Fiscal Note For Amendments Concerning Municipal Solid Waste Landfills

Rule Citation Number 15A NCAC 02D .1700

Rule Topic: Municipal Solid Waste Landfills

DEQ Division: Division of Air Quality

Agency Contact: Patrick Knowlson, Rule Development Branch Supervisor
Division of Air Quality (DAQ)
(919) 707-8711
patrick.knowlson@ncdenr.gov

Analyst: Rahatul Ashique, DAQ
(919) 707-8701
rahatul.ashique@ncdenr.gov

Impact Summary:

State government:	Yes
Local government:	Yes
Substantial impact:	No
Private Sector:	Yes

Authority: G.S. 143-215.3(a)(1); 143-215.107(a)(1), (3), (4), (5); 143-215.108; 143B-282.

Necessity: To incorporate the requirements for existing Municipal Solid Waste Landfills consistent with 40 CFR Part 60, Subpart Cf. Due to changes in the landfill industry and control technologies, operators will be required to install landfill gas collection and control systems at a lower emissions threshold to reduce public health and environmental risks from landfill gas. Affected landfills in our state already have these systems in place.

I. Executive Summary

The purpose of this document is to provide an analysis detailing the fiscal note associated with the proposed amendments to the Municipal Solid Waste (MSW) Landfills Rules in 15A NCAC 02D .1700 to incorporate the changes to various Federal Regulations promulgated by the Environmental Protection Agency (EPA). The EPA identified advances in technology and operating practices to reduce emissions of landfill gas (LFG), and revised federal regulations to account for significant changes in the landfill industry, including changes to the size and number of existing landfills, industry practices, and gas control methods and technologies. The existing MSW landfills are subject to 40 CFR Part 60 Subpart WWW and have already complied with federal regulations affected by this rule change. The North Carolina Division of Air Quality (DAQ) will align State rules with the recently promulgated federal regulations and develop a State Plan to incorporate 40 CFR Part 60, Subpart Cf, *Emission Guidelines (EG) and Compliance Times for MSW Landfills*. Once the State Plan is approved by the EPA, the existing MSW landfills that are currently subject to Subpart WWW will then be subject to 40 CFR Part 60, Subpart Cf, Emission Guidelines. Upon State Plan approval, the DAQ will notify and update permits for existing MSW landfills to incorporate the requirements set forth in the revised Subpart CF, Emissions

Guidelines . Since existing MSW landfills are already in compliance with the revised EG, the DAQ does not anticipate any substantive fiscal impact or environmental benefits as result of submitting a State Plan to align State rules with federal regulations.

II. Background

Municipal solid waste (MSW) is the stream of garbage collected by sanitation services from homes, businesses, and institutions. In many places the MSW is taken to a landfill where the refuse and other waste materials are buried and covered by soil. MSW landfills are designed to protect public health and safety and the environment. These landfills are required to comply with federal Resource Conservation and Recovery Act (RCRA) regulations, including standards related to location, liners, leachate collection and removal systems, operating practices, groundwater monitoring, and closure. In addition to RCRA regulations, landfills are subject to federal air quality regulations under the Clean Air Act (CAA), which monitor and control emissions of landfill gas. The air quality regulations are discussed in more detail later in this fiscal note.

Landfill Gas:

Landfill gas (LFG) is a natural byproduct of the microbial decomposition of organic material in landfills. The gas increases in volume over the life of the landfill in conjunction with the volume and composition, and decomposition of the waste placed in the landfill. Once the volume of gas generated by the landfill peaks, it slowly decreases in volume each year. The landfill continues to emit LFG for many years after the last waste is deposited.

The primary constituents of LFG are methane (CH_4) and carbon dioxide (CO_2). A small percentage of LFG is also made up of "non-methane organic compounds" (NMOC). NMOC is comprised of over 100 organic hazardous air pollutants (HAPs), volatile organic compounds (VOC), which is a precursor to ozone formation, greenhouse gases (GHG), and compounds associated with stratospheric ozone depletion.[1] Methane is a potent GHG that has a warming potential approximately 25 times greater than CO_2.[2] EPA considers the reduction of methane emissions to have a near-term beneficial impact in mitigating global climate change. In addition to these environmental impacts, LFG may be monitored, collected and controlled to reduce odorous sulfide emissions and limit methane build up at the surface of the landfill that could result in fire or explosion in or near the landfill.[3]

Landfill Design and Operation: Structure of Air Quality Regulations:

Landfills are designed to accept a given volume of waste in a specified area. Each landfill divides the total permitted area into "cells". The landfill operator places the waste received on a given day into an open cell within the landfill. The landfill operator may have several open cells accepting waste at the same time. Once the cell has reached it maximum capacity, the cell is closed. Once all the cells in the landfill are closed, the owner/operator has two choices; close the landfill or redesign it to accept more waste.

[1] AP-42 Compilation of Emissions Factors Volume 1, Chapter 2.4 Municipal Solid Waste Landfills, U.S. EPA, available at: https://www3.epa.gov/ttn/chief/ap42/index.html

[2] Fiscal Note for the Final Revisions to the Emission Guidelines for Existing Sources and the Final New Source Performance Standards in the Municipal Solid Waste Landfills Sector, EPA-452/R-16-003, U.S. EPA, July 2016.

[3] Fiscal Note for the Final Revisions to the Emission Guidelines for Existing Sources and the Final New Source Performance Standards in the Municipal Solid Waste Landfills Sector, EPA-452/R-16-003, U.S. EPA, July 2016.

The landfill design is initially permitted by the Division of Waste Management (DWM) for a given area and capacity (either volume or mass). Additional permits must be issued for each expansion of the landfill from its originally permitted capacity. Once the DWM issues a new permit to expand the landfill and the facility commences construction on the expansion, the facility becomes a "new source" for the purposes of air quality permitting. Subsection 4 contains a discussion of air quality regulations.

In addition to changing the permitted area, the landfill may change its operation by installing leachate and landfill gas collection and control systems (GCCS). These systems may not be required at the early stages of the landfill, but subsequently installed as the waste in place becomes large enough to require control of the leachate and LFG. These systems are not always installed due to regulatory requirements but instead are often installed voluntarily to manage the public health and safety aspects of the landfill. The primary equipment associated with leachate and gas collection and control systems is generally sized to handle the estimated peak volume of the gas and leachate based on the landfill design capacity and other factors.

In the order to collect LFG, the landfill owner or a third party may elect to install and operate an LFG collection system in conjunction with either an engine to generate electricity or a boiler to generate steam. These systems are referred to as "energy recovery systems". The electricity or steam can be sold to an outside entity and generate income for the landfill and/or owner of the energy recovery system. Combustion of methane results in conversion to CO_2, which reduces the global warming potential of the LFG. The reduction in methane emissions can be sold as GHG reduction credits in carbon trading markets providing additional income from the energy recovery system and making it a cost-effective control system.

Structure of Air Quality Regulations:

CAA Sections 111(b) and 111(d) regulate emissions from new and existing landfills, respectively. New sources are subject to New Source Performance Standards (NSPS) which regulate emissions of new sources of air pollution as well as sources that have been reconstructed or undergone major modifications. A "new source" is generally a source of emissions for which construction, modification, or reconstruction commences on or after the proposal date of the NSPS.

Existing sources are regulated by Emissions Guidelines (EG). These rules require the state to develop and submit a plan to control emissions from sources which commenced construction prior to the proposal date of the federal rule. The EG generally include a model rule for states to adopt. If a state does not submit a plan, the EPA can impose a Federal Plan, which generally adheres to the requirements of model rule discussed above. In addition, a Federal Plan is enforced by EPA rather than by the State. The requirements for emissions guidelines are generally less restrictive than requirements for new sources.

This fiscal note addresses regulation of existing landfills. Existing landfills are a unique source under the CAA in that they are not immediately required to control emissions since the volume of landfill gas changes over the life of the landfill. Landfill NSPS and EG applicability and emission control requirements are based on the following criteria: 1) the date on which the landfill commenced construction modification or reconstruction and 2) the date on which the landfill waste in place reaches a specific mass or volume threshold, and 3) the date on which the NMOC emissions from the landfill, as measured from emissions monitoring, reach a specific mass threshold. When the federal rule was promulgated, emissions of NMOC were selected as a surrogate for LFG emissions because NMOC

emissions contain the air pollutants that were of most concern to EPA due to their adverse effects on public health and welfare.[4]

This approach to regulation presents several unique aspects of air quality permitting of existing landfills.

i. Existing landfills are subject to federal EG based on their date of construction, modification or reconstruction. However, these landfills are only required to measure emissions of NMOC until they reach both the threshold for waste in place and threshold for NMOC emissions. As the waste in place grows over time and the landfill emissions reaches the NMOC threshold, the landfill is required to install and operate a GCCS and perform monitoring, recordkeeping and reporting consistent with the federal EG requirements.

ii. Existing landfills subject to the EG based on design capacity may never reach the NMOC threshold without accepting additional waste in place beyond the currently permitted area. These units are subject to the EG but will never be required to control emissions under the EG based on their projected landfill gas emissions for the permitted design capacity. However, for the purposes of this Fiscal Note, the impacted sources have already crossed the NMOC threshold.

iii. For the purposes of this Fiscal Note, six affected permitted sources have an existing approved GCCS and are sized to control LFG from the permitted area of the landfill. In addition, the approved system is designed to meet the federal EG design standards and perform monitoring, recordkeeping, and reporting consistent with the federal EG requirements.

iv. Of the 29 permitted landfills in North Carolina, 23 are, or will soon be, subject to NSPS rules; 6 landfills are subject to EG rules. These 6 landfills would become subject to NSPS rules if and when they choose to expand the permitted landfill. No additional landfills will fall under EG rules in the future.

v. A landfill may be subject to air quality rules even though the landfill is no longer accepting waste or is officially closed. Both the NSPS and EG for landfills require monitoring and control of emissions until the emissions drop below the NMOC threshold specified in the rule.

III. Existing Rules

Existing rules for North Carolina's municipal solid waste landfills are found in 15A NCAC 02D .1700, *Municipal Solid Waste Landfills*. This set of rules became effective on July 1, 1998, and were readopted, effective October 1, 2020. Through these rules, North Carolina implements the federal NSPS and EG and created two subparts WWW and XXX. Subpart XXX applies to NSPS and applies to MSW Landfills that commenced construction, reconstruction, or modification After July 17, 2014

This rule affects landfills that commenced construction, modification, or reconstruction, or accepted waste before May 30, 1991. As stated in Section II, the landfill is required to monitor, but not control, emissions of NMOC until they reach specified thresholds. The current rule requires landfills of at least 2.5 million megagrams (Mg) capacity and 2.5 million cubic meters in size with estimated NMOC emissions of at least 50 Mg per year (Mg/year) to collect and control LFG.

After reaching these thresholds, the landfills are given three years to design, install and operate a landfill gas collection and control system (GCCS). A design plan for the GCCS is required to be submitted to the

[4] Federal Register Vol 81 No. 167 pages 59276- 59330 Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

DAQ for review within one year of reaching the threshold. To reduce emissions of NMOC and methane, the landfills have two primary control options: 1) either flare the collected gas; or 2) fire the collected gas in an energy recovery system. The landfills must also submit a monitoring system plan within one year of crossing the 50 Mg/year threshold. Lastly, they are subject to annual monitoring, recordkeeping, and reporting requirements for the GCCS. For the purposes of this Fiscal Note, the 6 affected sources referenced in Table 1 have exceeded 50 Mg/year threshold and have approved GCCS.

Table 1: Affected Sources impacted by Rule Change

Ownership	County Name	Facility ID	Landfill Name	NMOC Threshold	Permit Status	GCCS system	Subject To
Private	Bertie	800102	East Carolina Regional Solid Waste Landfill	≥ 50 Mg	Title V	Approved	40 CFR Part 60 Subpart WWW
Private	Cabarras	1300110	BFI Waste Systems of North America	≥ 50 Mg	Title V	Approved	40 CFR Part 60 Subpart WWW
Local Government	Guilford	4101086	City of Greensboro – White Street Landfill	≥ 50 Mg	Title V	Approved	40 CFR Part 60 Subpart WWW
Private	Person	7300079	Upper Piedmont Regional Landfill	≥ 50 Mg	Title V	Approved	40 CFR Part 60 Subpart WWW
Local Government	Rowan	8000190	Rowan County Solid Waste Landfill	≥ 50 Mg	Title V	Approved	40 CFR Part 60 Subpart WWW
Private	Montgomery	6200052	Uwharrie Regional Landfill	≥ 50 Mg	Title V	Approved	40 CFR Part 60 Subpart WWW

IV. Proposed Rule

On August 29, 2016, the Environmental Protection Agency (EPA) finalized changes to the Standards of Performance for Municipal Solid Waste (MSW) Landfills. The EPA's review identified advances in technology and operating practices for reducing emissions of LFG. The EPA promulgated a new subpart, 40 CFR Part 60, Subpart XXX, *Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014*, which was automatically adopted through 15A NCAC 02D .0524 and revised in 15A NCAC 02D .1702.

In the same action, the EPA promulgated a new subpart under 40 CFR Part 60, Subpart Cf, *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills*, to revise the EGs that apply to existing MSW landfills. Previously, the EGs under 40 CFR Part 60, Subpart Cc applied to existing MSW landfills. The revised EG apply to landfills that have accepted waste at any time since November 8, 1987 and commenced construction, reconstruction, or modification on or before July 17, 2014. The EPA revised the EG to account for significant changes that have occurred in the landfill industry over time, including changes to the size and number of existing landfills, industry practices, and gas control methods and technologies.

40 CFR Part 60, Subpart WWW, *Standards of Performance for Municipal Solid Waste Landfills*, will continue to apply to MSW landfills that commenced construction, reconstruction, or modification after May 30, 1991 and on or before July 17, 2014, until there is an approved state or federal plan that implements 40 CFR Part 60, Subpart Cf.

In conjunction with promulgation of the Affordable Clean Energy rule on July 8, 2019, the EPA updated the CAA 111(d) implementing regulations under a new subpart, 40 CFR Subpart 60, Subpart Ba, *Adoption and Submittal of State Plans for Designated Facilities*. Specifically, this action amended the timing requirements in 40 CFR 60.23 and 60.27 for submission of state plans, and the issuance of federal plans. On August 26, 2019, the EPA adopted the 40 CFR Part 60, Subpart Ba implementation requirements into the EG under 40 CFR 60, Subpart Cf. The EPA also set a compliance date of August 29, 2019 for states to submit state plans. The EPA is required to determine completeness with 6 months of state plan submittal, and approve or disapprove the state plan within 12 months of the completeness determination.

On March 26, 2020, the EPA adopted changes to 40 CFR Part 60, Subpart Cf, allowing impacted sources to demonstrate compliance with LFG requirements for control and allow landfills to comply with operational standards, compliance provisions, monitoring requirements, and the associated recordkeeping and reporting requirements by following the corresponding requirements in the National Emission Standards for Hazardous Pollutants (NESHAP) for MSW Landfills.

The proposed rulemaking amends the existing 15A NCAC 02D.1700 rules to make them consistent with 40 CFR Part 60 Subpart Cf, *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills*, as part of North Carolina's implementation of this federal EG. Existing MSW landfills that commenced construction, reconstruction, or modification, or accepted waste before July 17, 2014 are subject to this rule. The amended rule incorporates all requirements associated with the EG. Note this rule is based on the federal EG for landfills, not the NSPS, which applies to new landfills. The landfills that were considered a "new source" under the current 15A NCAC 02D.1700 rules are now considered "existing sources" under the proposed amendments to these rules, and are subject to the revised EG under 40 CFR 60 Subpart Cf. The primary change to the current rule, apart from incorporating some minor recordkeeping, monitoring and reporting requirements, is the lowering of the NMOC emissions threshold from 50 Mg/year to 34 Mg/year but closed landfills still retain the 50 Mg/year threshold and therefore they are not impacted.

V. Estimating the Regulatory Impacts

As discussed above, Table 1 reflects 6 existing MSW landfills currently subject to 40 CFR Part 60 Subpart WWW. After adoption of MSW landfill rules in 02D .1700 and submittal and approval of North Carolina's State Plan, existing MSW landfills will become subject to 40 CFR Part 60 Subpart Cf Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills. North Carolina has proposed rule amendments that incorporate the changes to EG requirements for existing MSW landfills. This section will identify and estimate the fiscal impact as a result of the rule changes. North Carolina currently has greater than 100 MSW landfills permitted by the DWM. The DAQ currently maintains air quality permits for 29 MSW landfills. Out of these 29 landfills, the DAQ's permitting section identified 6

existing MSW landfills that will be impacted by the proposed rule changes. These 6 landfills each exceed the current NMOC threshold of 50 Mg/year, and therefore currently have an approved GCCS.

These 6 facilities are affected by, but have limited impact from, the proposed amendments to the rules in 15A NCAC 02D, Section .1700. Since these landfills have already reached the current 50 Mg/year threshold, they will not require any additional action as a result of lowering the threshold to 34 Mg/year. For the respective six existing MSW landfills there are only minor differences and therefore the impact of the minor changes were not quantified. There are no major differences between existing and proposed rules in terms of operational standards, and associated monitoring, recordkeeping, and reporting requirements. These six existing MSW landfills currently have a DAQ-approved GCCS operating at the facility and are already complying with monitoring, recordkeeping, and reporting requirements and they conduct periodic monitoring, recordkeeping and recording activities.

Table 2: Private, State and Local Impact

Cost Parameter	Number of Landfills	Hrs Spent/ Title V	Total Hours	($/hr.)[1]	Total Cost	2021 Cost in 2020$
Title V Landfill Costs						**$58,879**
Private Facility Cost to Modify and submit Permit	4	75[1]	300	$100	$30,000	
Local Government Facility Cost to Modify and submit Permit	2	75[1]	150	$100	$15,000	
Minor Permit Modification Fee[1]					$18,000	
					$63,000	
DAQ Cost to Review Permit Modification						**$2,490**
Engineer II	6	60	360	$49	$17,640	
Supervisor	6	8	48	$63	$3,024	
DAQ Benefit						
Minor Permit Modification Fee Receipt[1]					($18,000)	
					$2,664	
		Net Present Value (NPV)				**$61,368**

[1] To estimate total compensation, assumed years of service for the following work title categories on an average 5 years for Engineer I, 10 years for Engineer II, 20 years for Supervisor. Also, an estimated 2080 work hours per years was used. Total Compensation is estimated from https://oshr.nc.gov/state-employee-resources/classification-compensation/total-compensation-calculator. Consultant fee $100/hour was assumed. The hours spent and hours charged by consultants were provided by DAQ permit staff based on their experience. DAQ planning staff reached out Smith and Gardner Inc and the consultant estimate provided in the Fiscal Note is an accurate estimate. The 6 existing facilities will be charged a minor permit modification fee of $3,000 per permit modification by DAQ.

Note: Gaston County Landfill, Facility ID 3600339, is an impacted source and has crossed the 34 Mg/year threshold. The facility has voluntarily installed and currently operates a GCCS. The DWM issued a permit to expand the landfill, which will cause the facility to be subject to the NSPS, rather than the EG, upon starting construction of the expansion. The DAQ anticipates the Gaston County Landfill will commence construction for the permitted expansion and trigger applicability of NSPS XXX by the time an NC State Plan is approved. Therefore, this facility was not considered as part of this fiscal note.

The landfill's air quality permits will have to be modified in year 2021 to reflect the amendments to 15A NCAC 02D.1700. Support for modifying the permit is generally given by air quality consultants assisting the landfills. The overall impact reflected in Table 2 shows each Title V landfill for these consulting fees is estimated as $7,500 per landfill and a minor permit modification fee of $3,000 is estimated per permit modification. In addition, the cost of state government employees in the DAQ to review each permit applications is estimated as $3,444 and the DAQ will received an estimated $3,000 per permit modification . In total, the proposed rule would create a one-time cost and benefit for the private sector, state and local government of approximately $61,368 in 2020 dollar terms for administrative permit updates.[5] DAQ is currently in the process of modifying NC's permit modification fees pursuant to 02Q .0203, *Permit and Application Fees*. DAQ anticipates the 02D .0203 rulemaking to become effective in 2021. DAQ proposed minor modification permit fee of $3,000 per permit modification can change as result of the rulemaking process.

Regulatory Benefits (SP vs FIP)

MSW Landfill facilities will benefit from updated State rules and an approved State Plan because state-driven implementation of the EG will allow continued consistency and certainty for compliance and reporting activities. The State Plan will contain reporting procedures familiar to the regulated community; however, a Federal Plan would potentially introduce new procedures for reporting to EPA.

Environmental Benefits

The DAQ does not anticipate any environmental benefit for the existing landfills that are impacted by this rule change. The 6 existing MSW landfills subject to the EG already exceeds the 50 Mg per year NMOC threshold and already installed and operates an approved GCCS. Any reduction in NMOC and methane have already been realized.

VI. Conclusion

The North Carolina Division of Air Quality (DAQ) proposes to align State rules with the recently promulgated federal regulations regarding emissions guidelines for existing MSW landfills. Upon EPA approval of the revised State Plan, the DAQ will update permits for existing MSW landfills to incorporate these requirements

Since existing MSW landfills are already in compliance with the revised EG, the NC DAQ expects minimal impacts as a result of normal permitting staff review time for modifying the permits of the six affected facilities. No impacts are expected for the local agency (Mecklenburg County Department of Environmental Protection) that operates an air quality program in North Carolina.

The total cost impact to both the facilities and the DAQ to modify these six permits in year 2021 is estimated to be $61,368. This is a one-time cost for all parties. Compared to federal implementation, state-level implementation of the proposed rules will benefit regulated entities by providing greater certainty and consistency regarding compliance and reporting activities.

[5] The total impact of the proposed rules over the next year, in 2020 dollar value terms, was calculated by computing the "net present value" of the rule. This calculation allows for an apples-to-apples comparison of future costs and benefits on a common dollar value basis. The method accounts for the "time value of money," the concept that money is worth more in the near term than in the long term because of the capacity to earn interest over time. The present value of a future stream of costs and benefits answers the question, "What is the investment/action worth to me in today's dollar value equivalent?" Different investments/actions can be accurately compared using their net present values.

15A NCAC 02D .1701 is proposed for amendment as follows:

SECTION .1700 - MUNICIPAL SOLID WASTE LANDFILLS

15A NCAC 02D .1701 DEFINITIONS

The definitions in 40 CFR ~~60.751~~ 60.41f apply to this Section.

History Note: *Authority G.S. 143-215.3(a)(1);*
Eff. July 1, 1998;
Readopted Eff. October 1, ~~2020.~~ 2020;
Amended eff. .

15A NCAC 02D .1702 is proposed for amendment as follows:

15A NCAC 02D .1702 APPLICABILITY

(a) This Section applies to each existing MSW landfill that accepted waste since November 8, 1987 and that commenced construction, reconstruction, or modification on or before July 17, 2014.

~~All existing MSW landfills that meet the following conditions are subject to this Section:~~

~~(1) The landfill has accepted waste at any time since November 8, 1987, or has additional permitted capacity available for future waste deposition and has not been documented by the Division as being permanently closed; and~~

~~(2) The landfill was in operation, or construction, reconstruction, or modification was commenced before July 17, 2014.~~

(b) Physical or operational changes made to an existing MSW landfill solely to comply with an emission standard under this Section are not considered a modification or reconstruction, and do not subject an existing MSW landfill to the requirements of 40 CFR 60, Subpart XXX or 15A NCAC 02D .0524.

(c) For purposes of obtaining an operating permit pursuant to Title V of the Clean Air Act, the owner or operator of an MSW landfill subject to 40 CFR Part 60, Subpart Cf with a design capacity less than 2.5 million megagrams or 2.5 million cubic meters shall not subject to the requirement to obtain an operating permit for the landfill pursuant to 40 CFR Part 70 or 71 unless the landfill is otherwise subject to either 40 CFR Part 70 or 71. For purposes of submitting a timely application for an operating permit pursuant to 40 CFR Part 70 or 71, the owner or operator of an MSW landfill subject to 40 CFR Part 60, Subpart Cf with a design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters on the effective date of EPA approval of the state's program pursuant to Section 111(d) of the Clean Air Act, and not otherwise subject to either 40 CFR Part 70 or 71, becomes subject to the requirements of 40 CFR 70.5(a)(1)(i) or 40 CFR 71.5(a)(1)(i) within 90 days after the effective date of such Section 111(d) program approval, even if the design capacity report is submitted earlier.

(d) When an MSW landfill subject to 40 CFR 60, Subpart Cf is closed as defined in this Section, the owner or operator shall no longer be subject to the requirement to maintain an operating permit pursuant to 40 CFR Part 70 or 71 for the landfill if the landfill is not otherwise subject to the requirements of either 40 CFR Part 70 or 71 and if either of the following conditions are met:

(1) The landfill was never subject to the requirement to install and operate a gas collection and control system pursuant to 40 CFR 60.33f(f); or

(2) The landfill meets the conditions for control system removal specified in 40 CFR 60.33f(f).

(e) When an MSW landfill subject to 40 CFR Part 60, Subpart Cf is in the closed landfill subcategory, the owner or operator shall not subject to the reports of 40 CFR Part 60, Subpart Cf, provided the owner or operator submitted these reports pursuant to the provisions of 40 CFR Part 60, Subpart WWW, 40 CFR Part 62, Subpart GGG, or this Section on or before July 17, 2014, as follows:

(1) Initial design capacity report specified in 40 CFR 60.38f(a);

(2) Initial or subsequent NMOC emission rate report specified in 40 CFR 60.38f(c), provided that the most recent NMOC emission rate report indicated the NMOC emissions were below 50 megagrams per year;

(3) Collection and control system design plan specified in 40 CFR 60.38f(d);

(4) Closure report specified in 40 CFR 60.38f(f);

(5) Equipment removal report specified in 40 CFR 60.38f(g);

(6) Initial annual report specified in 40 CFR 60.38f(h); and

(7) Initial performance test report in 40 CFR 60.38f(i).

History Note: *Authority 143-215.3(a)(1); 143-215.107(a)(5); 143-215.107(a)(10);*
Eff. July 1, 1998;
Readopted Eff. October 1, ~~2020.~~ 2020;
Amended Eff. .

15A NCAC 02D .1703 is proposed for amendment as follows:

15A NCAC 02D .1703 EMISSION STANDARDS

a) ~~Any MSW landfill subject to this Section and meeting the following two conditions shall meet the gas collection and control requirements of Paragraph (b) of this Rule:~~ Any MSW landfill subject to this Section and having a design capacity greater than or equal to 2.5 million megagrams by mass and 2.5 million cubic meters by volume shall be required to collect and control MSW landfill emissions if the following conditions apply:

(1) ~~The landfill has a design capacity greater than or equal to 2.75 million tons and 2.5 million cubic meters. The owner or operator of the landfill may calculate the design capacity in either tons or cubic meters for comparison with the exemption values. Any density conversion shall be documented and submitted along with the initial reporting requirements of 15A NCAC 02D .1708(a); and~~ The landfill has accepted waste at any time since November 8, 1987, or has additional design capacity available for future waste deposition;

(2) ~~The landfill has a non-methane organic compound (NMOC) emission rate of 55 tons per year or more. The NMOC emission rate shall be calculated by following the procedures outlined in 40 CFR 60.754.~~ The landfill commenced construction, reconstruction, or modification on or before July 17, 2014;

(3) The landfill has an NMOC emission rate greater than or equal to 34 megagrams per year or Tier 4 surface emissions monitoring shows a surface emission concentration of 500 parts per million methane or greater, and

(4) The landfill is in the closed landfill subcategory and has an NMOC emission rate greater than or equal to 50 megagrams per year or Tier 4 surface emissions monitoring shows a surface emission concentration of 500 parts per million methane or greater.

(b) Each owner or operator of a MSW landfill meeting the conditions of Paragraph (a) of this Rule ~~shall:~~ shall install and start up a collection and control system that captures the gas within the landfill within 30 months after:

~~(1) submit to the Director a site-specific design plan for the gas collection and control system that meets the requirements of 40 CFR 60.752(b)(2)(i);~~

~~(2) install a gas collection system that meets the requirements of 40 CFR 60.752(b)(2)(ii); and~~

~~(3) control the collected emissions of MSW landfill gas through the use of one or more of the following control options:~~

~~(A) An open flare designed and operated in accordance with the parameters established in 40 CFR 60.18;~~

~~(B) A control system designed and operated to reduce NMOC by 98 weight percent;~~

~~(C) An enclosed combustor designed and operated to reduce the outlet NMOC concentration to 20 parts per million as hexane by volume, on a dry basis at three percent oxygen, or less; or~~

~~(D) A treatment system that processes the collected gas for subsequent sale or use in accordance with 40 CFR 60.752(b)(2)(iii)(C).~~

(1) the first annual report in which the NMOC emission rate equals or exceeds 34 megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the NMOC emission rate is less than 34 megagrams per year, as specified in 40 CFR 60.38f(d)(4); or

(2) the first annual NMOC emission rate report for a landfill in the closed landfill subcategory in which the NMOC emission rate equals or exceeds 50 megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the NMOC emission rate is less than 50 megagrams per year, as specified in 40 CFR 60.38f(d)(4); or

(3) the most recent NMOC emission rate report in which the NMOC emission rate equals or exceeds 34 megagrams per year based on Tier 2, if the Tier 4 surface emissions monitoring shows a surface methane emission concentration of 500 parts per million methane or greater as specified in 40 CFR 60.38f(d)(4)(iii).

~~(c) The gas collection and control system required by this Rule may be capped or removed provided that all the conditions of 40 CFR 60.752(b)(2)(v)(A), (B), and (C) are met.~~

(c) Each owner or operator of a MSW landfill meeting the conditions of Paragraph (a) of this Rule shall control the gas collected from within the landfill through the use of control devices meeting the following requirements, except as provided in 40 CFR 60.24:

(1) A non-enclosed flare designed and operated in accordance with the parameters established in 40 CFR 60.18 except as noted in 40 CFR 60.37f(d); or

(2) A control system designed and operated to reduce NMOC by 98 weight percent; or when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen or less. The reduction efficiency or concentration in parts per million by volume shall be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in 40 CFR 60.35f(d). The performance test is not required for boilers and process heaters with design heat input capacities equal to or greater than 44 megawatts that burn landfill gas for compliance with this Rule.

(A) If a boiler or process heater is used as the control device, the landfill gas stream shall be introduced into the flame zone;

(B) The control device shall be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored shall be specified in 40 CFR 60.37f;

(C) For the closed landfill subcategory, the initial or most recent performance test conducted to comply with 40 CFR Part 60, Subpart WWW; 40 CFR Part 62, Subpart GGG; or 40 CFR Part 60, Subpart Cc on or before July 17, 2014; shall be sufficient for compliance with this 40 CFR Part, Subpart Cf;

(3) Route the collected gas to a treatment system that processes the collected gas for subsequent sale or beneficial use such as fuel for combustion, production of vehicle fuel, production of high-Btu gas for pipeline injection, or use as a raw material in a chemical manufacturing process. Venting of treated landfill gas to the ambient air is not allowed. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas shall be controlled pursuant to either Subparagraph (c)(1) or (2) of this Rule;

(4) All emissions from any atmospheric vent from the gas treatment system are subject to the requirements of Paragraph (b) or (c) of this Rule. For purposes of this Subparagraph, atmospheric vents located on the condensate storage tank are not part of the treatment system and are exempt from the requirements of Paragraph (b) or (c) of this Rule.

(d) Each owner or operator of a MSW landfill having a design capacity less than 2.5 million megagrams by mass or 2.5 million cubic meters by volume shall submit an initial design capacity report to the Division as provided in 40 CFR 60.38f(a). The landfill may calculate design capacity in either megagrams or cubic meters for comparison with the exemption values. Any density conversions shall be documented and submitted with the report. Submittal of the initial design capacity report fulfills the requirements of this Rule, except as provided in Subparagraphs (d)(1) and (2) of this Rule, as follows:

(1) The owner or operator shall submit an amended design capacity report as provided in 40 CFR 60.38f(b). If the design capacity increase is the result of a modification, as defined in 15A NCAC 02D .1701, that was commenced after July 17, 2014, then the landfill becomes subject to 40 CFR Part 60 Subpart XXX instead of 40 CFR Part 60 Subpart Cf. If the design capacity increase is the result of a change in operating practices, density, or some other change that is not a modification as defined in this subpart, then the landfill remains subject to Subpart Cf; and

(2) When an increase in the maximum design capacity of a landfill with an initial design capacity less than 2.5 million megagrams or 2.5 million cubic meters results in a revised maximum design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, the owner or operator shall comply with Paragraph (e) of this Rule.

(e) Each owner or operator of an MSW landfill having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters shall either install a collection and control system as provided in Paragraphs (b) and (c) of this Rule or calculate an initial NMOC emission rate for the landfill using the procedures specified in 40 CFR 60.35f(a). The NMOC emission rate shall be recalculated annually, except as provided in 40 CFR 60.38f(c)(3), as follows:

(1) If the calculated NMOC emission rate is less than 34 megagrams per year, the owner or operator shall submit an annual NMOC emission rate report according to 40 CFR 60.38f(c), and recalculate the NMOC emission rate annually using the procedures specified in 40 CFR 60.35f(a) until such time as the calculated NMOC emission rate is equal to or greater than 34 megagrams per year, or the landfill is closed. This annual NMOC emission rate reporting requirement shall not apply to the facilities that elected to submit their reports as provided in 40 CFR 60.38f(c)(3):

(A) if the calculated NMOC emission rate, upon initial calculation or annual recalculation required in Paragraph (e)(1) of this Rule, is equal to or greater than 34 megagrams per year, the owner or operator shall either: Comply with Paragraphs (b) and (c) of this Rule; calculate NMOC emissions using the next higher tier in 40 CFR 60.35f; or conduct a surface emission monitoring demonstration using the procedures specified in 40 CFR 60.35f(a)(6);

(B) if the landfill is permanently closed, a closure report shall be submitted to the Division as provided in 40 CFR 60.38f(f), except for exemption allowed pursuant to 40 CFR 60.31f(e)(4); and

(C) for the closed landfill subcategory, if the most recently calculated NMOC emission rate is equal to or greater than 50 megagrams per year, the owner or operator shall either: submit a gas collection and control system design plan as specified in 40 CFR 60.38f(d), except for exemptions allowed pursuant to 40 CFR 60.31f(e)(3), and install a collection and control system as provided in Paragraphs (b) and (c) of this Rule; calculate NMOC emissions using the next higher tier in 40 CFR 60.35f; or conduct a surface emission monitoring demonstration using the procedures specified in 40 CFR 60.35f(a)(6);

(2) If the calculated NMOC emission rate is equal to or greater than 34 megagrams per year using Tier 1, 2, or 3 procedures, the owner or operator shall either: submit a collection and control system design plan prepared by a professional engineer to the Division within 1 year as specified in 40 CFR 60.38f(d), except for exemptions allowed under § 60.31f(e)(3); calculate NMOC emissions using a higher tier in 40 CFR 60.35f; or conduct a surface emission monitoring demonstration using the procedures specified in 40 CFR 60.35f(a)(6); and

(3) For the closed landfill subcategory, if the calculated NMOC emission rate is equal to or greater than 50 megagrams per year using Tier 1, 2, or 3 procedures, the owner or operator shall either: submit a collection and control system design plan as specified in 40 CFR 60.38f(d), except for exemptions allowed pursuant to 40 CFR 60.31f(e)(3); calculate NMOC emissions using a higher tier in 40 CFR 60.35f; or conduct a surface emission monitoring demonstration using the procedures specified in 40 CFR 60.35f(a)(6).

(f) The collection and control system may be capped, removed, or decommissioned if the following criteria are met:

(1) The landfill is a closed landfill as defined in 40 CFR 60.41f. A closure report shall be submitted to the Division as provided in 15A NCAC 02D .1708(f);

(2) The collection and control system has been in operation a minimum of 15 years or the landfill owner or operator demonstrates that the GCCS will be unable to operate for 15 years due to declining gas flow;

(3) Following the procedures specified in 40 CFR 60.35f(b), the calculated NMOC emission rate at the landfill is less than 34 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart; and

(4) For the closed landfill subcategory as defined in 40 CFR 60.41f, following the procedures specified in 40 CFR 60.35f(b), the calculated NMOC emission rate at the landfill is less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5); 143-215.107(a)(10);*
Eff. July 1, 1998;
Amended Eff. July 1, 2000;
Readopted Eff. October 1, ~~2020.~~ 2020;
Amended Eff. .

15A NCAC 02D .1704 is proposed for amendment as follows:

15A NCAC 02D .1704 TEST METHODS AND PROCEDURES

The MSW landfill NMOC emission rate shall be ~~calculated~~ calculated, or a surface emission monitoring demonstration be conducted, by following the procedures in 40 CFR ~~60.754,~~ 60.35f, as applicable, ~~in order~~ to determine whether the landfill meets the conditions of 15A NCAC 02D ~~.1703(a)(2).~~ .1703(a)(3) or (4).

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.66; 143-215.107(a)(5); 143-215.107(a)(10);*
Eff. July 1, 1998;
Readopted Eff. October 1, ~~2020.~~ 2020;
Amended Eff. .

15A NCAC 02D .1705 is readopted as published in 34:16 NCR 1468 as follows:

15A NCAC 02D .1705 OPERATIONAL STANDARDS

The owner and operator of a MSW landfill required to install a landfill gas collection and control system to comply with 15A NCAC 02D .1703(b) and (c) shall:

(1) operate the collection system ~~in accordance with 40 CFR 60.753(a);~~ such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

(a) five years or more if active; or

(b) two years or more if closed or at final grade;

(2) operate the collection system with negative pressure at each wellhead ~~in accordance with 40 CFR 60.753(b);~~ except under the following conditions:

(a) for a fire or increased well temperature, the owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in 40 CFR 60.38f(h)(1);

(b) for the use of a geomembrane or synthetic cover, the owner or operator shall develop acceptable pressure limits in the design plan; and

(c) for a decommissioned well, a well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Division as specified in 40 CFR 60.38f(d);

(3) operate each interior wellhead in the collection system ~~in accordance with 40 CFR 60.753(c);~~ with a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit). The owner or operator may establish a higher operating temperature value at a particular well. A higher operating value demonstration shall be submitted to the Division for approval and shall include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration shall satisfy both criteria listed above in order to be approved;

(4) operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner and operator ~~shall follow the procedures given in 40 CFR 60.753(d);~~ shall conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.36f(d). The owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover and all cover penetrations. The owner or operator shall monitor any openings that are within an area of the landfill where waste has been placed and a gas collection system is required. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan

shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing;

(5) operate the collection system such that all collected gases are vented to a control system designed and operated in compliance with ~~15A NCAC 02D .1703(b)(3).~~ 40 CFR 60.33f(c). In the event that the gas collection and control system is ~~inoperable, measures shall be taken as outlined in 40 CFR 60.753(e);~~ not operating, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within one hour of the collection or control system not operating;

(6) operate the control system at all times when the collected gas is routed to the ~~control~~ system;

(7) ~~take corrective action as specified in 40 CFR 60.755(c) if monitoring demonstrates that the operation standards and requirements of Items (2), (3), and (4) of this Rule are not met. If the required corrective actions are taken, the emissions monitored shall not be considered a violation of the operational standards of this Rule.~~ if monitoring demonstrates that the operational requirements in Item (2), (3), or (4) of this Rule are not met, corrective action shall be taken as specified in 40 CFR 60.36f(a)(3) and (a)(5) or (c). If corrective actions are taken as specified in 40 CFR 60.36f, the monitored exceedance shall not be a violation of the operational requirements in this Rule; and

(8) The owner or operator may choose to comply with the provisions of 40 CFR 63.1958 in lieu of Items (1) through (7) of this Rule. Once the owner or operator begins to comply with the provisions of 40 CFR 63.1958, the owner or operator shall continue to operate the collection and control device according to those provisions and cannot return to the provisions of this Rule.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5); 143-215.107(a)(10);*
Eff. July 1, 1998;
Readopted Eff. October 1, ~~2020.~~ 2020;
Amended Eff. .

15A NCAC 02D .1706 is proposed for amendment as follows:

15A NCAC 02D .1706 COMPLIANCE PROVISIONS

(a) Compliance with 15A NCAC 02D .1703(b) shall be determined using the gas collection system compliance provisions of 40 CFR ~~60.755(a).~~ 60.36f(a).

(b) Compliance with 15A NCAC 02D .1705(1) shall be determined using the controlled landfill gas well and design component provisions of 40 CFR ~~60.755(a).~~ 60.36f(b).

(c) Compliance with the surface methane operational standards of 15A NCAC 02D .1705(4) shall be ~~achieved~~ determined using the procedures of 40 CFR ~~60.755(c) and (d).~~ 60.36f(c).

(d) To comply with the provisions in Paragraph (c) of this Rule or 40 CFR 60.35f(a)(6), the owner or operator shall comply with the instrumentation specifications and procedures for surface emission monitoring devices provisions of 40 CFR 60.36f(d).

(e)~~(d)~~ The provisions of this Rule ~~apply at all times,~~apply, except during periods of start-up, shutdown, or ~~malfunction,~~ malfunction. ~~provided that the duration of start-up, shutdown, or malfunction shall not exceed five days for collection systems and shall not exceed one hour for treatment or control devices.~~ During periods of startup, shutdown, and malfunction, the owner or operator shall comply with the work practice specified in 40 CFR 60.34f(e) in lieu of the compliance provisions in 40 CFR 60.36f.

(f) The owner or operator may choose to comply with the provisions of 40 CFR 63.1960 in lieu of Paragraphs (a) through (e) of this Rule. Once the owner or operator begins to comply with the provisions of 40 CFR 63.1960, the owner or operator shall continue to operate the collection and control device according to those provisions and cannot return to the provisions of this Rule.

(g) Compliance with the specifications for active collection systems in 15A NCAC 02D .1703(b) shall be determined using the provisions of 40 CFR 60.40f(a) and (b).

(h) Compliance with the specifications for active collection systems in 15A NCAC 02D .1703(c) shall be determined using the provisions of 40 CFR 60.40f(c).

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.66; 143-215.107(a)(5); 143-215.107(a)(10);*
Eff. July 1, 1998;
Readopted Eff. October 1, ~~2020.~~ 2020;
Amended Eff. .

15A NCAC 02D .1707 is proposed for amendment as follows:

15A NCAC 02D .1707 MONITORING PROVISIONS

(a) The owner or operator of a MSW landfill who is required to comply with 15A NCAC 02D ~~.1703(b)(2).~~1703(b) for an active gas collection system shall perform the monitoring requirements as outlined in 40 CFR ~~60.756(a).~~ 60.37f(a).

(b) The owner or operator of an MSW landfill seeking to comply with the provisions of 15A NCAC 02D ~~.1703(b)(3)(C).~~1703(c) using an enclosed combustor shall perform the monitoring requirements as outlined in 40 CFR ~~60.756(a).~~ 60.37f(b).

(c) The owner or operator of an MSW landfill seeking to comply with the provisions of 15A NCAC 02D ~~.1703(b)(3)(A).~~1703(c) using ~~an open~~ a non-enclosed flare shall perform the monitoring requirements as outlined in 40 CFR ~~60.756(c).~~60.37f(d).

(d) The owner or operator of an MSW landfill seeking to comply with the provisions of 15A NCAC 02D ~~.1703(b)(3).~~1703(c) using a device other than an open ~~flare or~~ flare, an enclosed combustor or treatment system shall comply with the provisions of 40 CFR ~~60.756(d).~~60.37f(d).

(e) The owner or operator of an MSW landfill seeking to comply with the provisions of 15A NCAC 02D ~~.1703(b)(3)(B).~~1703(b) ~~using an active~~ by installing a collection system that does not meet the specifications of 40 CFR 60.40f, or seeking to monitor alternative parameters to those required by 15A NCAC 02D .1704 through .1707 shall comply with the provisions of 40 CFR ~~60.756(e).~~ 60.37f(e).

(f) The owner or operator of an MSW landfill seeking to comply with the provisions of 15A NCAC 02D ~~.1706(c)~~ .1705(4) for demonstrating compliance with the 500 parts per million surface methane operational standard shall do so in accordance with 40 CFR ~~60.756(f).~~60.37(f).

(g) The owner or operator of an MSW landfill seeking to comply with the provisions of 15A NCAC 02D .1703(c) shall do so in accordance with the provisions of 40 CFR 60. 37f(g).

(h) The monitoring requirements of Paragraphs (b), (c), (d), and (g) of this Rule apply at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with the monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. Monitoring system repairs to return the monitoring system to operation in response to malfunctions shall be completed as expeditiously as practicable.

(i) The owner or operator may choose to comply with the provisions of 40 CFR 63.19561 in lieu of Paragraphs (a) through (h) of this Rule. Once the owner or operator begins to comply with the provisions of 40 CFR 63.1961, the owner or operator shall continue to operate the collection and control device according to those provisions and cannot return to the provisions of this Rule.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.66; 143-215.107(a)(5); 143-215.107(a)(10);

Eff. July 1, 1998;

Readopted Eff. October 1, ~~2020.~~ 2020;

Amended Eff. _____.

15A NCAC 02D .1708 is proposed for amendment as follows:

15A NCAC 02D .1708 REPORTING REQUIREMENTS

(a) The owner or operator of ~~a~~ an existing MSW landfill subject to this Rule according to 15A NCAC 02D .1702 shall submit a design capacity report to the Director ~~in accordance with the following:~~ as follows:

(1) The initial design capacity report shall ~~fulfill the requirements of the notification of the date construction is commenced as required under 40 CFR 60.7(a)(1) and shall be submitted no later than the earliest of the day from the dates given in 40 CFR 60.757(a)(1)(i) and 40 CFR 60.757(a)(1)(ii);~~ be submitted no later than 90 days after the effective date of the EPA approval of the State Plan pursuant to Section 111(d) of the Clean Air Act;

(2) The initial design capacity report shall contain the information given in 40 CFR ~~60.757(a)(2)(i)~~ 60.38f(a)(1) and 40 CFR ~~60.757(a)(2)(ii); and~~ 60.38f(a)(2) as follows:

(A) a map or plot of the landfill, providing the size and location of the landfill, and identifying all areas where solid waste may be landfilled according to the permit issued by the state, local, or tribal agency responsible for regulating the landfill; and

(B) the maximum design capacity of the landfill as given in 40 CFR 60.38f(a)(2).

~~(3) An amended design capacity report shall be submitted to the Director in accordance with 40 CFR 60.757(a)(3) whenever an increase in the design capacity of the landfill results in the design capacity of the landfill to exceed 2.5 million cubic meters and 2.75 million tons~~.

(b) The owner or operator of an existing MSW landfill subject to this Section shall submit an amended design capacity report providing notification of an increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to meet or exceed 2.5 million megagrams and 2.5 million cubic meters. An increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation required in 15A NCAC 02D .1709(j).

(c)~~(b)~~ The owner or operator of ~~a~~ an existing MSW landfill subject to this Rule shall submit a NMOC emission report to the Director ~~initially~~ no later than 90 days after the effective date of EPA approval of the state plan pursuant to Section 111(d) of the Clean Air Act and annually thereafter, except as provided for in 40 CFR ~~60.757(b)(1)(ii)~~ 60.38f(c). ~~or (b)(3). The initial NMOC emission rate report shall be submitted within 90 days of the day waste acceptance commences and may be combined with the initial design capacity report required in Paragraph (a) of this Rule.~~ The NMOC emission rate report shall:

(1) contain an annual or five-year estimate of the NMOC emission rate calculated using the formula and procedures provided in 40 CFR ~~60.754(a)~~ 60.35f(a) or (b), as applicable; ~~and~~

(2) include all the data, calculations, sample reports, and measurements used to estimate the annual or five-year ~~emissions.~~ emissions; and

(3) if the estimated NMOC emission rate as reported in the annual report is less than 34 megagrams per year in each of the next five consecutive years, the owner or operator may elect to submit an estimate of the NMOC emission rate for the next five-year period in lieu of the annual report. This estimate

shall include the current amount of solid waste-in-place and the estimate waste acceptance rate for each year of the five years for which an NMOC emission rate is estimated. All data and calculations shall be provided. This estimate shall be revised at least once every five years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the five-year estimate, a revised five-year estimate shall be submitted. The revised estimate shall cover the five-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate.

(4) each owner and operator subject to the requirements of this Rule shall be exempted from the requirements to submit an NMOC emission rate report, after installing a compliant collection and control system, during such time as the collection and control system is in operation and in compliance with 15A NCAC 02D .1705 and .1706.

(d)~~(c)~~ The owner or operator of ~~a~~ an existing MSW landfill subject to 15A NCAC 02D ~~.1703~~.1703(b) shall submit a collection and control system design plan to the Director within one year of the first NMOC emission rate report, required under Paragraph ~~(b)~~(c) of this Rule, in which the emission rate equals or exceeds ~~55 tons~~ 34 megagrams per year, except as provided for in 40 CFR ~~60.757(c)(1) and (c)(2).~~ 60.38f(d)(4). The collection and control system design plan shall include:

(1) a description of the collection and control system;

(2) a description of any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions provided in this Rule; and

(3) a description indicating how the plan conforms to specifications for active collection systems or provide a demonstration of sufficient alternative provisions as given in 40 CFR 60.40f.

(e) The owner or operator of an existing MSW landfill who has already submitted a design plan pursuant to Paragraph (d) of this Rule, pursuant to 40 CFR Part 60, Subpart WWW, or a state plan implementing 40 CFR Part 60, Subpart Cc, shall submit a revised design plan to the Director for approval as follows:

(1) at least 90 days before expanding operations to an area no covered by the previously approved design plan; and

(2) prior to installing or expanding the gas collection system in a way that is not consistent with the design plan that was submitted to the Director in Paragraph (d) of this Rule.

(f)~~(d)~~ The owner or operator of a controlled landfill shall submit a closure report to the Director within 30 days of cessation of waste acceptance. If a closure report has been submitted to the Director, no additional waste shall be placed into the landfill without first filing a notification of modification as described ~~under~~ pursuant to 40 CFR 60.7(a)(4). The Director may request such additional information as may be necessary to verify that permanent closure of the MSW landfill has taken place ~~in accordance with~~ pursuant to the requirements of 40 CFR 258.60.

(g)~~(e)~~ The owner or operator of a controlled MSW landfill shall submit an equipment removal report 30 days prior to removal or cessation of operation of the control equipment according to 15A NCAC 02D ~~.1703(c).~~.1703(f). The report shall contain the items listed in 40 CFR ~~60.757(e)(1).~~60.38f(g). The Director may request such additional

information as may be necessary to verify that all the conditions for removal in 40 CFR ~~60.752(b)(2)(v)~~60.33f(f) have been met.

(h)~~(f)~~ The owner or operator of a MSW landfill seeking to comply with 15A NCAC 02D ~~.1703(b)(2).~~1703(b) using an active collection system designed in accordance with 40 CFR ~~60.752(b)(2)(ii)~~60.333f(b) shall submit annual reports of the recorded information in 40 CFR ~~60.757(f)(1)~~ 60.38f(h)(1) through ~~(f)(6).~~ (h)(7). The initial annual report shall be submitted within 180 days of installation and start-up of the collection and control system, and shall include the initial performance test report required under 40 CFR 60.8. Each owner or operator that chooses to comply with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961, as allowed by 15A NCAC 02D .1705, .1706 and .1707, the owner or operator must follow the semi-annual reporting requirements in 40 CFR 63.1981(h) in lieu of this paragraph.

~~(g) The owner or operator of a MSW landfill seeking to comply with 15A NCAC 02D .1703(b)(3) using an enclosed combustion device or flare shall report the excess as defined in 40 CFR 60.758(c)(1).~~

(i)~~(h)~~ The owner or operator of ~~a~~ an existing MSW landfill required to comply with 15A NCAC 02D ~~.1703(b)(1).~~1703(b) shall include the information given in 40 CFR ~~60.757(g)(1)~~ 60.38f(i)(1) through ~~(g)(6)~~ (i)(6) with the initial performance test report required ~~under~~ pursuant to 40 CFR 60.8.

(j) The owner or operator of an existing MSW landfill shall submit a report within 60 days after the date of completing each performance test. This report may be submitted as a hard copy or electronically as applicable.

(k) The owner or operator of an existing MSW landfill required to implement corrective active, shall submit reports to the Director pursuant to 40 CFR 60.38f(k)(1) and (k)(2). Each owner or operator that chooses to comply with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961, as allowed by 15A NCAC 02D .1705, .1706 and .1707, the owner or operator shall follow the corrective action and the corresponding timeline reporting requirements in 40 CFR 63.1981(j) in lieu of this paragraph.

(l) The owner or operator of an affected landfill with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters that has employed leachate recirculation or added liquids based on a Research, Development, and Demonstration permit within the last 10 years shall submit an annual report to the Director that includes the information pursuant to 40 CFR 60.38f(l)(1) through (l)(10).

(m) The owner or operator of an affected landfill with a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters that intends to demonstrate site-specific surface methane emissions are below 500 parts per million methane, based on Tier 4 provisions of 40 CFR 60.35f(a)(6), shall provide notifications to the Director in accordance with 40 CFR 60.38f(m)(1) and (m)(2).

(n) Each owner or operator that chooses to comply with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961, as allowed by 15A NCAC 02D .1705, .1706 and .1707, shall submit the 24-hour high temperature report according to 40 CFR 63.1981(k).

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(5); 143-215.107(a)(10);*
Eff. July 1, 1998;
Amended Eff. July 1, 2000;

Readopted Eff. October 1, ~~2020.~~ 2020;

Amended Eff. _____.

15A NCAC 02D .1709 is proposed for amendment as follows:

15A NCAC 02D .1709 RECORDKEEPING REQUIREMENTS

(a) The owner or operator of a MSW landfill subject to this Section ~~and~~ shall keep ~~on-site~~ on-site, accessible, for at least five years ~~records of the information listed in 40 CFR 60.758(a).~~ a copy of the design capacity report that triggered 40 CFR 60.33f(e), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within four hours. Either paper copy or electronic formats of the records shall be acceptable.

(b) The owner or operator of a controlled landfill shall keep up-to-date records pursuant to 40 CFR 60.768(b) for the life of the control equipment of the data listed in 40 CFR ~~60.758(b)(1)~~ 60.39f(b)(1) through ~~(b)(4)~~ (b)(5) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of five years. Records of the control device vendor specifications shall be maintained until removal.

(c) Each owner or operator of a controlled MSW landfill subject to this Section shall keep for five years up-to-date records pursuant to 40 CFR 60.768(c) of the equipment operating parameters specified to be monitored in 15A NCAC 02D .1707 and records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. The parameter boundaries considered in excess of those established during the performance test are defined in 40 CFR ~~60.758(c)(1)(i)~~ 60.39f(c)(1)(i) and (ii) and are also required to be reported pursuant to 15A NCAC 02D ~~.1708(g).~~ .1708(j).

(d) The owner or operator of a MSW landfill subject to this Section shall keep up-to-date, readily accessible continuous records of the indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configuration used to seal bypass lines as specified in 40 CFR 60.37f.

(e) The owner or operator of a MSW landfill subject to this Section who uses a boiler or process heater with a design heat input capacity of 44 megawatts or greater to comply with 40 CFR 60.33f(c) shall keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater.

(f) The owner or operator of a MSW landfill seeking to comply with the provisions of 15A NCAC 02D .1703(c) by use of a non-enclosed flare shall keep up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.

(g) The owner or operator of a MSW landfill seeking to comply with the provisions of 15A NCAC 02D .1703(b) using an active collection system designed pursuant to 40 CFR 60.33f(b) shall keep records of periods of when the collection system or control device is not operating.

(h)~~(d)~~ The owner or operator of a MSW landfill subject to 15A NCAC 02D .1703(b) shall keep for the life of the collection system an up-to-date plot map pursuant to 40 CFR 60.768(d) showing existing and planned collectors in the system and provide unique identification location labels for each collector. Records of newly installed collectors shall be maintained ~~in accordance with~~ pursuant to 40 CFR ~~60.758(d)(1)~~ 60.36f(b) and documentation of asbestos-containing or nondegradable waste excluded from collection shall be kept ~~in accordance with~~ pursuant to 40 CFR

~~60.758(d)(2).~~ 60.40(a)(3)(i) and records of any nonproductive areas excluded from collection shall be kept pursuant to 40 CFR 60.40f(a)(3)(ii).

(i)~~(e)~~ The owner or operator of a MSW landfill subject to 15A NCAC 02D .1703(b) shall keep for at least five years ~~records of emissions from the collection and control system exceeding the emission standards in accordance with 40 CFR 60.758(e).~~ accessible records of the following:

(1) each owner or operator that chooses to comply with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961, as allowed by 15A NCAC 02D .1705, .1706 and .1707, shall keep records of the date upon which the owner or operator started complying with the provisions in 40 CFR 63.1958, 63.1960, and 63.1961, and shall keep records according to 40 CFR 63.1983(e)(1) through (e)(5) in lieu of Subparagraphs (2) through (4) of this Paragraph;

(2) records of emissions from the collection and control system exceeding the operational standards pursuant to 40 CFR 60.34f, including the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance;

(3) records of each wellhead temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above, each well head nitrogen level at or above 20 percent, and each wellhead oxygen level at or above five percent; and

(4) records for any root cause analysis as provided in 40 CFR 60.39f(e)(3) through (e)(5).

~~(f) The owner or operator of MSW landfill subject to 15A NCAC 02D .1703(b) shall keep up-to-date records pursuant to 40 CFR 60.758(c)(2) of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car seals or lock and key configurations used to seal bypass lines, specified pursuant to 40 CFR 60.756.~~

~~(g) The owner or operator of MSW landfill subject to 15A NCAC 02D .1703(b) who uses a boiler or process heater with a design heat input capacity of 44 megawatts or greater to comply with 40 CFR 60.752(b)(2)(iii) shall keep an up-to-date record pursuant to 40 CFR 60.758(c)(3) of all periods of operation of the boiler or process heater.~~

~~(h) The owner or operator of MSW landfill seeking to comply with the provisions of 15A NCAC 02D .1703(b) by use of an open flare shall keep up-to-date records of the flame or flare pilot flame monitoring specified pursuant to 40 CFR 60.756(c), and up-to-date records of all periods of operation in which the flame or flare pilot flame in absent.~~

(j) The owner or operator of a MSW landfill who converts design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of "design capacity", shall keep readily accessible, on-site records of the annual recalculation of site specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within four hours. Either paper copy or electronic formats are acceptable.

(k) The owner or operator of a MSW landfill seeking to demonstrate that site-specific surface methane emissions are below 500 parts per million by conducting surface emissions monitoring under the Tier 4 procedures shall follow the recordkeeping provisions provided in 40 CFR 39f(g).

(l) The owner or operator of a MSW landfill subject to the provisions of this Section shall keep for at least five years up-to-date, readily accessible records of all collection and control system monitoring data for the parameters measured

in 40 CFR 60.37f(a)(1) through (a)(3).

(m) The owner or operator of a MSW landfill reporting leachate or other liquids addition pursuant to 15A NCAC 02D .1708(k) shall keep records of any engineering calculations or company records used to estimate the quantities or leachate or liquids added, the surface areas for which the leachate or liquids were applied, and the estimates of annual waste acceptance or total waste in place in the areas where leachate or liquids were applied.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143-215.107(a)(4), 143-215.107(a)(5), 143-215.107(a)(10);*
Eff. July 1, 1998;
Amended Eff. July 1, 2000;
Readopted Eff. October 1, ~~2020.~~ 2020;
Amended Eff. _____.

15A NCAC 02D .1710 is proposed for amendment as follows:

15A NCAC 02D .1710 COMPLIANCE SCHEDULES

For each existing MSW landfill subject to this Section as specified in 15A NCAC 02D .1702 and meeting the design capacity condition of 15A NCAC 02D ~~.1703(a)(1)~~ .1703(a) whose NMOC emission rate is less than ~~55 tons~~ 34 megagrams per year on or after ~~July 1, 1998,~~ the most recent effective date of this rule, shall:

(1) submit a site-specific design plan for the gas collection and control system to the Director within 12 months of first exceeding the NMOC emission rate of ~~55 tons~~ 34 megagrams per ~~year;~~ year and 50 megagrams per year for the closed landfill subcategory; and

(2) plan, award contracts, and install MSW landfill air emission collection and control system capable of meeting the emission standards established pursuant to 15A NCAC 02D .1703 within 30 months of the date when the conditions in 15A NCAC 02D .1703~~(a)(2)~~(a)(3) are met.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(4); 143-215.107(a)(5);*
Eff. July 1, 1998;
Readopted Eff. October 1, ~~2020.~~ 2020;
Amended Eff. .