all metals are less than the values in 40 CFR 503.13(b)(1) and records are maintained to show compliance with the cumulative and annual metal levels in 40 CFR 503.13(b)(2) and (4).

Table 1

Metals	Concentration mg per kg
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	36
Zinc	2800

(b) Solid Waste shall be classified based on Table 2:

Table 2