

REGULATORY IMPACT AND FISCAL ANALYSIS FOR READOPTION AND AMENDMENTS TO 15A NCAC 13B .1400 SOLID WASTE COMPOST FACILITIES

April 27, 2019

General Information

Agency/Commission: Environmental Management Commission

Department: Department of Environmental Quality, Division of Waste Management, Solid Waste Section

Contact: Perry Sugg, P.G.
Hydrogeologist
Perry.Sugg@ncdenr.gov
(919) 707-8258

Jessica Montie
Environmental Program Consultant
Solid Waste Section Rule-Making Contact
Jessica.Montie@ncdenr.gov
(919) 707-8247

Title of Rule Set: Solid Waste Compost Facilities

Citation: 15A NCAC 13B .1401 - .1410

Authority: G.S. 130A-294; 130A-309.03; 130A 309.11; 130A-309.29; G.S. 150B-21.3A

Impact Summary: State government: Yes
Local government: Yes
Private Industry: Yes
Substantial Impact: No
Federal Requirement or Impact: No

Attachment A: Proposed Rule Amendments

Proposed Rule-Making Schedule:

<i>Date</i>	<i>Action</i>
3/13/2019	GWPMC Meeting: Approval of proposed text to go to EMC.
5/9/2019	EMC Meeting: Approval of rule text and impact analysis for public comment.
6/17/2019	Rules published in NC Register and Agency website Comment Period Begins.
7/2/2019	Earliest date for public hearing.
8/16/2019	Comment Period Ends.
9/12/2019	EMC Meeting: Approval of Hearing Officer's Report and Adoption of Rules.
10/17/2019	RRC meeting: Approval of rule text
11/1/2019	Earliest effective date for rules.

Necessity and Purpose of Rule Change

It is the responsibility of the Division of Waste Management (Division) Solid Waste Section (Section) to regulate how solid waste is managed within the state under the statutory authority of the Solid Waste Management Act, Article 9 of Chapter 130A of the General Statutes. State rules governing solid waste management are found in Title 15A, Subchapter 13B of the North Carolina Administrative Code. Rules adopted under the authority of 130A-309.11 which govern compost standards and applications are found in Subchapter 13B, Rules .1401 - .1409 *Solid Waste Compost Facilities*. These rules are proposed for re-adoption in accordance with G.S. 150B-21.3A and are required to be re-adopted by the deadline established by the Rules Review Commission of April 30, 2021. Proposed Rule .1410 is a new rule proposed for adoption.

Proposed amendments to the rules include the addition of exempt categories in Rule .1402, new procedures and requirements for odor corrective action and training in Rule .1406, updates to testing requirements in Rule .1407, addition of vermicomposting and anaerobic digestion requirements in Rule .1409, and the addition of Rule .1410 for closure requirements. The proposed amendments also include technical corrections, updates to information such as Department names, addresses, websites, and references, clarification of vague or unclear language, removal of redundant or unnecessary language,

The proposed amendments provide a range of benefits to the compost and wood waste management industry both in cost savings and in clarification of requirements while maintaining environmental protections. They eliminate out-of-date requirements, increase flexibility for low risk sites, and clarify requirements to provide equity and consistency to the industry. The proposed amendments also address ongoing odor management issues and the Division expects a reduction in offsite odor nuisances. Additional training requirements are expected to improve environmental and public health protections and reduce the occurrence of violations. Specific implementation costs and expected benefits are described in further detail below.

Fiscal Analysis

Types of Businesses or Facilities Potentially Affected by Rule Changes:

Rule changes would potentially affect compost and wood waste management facilities permitted or regulated by the current rules and include the types of facilities and operations listed below:

- 5 Composting Pilot / Demonstration Projects
- 231 Yard Waste Notification Sites/Small Type 1 facilities
- 15 Small Type 2, 3, or 4 Facilities
- 24 Large Type 1 Facilities
- 19 Large Type 2, 3 and 4 Facilities

The majority of these facilities are privately owned. Local government entities operate three Small Type 3 facilities, 12 Large Type 1 facilities, and one Large Type 3 facility.

Permit Requirements in Rule .1401

Proposed permit requirement amendments in Rule .1401 include an expanded permit period and revision to permit modifications, as well as providing definitions.

(a) Description and Rationale

A proposed amendment to Rule .1401(c) states that permits will be issued for a 10-year period. Currently compost permits must be renewed every 5 years. This change was made in response to requests by the industry during stakeholder meetings held in 2017. Stakeholders stated a longer permit period provides greater stability and assurances with respect to their approval to operate, which improves their financial planning and security with lending institutions. Currently there are 58 active permits with 5-year permit limits which would be converted to 10-year permits when the next permit is issued. The transition to a 10-year permit for all permitted facilities is expected to be completed within five years, due to current individual permit expiration dates.

Proposed amendments to Rule .1401(d) define major and minor permit modifications and the requirements for each. The proposed amendments expand the existing modification rule requirement for a permit modification application to also include as a major modification an expansion or relocation of the operations area, since this change could impact buffers and environmental siting requirements. The addition of a new feedstock would continue to be considered a modification, but could be considered a major or minor modification depending on whether the new feedstock causes a change in facility type or a substantial change in operations. The proposed rule also defines how minor modifications are generally addressed by the Division in practice, consistent with existing procedures handling minor modifications. The proposed amendment also provides for the option to re-issue a 10-year permit for facilities requiring major modification, as long as the permit modification application meets the requirements for a permit renewal application. This change was made in response to industry request during stakeholder meetings held in 2017.

Proposed amendments to Rule .1401(c) and (d) add definitions for 'operations area' and for 'material onsite'. These definitions were added due to a need to clearly define how size and volume are determined for the purposes of small and large facilities, and exempt facilities throughout the rules. The amendments put into rule what is generally being enforced in practice as a permitting requirement. Definitions ensure consistent and clear application of rules with respect to which rules apply to a specific type and size operation and with enforcement of rules.

(b) Costs/Benefits by Entity

1) Private Industry

The proposed amendments to Rule .1401 are expected to provide cost savings for the private industry primarily due to savings in the reduction in the number of potential permit renewal applications for each facility over the extended 10-year permit period from two applications to one application. Currently there are 42 permitted private facilities that could be impacted by the proposed amendment. The cost to prepare a permit renewal application varies according to facility type and the degree and complexity of changes/updates for the facility as reflected in the application. In most cases, the permit renewal application consists of minor updates to the original permit application made by

the owner or operator. Large Type 3 and 4 permit applications (including renewals) are required to be certified by a licensed professional engineer in accordance with Rule .1401(b) and owners of these facilities typically incur consulting fees for permit applications. The Division's estimate for permit renewal applications prepared and certified by a professional engineer (PE) is \$3,000 to \$4,000 per application, using an estimated billing rate of \$100/hour for a professional engineer and an estimated 30 to 40 hours to complete the application. Currently there are 16 permitted Large Type 3 or 4 facilities owned by private industries, each of which could see an average cost benefit of \$3,000 to \$4,000 per application, for a statewide benefit of \$51,000 to \$68,000 over the 10-year period.

Permit renewal applications for Large Type 1, all Type 2, and Small Type 3 facilities do not require a professional engineer and most renewals for the 26 active permits for private industry facilities are completed in-house by the owners with minimal changes and at minimal cost. However, if approximately 10 of these facilities hire outside consultants to complete the renewal applications, at an estimated cost of \$2,000 to \$3,000 per application (roughly 75% of the expected costs for a comparable PE-certified application renewal), the statewide benefit over a 10-year period could be \$20,000 - \$30,000.

The existing rules for permit modifications do not provide the option to reset the permit period even if the modification application contains all the requirements for a permit renewal application. The proposed amendment would give the facility the option for a reset of the 10-year permit period eliminating the need for both a permit modification application and a permit renewal application within the same 10-year period. Based on permit modification requests received by the Division in the past, it is anticipated that no more than one facility per year would use this option.

2) NC Citizens and Environment

The proposed amendments to Rule .1401 are not expected to impact the risks to NC citizens and the environment. Regulatory compliance of facilities will not change and is enforced by the Division through annual inspections and review of annual facility reports.

3) Local Government

Proposed amendments to Rule .1401 are expected to have a minor positive affect on expenditures for those local governments operating a permitted solid waste compost facility. Currently there are 12 permitted Type 1 facilities and 4 permitted Type 2 or 3 facilities owned or operated by local governments in NC. Most local governments use existing staff for permit applications. With the extension of the permit period to 10 years, some cost savings in staff time for a reduction in permit renewal applications over the life of the facility will be incurred by these local governments. Cost savings for local governments using outside consulting services would be expected to be similar to savings for private industry. If an estimated 4 local governments with active permits use outside consulting services for permit renewal applications, these local governments can expect savings of between \$2,000 and \$3,000 per application for a statewide benefit of between \$8,000 and \$12,000 over a 10-year period.

Other than the local governments with permitted facilities, proposed amendments are not expected to affect expenditures or revenues of any local government.

4) State Government

The proposed amendments to Rule .1401 are expected to provide savings to the state government in staff time necessary to process, review, and administer permit renewal applications. The Division estimates an average 18 hours of staff time (ranging from 16-24 hours depending on facility type) is required for permit renewal with an average of 12 renewal applications per year. The total permit renewals would be reduced by half by extending the permit renewal period to 10 years. Using a staff total compensation rate of \$45/hour, the Division estimates an annual cost savings of about \$4,860.00 for state government if the 10-year permit renewal period is adopted.

The proposed amendments are not expected to affect revenues for the state government as there are no fees collected for permit renewal applications.

General Provisions in Rule .1402 (Small and Large Facilities)

Proposed amendments to Rule .1402(e) include revising how small and large facilities are determined.

(a) Description and Rationale

Proposed amendments to Rule .1402(e)(6) and (7) revise and clarify how small and large facilities are defined based on size and/or volume using definitions in Rule .1401 for operations area and for material onsite, respectively. The size threshold value for small facilities is less than two acres, which is the same as existing rule. Existing rule language makes size and volume accountability confusing and ambiguous and poses challenges for enforcement or compliance determinations. The volume threshold between small and large facilities is 1,000 cubic yards (cy) for Types 2, 3, and 4 facilities and 6,000 cy for Type 1 facilities. While the existing threshold value for volume remains unchanged, the volume measurement criteria was revised to be volume onsite at any one time versus a volume of material received per quarter. The definitions for operations area and for material onsite provide a clear basis for how the area and the volume criteria are measured for defining the facility as either small or large. For area determination, this definition puts into rule what is generally being required and enforced by the Division in practice. Enforcement of the current volume criteria relies on self-reporting through the annual reports submitted by permitted facilities to the Division. The volume per quarter limitation is a control on production while the volume onsite only limits how much a site can manage at any time, which is a better measure of regulating a facility's capacity to safely manage material. The existing rule language for small and large facilities is intended to ensure small facilities do not overburden their capacity to safely manage their process streams. The proposed amendments maintain this intent with better defined boundaries and limits to reduce potential for compliance issues.

(b) Costs/Benefits by Entity

1) Private Industry

Proposed amendments to Rule .1402(e) are not expected to add any additional costs to the private industry. Small facilities could potentially see an increase in overall production by changing the volume limitation from 'no more than 6,000 cy (or 1,000 cy for Types 2, 3, or 4) per quarter' to 'no more than 6,000 cy (or 1,000 cy for Types 2, 3, or 4) onsite at any one time'. This change eliminates the processing/production maximum of 24,000 (or

4,000) cubic yards per year for small facilities, which could result in some increase in overall production. The benefits of this would be difficult to quantify since an estimation of how many, if any, facilities will or have the capacity to increase production would depend on each facility's site-specific operations. However, it is expected that any potential productivity increase for any such facility would likely be restricted to only a small increase due to the facility's two-acre size limitation.

2) NC Citizens and Environment

The proposed amendments to Rule .1402(e) are not expected to impact risks to NC citizens and the environment. Regulatory compliance of facilities will not change and is enforced by the Division through annual inspections and review of annual facility reports.

3) Local Government

Proposed amendments to Rule .1402(e) are not expected to affect expenditures or revenues of any local government.

4) State Government

Proposed amendments to Rule .1402(e) are not expected to affect expenditures or revenues of the state government. However, definitions and how area/volume criteria are determined are expected to reduce compliance issues due to better understanding and enforcement of the rules.

General Provisions in Rule .1402 (Exemptions)

Proposed amendments to Rule .1402(g)(2) include expanding permit exemptions.

(a) Description and Rationale

The proposed amendment to Rule .1402(g)(2) provides exemptions to permitting requirements for certain small facilities processing a defined list of feedstocks, volume limits, and size restrictions. Exempt sites would not be required to submit a permit application nor would exempt sites require approval to operate (either as permitted site or a notification site). This would expand the exemptions currently allowed only for primary/secondary schools per existing Rule .1409(d) and for summer camps/community gardens by policy. Operations must meet exemption criteria for waste type, size (less than one acre), and volume (less than 100 cubic yards onsite). Sites would be exempt from permitting and notification, but still would be subject to certain operational conditions consistent with a permitted site. Limiting exemptions based on relatively low-risk feedstocks, small volumes, and size minimizes risks to public health and the environment.

Providing for exemptions with safeguard conditions in rule is expected to make composting more accessible for smaller scale, low-volume operations, many of which are non-commercial in nature, and provides increased opportunities for direct onsite reduction to an entity's waste stream volume.

(b) Costs/Benefits by Entity

1) Private Industry

It is projected that most of the demonstration (pilot project) approvals currently regulated in existing Rule .1409 would be exempt with the proposed amendment. These pilot

projects are temporary 1-2 year approvals specifically for the purpose of evaluating feasibility of a project. The proposed exemption amendment provides for such a feasibility project without notification and approval by the Division for small demonstration projects. There are currently five (5) active demonstration projects with a projected 3 demonstration requests per year going forward. Additionally, a limited number of the smaller permitted Small Type 2 and 3 facilities could also potentially meet the exemption requirements proposed.

2) NC Citizens and Environment

Expanding exemptions could potentially add some level of risk to NC Citizens or the environment by reducing direct oversight of some compost operations. However, the small size and volume of material, as well as restrictions to allowable waste types of the exempt operations pose a low risk potential from non-compliance. Regulatory compliance requirements in the proposed rule for exempt facilities allow the Division to correct and enforce compliance issues as they become known.

3) Local Government

Proposed amendments to Rule .1402(g) are not expected to affect expenditures or revenues of any local government. Currently, there are 16 permitted compost facilities (either small or large) owned by a local government and none currently would meet the exemption size or volume limits.

4) State Government

The proposed amendments to Rule .1402(g) are expected to provide savings to the state government in staff time necessary to process, review, and administer permit and demonstration applications and conduct annual site inspections. However, given the small size and volumes proposed for exempted sites, less than 3 of the 15 currently permitted small facilities would likely qualify as exempt. If these do qualify as exempt, the Division estimates a savings of \$1,272.00/year in staff time if 3 currently permitted sites qualify as exempt (based on 16 hours for permit renewal once every 5 years at \$45/hour, and 8 hours/year/site for site inspections at \$35/hour total compensation). The Division estimates additional savings for current demonstration projects that would likely qualify as exempt. Based on an average of 3 demonstration projects/year, the Division estimates an additional savings of \$2,460/year in staff time (based on 12 hours/year/site for each demonstration approval review at \$45/hour, and 8 hours/year/site for site inspections at \$35/hour total compensation).

The proposed amendments for exemptions are not expected to affect revenues of the state government. The size and type of facilities included in the exemptions do not require any permit application or annual fee under the existing schedule of fees in the general statutes.

Application Requirements in Rule .1405

Proposed amendments to Rule .1405 include reorganization of the permit application requirements, including clarifications and updates to some text, and a proposed requirement for an odor control plan in Rule .1405(10).

(a) Description and Rationale

No new permit requirements are proposed, except for the odor control plan in Rule .1405(10). The proposed reorganization of Rule .1405 combines the existing permit application requirements for 3 different permit types into a single permit application requirement covering all facility types. Separate permit-to-construct (PTC) and permit-to-operate (PTO) applications for Large Types 2, 3, and 4 are no longer required. The Division determined there was no benefit in having separate permit applications by facility type because all applications are required to submit the same type of information with a few exceptions for Large 2, 3, 4 facilities. These exceptions are clearly addressed in the proposed amendments. Combining the PTC/PTO for Large 2, 3, 4 facilities into one permit issuance removes unnecessary administrative delay in issuance of the final PTO.

Proposed amendments to Rule .1405(10) require operators of Large Type 2, Large Type 3, and all Type 4 facilities to prepare an odor control plan to ensure odors are minimized at the site property boundary. Facility Types 2, 3, and 4 may accept certain feedstocks (such as septage or grease) with a higher potential for creating objectionable offsite odors than those from Type 1 facilities. Existing rule requires facilities submitting a permit application to include in the operations plan a description of how facility odors will be controlled and minimized. The proposed amendment provides clarity on the specific types of information required in the application for odor control, including site-specific design and operating odor control best management practices (BMPs) and odor complaint protocols. The proposed odor control plan requirements were added to address an issue that has generated growing public interest around some permitted facilities. In stakeholder meetings, industry acknowledged the need for clarity and better directives in regulation on odor control. In response the Division determined a greater emphasis on upfront, site-specific odor control planning at these facilities will lead to better management of odors, and a reduction in compliance violations and offsite odor control issues with citizens.

(b) Costs/Benefits by Entity

1) Private Industry

The proposed amendments to Rule .1405 provide benefits to the private industry by streamlining the permit application and permit issuance process, particularly for Large Type 2, 3, and 4 facilities. Some minimal cost savings can be expected in combining the PTC/PTO applications for new or expanded Large Type 2, 3, and 4 facilities. The total cost benefit is expected to be minimal since the Division typically receives only about one such application per year.

The proposed amendment to Rule .1405(10) would add a one-time cost to prepare a site-specific odor control plan for 18 existing permitted private Large Type 2, 3, or 4 facilities. Existing facilities would have to meet this requirement at the time of their next scheduled permit renewal. Plans for Large Type 3 and 4 facilities are required to be certified by a licensed professional engineer in accordance with Rule .1401(b) and owners of these facilities typically incur consulting fees for permit applications. Plans prepared by a professional engineer could range from \$2,400 to \$3,000 (using an estimated billing rate of \$100/hr for a professional engineer at an estimated 24-30 hours, plus administrative costs). Currently, there are 18 permitted Large Type 3 or 4 facilities in NC, each of which could incur a one-time cost of \$2,400 to \$3,000 during the 2-yr period after rule adoption.

A similar cost for plans for the current two Large Type 2 facilities can be expected as well, assuming the plan is prepared and sealed by a consulting professional engineer. Private industry may also experience a benefit from a reduction in odor complaints and enforcement issues if they are making clear plans for odor control in advance of operation.

2) NC Citizens and Environment

The proposed amendments to Rule .1405 are not expected to impact the risks to NC citizens and the environment. NC citizens, especially those within close proximity to a permitted facility, could expect benefits from the requirements focusing on greater emphasis on odor control measures.

3) Local Government

Proposed amendments to Rule .1405 are not expected to affect expenditures or revenues of the majority of local governments. Currently, only one Large Type 3 permitted facility owned by a local government would be subject to the requirement for an odor control plan and could incur a one-time cost of \$2,400 to \$3,000 during the 2-year period after rule adoption for a PE-prepared plan.

4) State Government

Proposed amendments to Rule .1405 are not expected to affect expenditures or revenues of the state government. State government staff could expect benefits from a reduction in complaint response and processing enforcement documents if there are clear plans for odor control in place.

Operational Requirements in Rule .1406 (Odor Corrective Action)

(a) Description and Rationale

The proposed amendment to Rule .1406(18) regarding odor corrective action requires submittal and implementation of an odor corrective action plan to address offsite odor problems not otherwise resolved through adherence to the approved odor control plan. The amendment includes specific requirements for the odor corrective action evaluation and response. The proposed odor corrective action rule is needed to provide a clear mode of action for enforcement of odor compliance by the Division, as well as provide clear means for facilities on expected rule requirements to address offsite odor control issues. The proposed amendment puts into rule general compliance enforcement practices and policy by the Division for addressing offsite odor control problems.

The proposed odor corrective action amendment was added to address an issue that has generated growing public interest around some permitted facilities. In stakeholder meetings, industry acknowledged the need for clarity and better directive in regulation on odor control and on how odor corrective action issues are addressed. Particularly, the proposed amendment provides a framework in rule for mitigation of any offsite odor issues in a timely and effective manner.

(b) Costs/Benefits by Entity

1) Private Industry

The proposed amendment for odor corrective action is not expected to have added cost impacts for permitted facilities since the requirements for odor correction action through compliance enforcement are consistent with current policy and practice. While the potential for entering into odor corrective action for a facility exists, particularly for Large Types 2, 3, and 4 facilities, this circumstance is not expected to occur often. Also, the proposed odor control plan in proposed Rule .1405 is expected to result in better odor management and response practices reducing the need for corrective action as required in this proposed amendment. Even so, the proposed requirements in rule now include specific and prescriptive courses of action for corrective action should this be necessary. The need for odor corrective action beyond a facility's effective implementation of their odor control plan is expected to be an infrequent occurrence – one facility every 5 years at most.

The costs to implement odor corrective action would be hard to calculate due to the wide range of possible site-specific conditions, problems, and corrective actions, but would be expected to be at least \$2,700 for development of a corrective action plan by an outside consultant (based on an average billing rate of \$90/hr at 30 hours).

2) NC Citizens and Environment

The proposed amendments to Rule .1406(18) are expected to benefit NC citizens and the environment by providing a more efficient and clear means in rule for addressing offsite odor violations and to reduce the occurrence of offsite odor nuisance issues.

3) Local Government

Proposed amendments to Rule .1406(18) are not expected to affect expenditures or revenues of any local government. Odor control corrective action would only be required in the event where offsite odors are found to be an ongoing problem. While it would be difficult to predict when and for which specific permitted facilities, this would occur, the Large Types 2, 3, and 4 facilities have the greatest potential for offsite odor issues due to the types of feedstock they could accept. Of these facilities, only one Large Type 3 is owned by a local government.

4) State Government

Proposed amendments to Rule .1406(18) are not expected to affect expenditures of state government, although some staff time can expect to be saved in any odor compliance issue due to clear requirements for enforcement. Combined with the odor control plan required in the proposed amendment to Rule .1405, odor corrective action is expected to be addressed more efficiently and timely further reducing staff time required for enforcement.

Operational Requirements in Rule .1406 (Training)

(a) Description and Rationale

The proposed amendment to Rule .1406(19) requires Large Type 1, all Type 2, all Type 3, and all Type 4 facilities to have regular training (every five years) in compost operations from courses approved by the Division. Trained operators are expected to result in

improved compost operations management and a reduction in frequently cited compliance problems such as fires, nuisance odors, excess leachate runoff, vectors, and inadequate temperature/moisture control. Additionally, facilities would be required to provide to facility staff annual review of operations plans and permit documents. The proposed amendments provide conditions for meeting the training requirement, as well as provisions for documenting training. The proposed training requirement amendment is consistent with training required for other permitted solid waste management facilities per GS 130A-309.25. A stakeholder survey conducted by the Division demonstrated support for required training. The proposed amendments give facilities up to two years after rule adoption and/or permit issuance to meet this requirement.

(b) Costs/Benefits by Entity

1) Private Industry

It is estimated that some of the larger commercial compost facilities already meet this requirement as part of their professional certification requirements. Even so, the proposed amendment would add recurring costs (every 5-years) to 42 existing permitted facilities (both private and public) and to a projected estimate of 1-2 new facilities/year going forward. Minimum training to meet proposed Division requirements for compost facilities are estimated to cost from \$400-\$600 for a one-time 2-day training course plus \$100-\$150.00 for training updates (short-courses) once every five years thereafter. Each facility is required to have at least one staff person (operator, supervisor, or manager) with this required training. Currently available courses (both classroom and online) that meet the proposed amendment requirements are offered by industry groups such as SWANA, NC Compost Council, and US Compost Council, and also by a few private firms. It is anticipated that facility staff's requirement for annual review of operations plans and the permit would be performed in-house as part of normal work duties at no additional cost to the facility.

Individual facilities could potential benefit from training requirements which could result in better operations management and/or reduction of regulatory compliance problems.

2) NC Citizens and Environment

General risks to NC citizens and the environment would expect to be lower by having compost facilities operated by personnel regularly trained in operations and management of such facilities. Risks to NC citizens and the environment may be mitigated by better-trained staff include pathogen reduction, vector control, fires, offensive odors, and leachate runoff.

Training course providers would be expected to benefit with an increased customer base requiring their training services. Based on current permitted facilities required to meet the proposed training, course providers could increase revenues by as much as an estimated \$20,000 to \$26,000 over the initial 2 years (based on course fees listed above) after rule adoption and an estimated \$1,000-\$1,500 annually (for training update courses) starting five years after rule adoption.

3) Local Government

Proposed amendments to Rule .1406(19) would increase costs for local governments with permitted facilities requiring training. Currently, sixteen (16) permitted facilities owned by different local governments in NC would have to require training should the rule be adopted. Minimum training to meet proposed Division requirements for compost facilities are estimated to cost from \$400-\$600 for a one-time 2-day training course plus \$100-\$150 for training updates (short-courses) once every five years thereafter. Each facility is required to have at least one staff person (operator, supervisor, or manager) with this required training. Currently available courses (both classroom and online) that meet the proposed amendment requirements are offered by industry groups such as SWANA, NC Compost Council, and US Compost Council, and also by a few private firms. It is anticipated that facility staff's requirement for annual review of operations plans and the permit would be performed in-house as part of normal work duties at no additional cost to the facility.

Revenues for local governments are not expected to be affected by the proposed amendment.

4) State Government

Proposed amendments to Rule .1406(19) are not expected to affect expenditures or revenues of the state government. State government staff may see a benefit from reduced time spent on complaint response and enforcement due to better-trained facility staff.

Testing Requirements in Rule .1407

(a) Description and Rationale

Proposed amendments to Rule .1407 include corrections and technical updates for testing and classification, as well as removal of unnecessary testing requirements. Arsenic and selenium testing was added for Type 3 facilities to be consistent with updated US Compost Council testing recommendations. These 2 metals can be found in Type 3 facility feedstock. Chromium testing was removed for Type 4 facilities since it is no longer listed a target test metal per the updated 40 CFR 503.13(b)(3) reference list. Removal of nitrogen testing is a correction to the applicability of the testing requirements involving sludge per 40 CFR 503. This rule requirement applies only to direct land application of sludge and not for application of compost.

Other amendments involve a reorganization by moving testing requirements from existing Rule .1408 to proposed Rule .1407 for better rule organization.

(b) Costs/Benefits by Entity

1) Private Industry

Additional costs to the private industry include added costs for arsenic and selenium for Type 3 facilities. There are currently 26 Type 3 facilities, of which four are owned by local government. The testing cost is estimated at \$10/metal/sample with an expected sample frequency from 2-4/year, the total added costs for each facility is estimated at \$40-\$80/year.

Benefits for the private industry include minor cost savings from reduced testing requirements for Type 2, 3, and 4 facilities. The testing requirements removed are either no longer applicable to these facilities or have been updated to be consistent with reference testing regulations. The proposed amendments remove foreign matter testing for all Type 3 and 4 facilities and removes chromium testing for Type 4 facilities and total nitrogen testing for any Type 3 or 4 facility accepting sludge. Currently there are 30 active permitted Type 2, 3, and 4 facilities. Only two are Type 4.

Twenty-eight current Type 3 and 4 facilities would no longer be required to test for foreign matter for a potential annual savings of \$10-15/year for each facility. Two Large Type 4 facilities would no longer be required to test for chromium for an annual estimated savings of about \$20-\$40/year each (based on 2-4 samples/year and testing cost of \$10/sample).

2) NC Citizens and Environment

The proposed amendments to Rule .1407 are not expected to significantly impact the risks to NC citizens and the environment. Adding the testing requirement for arsenic and selenium at Type 3 facilities adds increased protection from potential exposure for NC citizens using compost from Type 3 facilities.

3) Local Government

Proposed amendments to Rule .1407 are expected to minimally affect expenditures for permitted facilities owned by local governments. Currently, there are four such facilities. Added costs to test for arsenic and selenium for Type 3 facilities would increase annual testing expenditure at four currently permitted facilities owned by local governments. The testing cost is estimated at \$10/metal/sample with an expected sample frequency of 2-4/year, the total added costs for each facility is estimated at \$40-\$80/year. These facilities would also realize cost saving on removal of foreign matter testing requirement, estimated at \$10/sample with one sample per year tested. The overall annual cost increase for testing would be minimal for each facility (estimate of \$30-\$70/year for each facility).

Revenues for local governments are not expected to be affected by the proposed amendment.

4) State Government

The proposed amendments to Rule .1407 are not expected to impact costs or benefits to the state government.

Composting Pilot/Demonstration Projects in Rule .1409

Paragraph (b) of Rule .1409 is proposed to be removed.

(a) Description and Rationale

Existing Rule .1409(b) provides individuals a means to request approval of a solid waste composting pilot or demonstration project to evaluate the project's feasibility without having to apply for a permit. Information is provided to the Division by the requester and a letter of approval is issued by the Division with conditions. Currently demonstration projects are approved for one year with an option to request a second year to evaluate

feasibility. After which, the operator either applies for a full permit or discontinues the demonstration project. Paragraph (b) of Rule .1409 is proposed by the Division to be removed since the exemptions proposed in Rule .1402 would provide the same opportunity for evaluating the feasibility of pilot projects under an established level of requirements. The exception would be projects that accept either septage or grease waste streams, which are not approved for exemptions.

The Division typically receives about 2-3 requests per year for demonstration project approvals, the majority of which do not include septage or grease as feedstock. Historically, about 2/3 of past demonstration projects approved by the Division did not continue past the feasibility stage and discontinued the demonstration project.

(b) Costs/Benefits by Entity

1) Private Industry

The proposed removal of existing Paragraph (b) from Rule .1409 could potentially result in cost savings to private industry by not having to submit the request for approval information or a final feasibility report.

2) NC Citizens and Environment

The proposed amendments to Rule .1409 are not expected to impact the risks to NC Citizens and the environment.

3) Local Government

Proposed amendments to Rule .1409 are not expected to affect expenditures or revenues of any local government.

4) State Government

The proposed removal of existing Paragraph (b) from Rule .1409 is expected to provide savings to the state government in staff time necessary to process, review, administer, and inspect demonstration project approvals.

Vermicomposting and Anaerobic Digestion Permit Requirements in Rule .1409

Proposed amendments to Rule .1409 add siting, permitting, and operations requirements for vermicomposting facilities and for anaerobic digestion facilities that receive and handle organic solid waste.

(a) Description and Rationale

The proposed amendments to Rule .1409(b) and (c) add permitting and operations requirements specifically for vermicomposting and anaerobic facilities, respectively. Both vermicomposting and anaerobic digestion facilities require specific rule requirements since these types of facilities are functionally different in scope and operations than typical compost facilities addressed in Section .1400. Vermicomposting and anaerobic digestion are currently permitted as Small or Large Types 2, 3, or 4 compost facilities using the existing compost rules for those facilities. Separate proposed amendments to Rule .1409 were added for these vermicomposting and anaerobic digestion since there are fundamental process and monitoring differences in these two methods that are not adequately addressed by the current rules. There is currently one vermicomposting

permitted facility and one anaerobic digestion permitted facility in NC.

(b) Costs/Benefits by Entity

1) Private Industry

Proposed amendments to Rule .1409 are not expected to add any additional costs to the private industry. Private industry is likely to benefit from clarity of what is required for these specific types of facilities.

2) NC Citizens and Environment

The proposed amendments are not expected to impact the risks to NC citizens and the environment.

3) Local Government

Proposed amendments to Rule .1409 are not expected to affect expenditures or revenues of any local government.

4) State Government

Proposed amendments to Rule .1409 are not expected to affect expenditures or revenues of the state government.

Closure Requirements in Rule .1410

(a) Description and Rationale

Proposed new Rule .1410 clarifies the requirements for proper closure of permitted facilities and termination of a permit. Adding closure requirement rules provides a regulatory remedy to address sites that are abandoned leaving potential public health and environmental problems, such as potential fire hazards, vector problems, nuisance odors, leachate, and other problems. As a protection for NC citizens and the environment, the Division currently requires these closure procedures to be met prior to approving the closure of a facility and/or termination of the permit. The proposed rule puts into rule the procedures generally being required in practice for permit closure or termination.

(b) Costs/Benefits by Entity

1) Private Industry

Costs to close facilities in accordance of the proposed amendments are difficult to quantify due to the wide range of site conditions and size. However, current best management practices for closing facilities are consistent with the proposed closure amendment. The Division estimates that no more than 1-2 permitted facilities have closed over a five-year period, most of which are properly closed. Benefits to private industry include better planning due to clarity on requirements for closure or termination of the permit.

2) NC Citizens and Environment

NC citizens and the environment are expected to benefit from having assurance of proper closure required by the proposed rule.

3) Local Government

Proposed Rule .1410 is not expected to affect expenditures or revenues of any local government.

4) State Government

Proposed Rule .1410 is not expected to affect expenditures or revenues for the state government. State government staff may expect an enforcement benefit from having clear requirements in rule for facility closure.