

County of Forsyth



PUBLIC NOTICE OF INTENT TO ISSUE A TITLE V AIR QUALITY PERMIT

FORSYTH COUNTY OFFICE OF ENVIRONMENTAL ASSISTANCE AND PROTECTION WINSTON-SALEM, NORTH CAROLINA

November 21, 2023

Notice is hereby given by the Forsyth County Office of Environmental Assistance and Protection (EAP) of an opportunity for the public to review and comment on a draft Title V air quality permit for:

**City of Winston-Salem, Hanes Mill Road Sanitary Landfill
325 West Hanes Mill Road
Winston-Salem, NC 27105
Permit #00913-TV-8**

This facility has applied for renewal of its Title V Air Quality operating permit. The draft permit meets the Title V requirements as specified in the Forsyth County Air Quality Control Ordinance and Technical Code (FCAQTC) Section 3Q-0500.

EPA will process this draft permit as a proposed permit and perform its 45-day review provided by Section 3Q-0522 "Review by EPA and Affected States" concurrently with the public notice period. If public comments are received that result in a change to the permit, EPA's 45-day review period will cease to be performed concurrently with the public notice period. The deadline for citizen's petitions to the EAP administrator will be determined based on EPA's 45-day review period beginning after the public comment period has ended. The status regarding EPA's 45-day review of this project and the deadline for citizen's petitions can be found at the following website address:

<https://www.epa.gov/caa-permitting/north-carolina-proposed-title-v-permits>

The EAP will issue a final Air Quality Permit, in accordance with the conditions of the draft/proposed Air Quality Permit, unless there are public comments which result in a different decision or significant change in the permit.

A copy of the draft permit and statement of basis is available at the EAP's website:

http://www.forsyth.cc/EAP/public_notices.aspx

Additional information regarding the draft permit may be obtained from the Office of Environmental Assistance and Protection, Forsyth County Government Center, 201 N. Chestnut Street, Winston-Salem, NC 27101-4120; telephone (336) 703-2440. The public may submit written comments on these proceedings to the address above or by e-mail to lloydpb@forsyth.cc on or before December 21, 2023, the close of the public comment period.

A handwritten signature in black ink, appearing to read "Peter B. Lloyd".

Peter B. Lloyd, Ph.D., P.E., Manager
Compliance Assistance & Permitting Division

FORSYTH COUNTY OFFICE OF ENVIRONMENTAL ASSISTANCE AND PROTECTION

**FORSYTH COUNTY GOVERNMENT CENTER
201 NORTH CHESTNUT STREET
WINSTON-SALEM, NC 27101-4120**

**PERMIT TO CONSTRUCT/OPERATE
AIR QUALITY CONTROL
CLASS: Title V**

PERMIT NUMBER	EFFECTIVE DATE	EXPIRATION DATE	RENEWAL DUE
00913-TV-8	DRAFT	December 2, 2028	March 2, 2028

Facility Name: Hanes Mill Road Sanitary Waste Landfill
Mailing Address: City of Winston-Salem, Public Works
P.O. Box 2511
City, State, ZIP Code: Winston-Salem, NC 27102-2511

Facility Location: b/t Hanes Mill Road & Ziglar Road, west of U.S. 52
City: Winston-Salem

In accordance with the provisions set forth in the Forsyth County Air Quality Technical Code and Chapter 3 of the Forsyth County Code, "Air Quality Control", the facility identified above is authorized to operate, as outlined in Part I, "Air Quality Title V Operation Permit", and to construct and operate, as outlined in Part II, "Air Quality Construction and Operation Permit", the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations contained within this permit.

The permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete air quality permit application to the Forsyth County Office of Environmental Assistance and Protection and received an Air Quality Permit, except as provided in this permit or in accordance with applicable provisions of the Forsyth County Air Quality Technical Code.

This permit supersedes all previous permits issued to the permittee by the Forsyth County Office of Environmental Assistance And Protection.

Peter B. Lloyd, Ph.D., P.E., Manager
Compliance Assistance & Permitting Division

DATE:

Hanes Mill Road Sanitary Waste Landfill Air Quality Permit #00913-TV-8 December 2, 2023

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SECTION 1 - PERMITTED EQUIPMENT AND ASSOCIATED AIR POLLUTION CONTROL DEVICE(S)

Emission Source ID#	Emission Source Description	Control Device ID#	Control Device Description
ES-1	Municipal Solid Waste Landfill	CD-01	Landfill gas collection system and Treatment System for Subsequent Sale, or;
		CD-02	Landfill Gas Specialties CF-103018 utility flare with AeroVent blower

SECTION 2 - FACILITY GENERAL ADMINISTRATIVE CONDITIONS

2.1 **General Provisions** [Sections 3-0100, 3-0200 and Sec. 3Q-0508(i)(16)]

- A. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in Subchapters 3D and 3Q of the Forsyth County Air Quality Technical Code (FCAQTC).
- B. The terms, conditions, requirements, limitations and restrictions set forth in this permit are binding and enforceable pursuant to Sections 3-0100 and 3-0200 of the FCAQTC, including assessment of civil and/or criminal penalties. This permit is valid only for the specific processes and operations applied for and indicated in the air quality permit application. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and enforcement action by the Office of Environmental Assistance and Protection (Office).
- C. This permit is not a waiver of or approval of any other permits that may be required for other aspects of the facility which are not addressed in this permit.
- D. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore. This permit does not allow the permittee to cause pollution in contravention of local laws or rules, unless specifically authorized by an order from the Director, or to cause pollution in contravention of state laws or rules.
- E. Terms and conditions contained herein shall be enforceable by this Office, the U.S. EPA and citizens of the United States as defined in the federal Clean Air Act, except those identified as **Locally Enforceable Only** requirements which are enforceable by this Office.
- F. Any stationary installation which will reasonably be expected to be a source of pollution shall not be operated, maintained or modified without the appropriate and valid permits issued by this Office, unless the source is exempted by rule. This Office may issue a permit only after it receives reasonable assurance that the installation will not cause pollution in violation of any of the applicable requirements.
- G. In addition to the authority found in Sec. 3D-0501 and 3Q-0508(i)(16), any deviation from the

monitoring provisions of this permit may result in a request by this Office to submit data on rates of emissions in order to demonstrate compliance with any applicable regulation.

2.2 Permit Availability [Sec. 3Q-0507(k), 0508(i)(16), 0508(i)(9) and 0110]

The permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of this Office or the U.S. EPA upon request.

2.3 Submissions [Sec. 3Q-0507(c), 0508(i)(16) and 0104]

- A. All documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required to be sent to this Office by this permit shall be submitted to the Forsyth County Office of Environmental Assistance and Protection, Forsyth County Government Center, 201 N. Chestnut Street, Winston-Salem, NC 27101-4120.
- B. All documents, reports, test data, monitoring data, notifications, and any other information required to be sent to **U.S. EPA Region 4, Air Enforcement Branch** shall be submitted through EPA's Compliance and Emissions Data Reporting Interface, CEDRI, or submitted to U.S. EPA Region 4, Air Enforcement Branch, 61 Forsyth Street, S.W., Atlanta, GA 30303.
- C. All documents, reports, test data, monitoring data, notifications, and any other information required to be sent to U.S. EPA Region 4, Air Permits Section shall be submitted through EPA's Compliance and Emissions Data Reporting Interface, CEDRI, or submitted to U.S. EPA Region 4, Air Permits Section, 61 Forsyth Street, S.W., Atlanta, GA 30303.

2.4 Severability Clause [Sec. 3Q-0508(i)(2)]

The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any specific circumstance, is challenged, the application of the provision in question to other circumstances, as well as the remainder of this permit's provisions, shall not be affected.

2.5 Duty to Comply [Sec. 3Q-0508(i)(3)]

The permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2.6 Need to Halt or Reduce Activity Not a Defense [Sec. 3Q-0508(i)(4)]

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2.7 Permit Shield [Sec. 3Q-0512(a)]

- A. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically

identified in the permit as of the date of permit issuance.

B. A permit shield shall not alter or affect:

1. the power of the Forsyth County Board of Commissioners, Director, or Governor under NCGS 143-215.3(a)(12) or the U.S. EPA under Section 303 of the federal Clean Air Act;
2. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
3. the applicable requirements under Title IV of the Clean Air Act; or
4. the ability of the Director or the U.S. EPA under Section 114 of the federal Clean Air Act to obtain information to determine compliance of the facility with its permit.

C. A permit shield shall not apply to any change made at a facility that does not require a permit or to any permit revision made under Sec. 3Q-0523.

D. A permit shield shall not extend to minor permit modifications made under Sec. 3Q-0515.

2.8 **Circumvention** [Sec. 3D-0502 and 3Q-0508(i)(16)]

No person shall circumvent any permitted air pollution control device, or allow the emissions of regulated air pollutants without the applicable air pollution control device operating properly. Unless otherwise specified by this permit, no permitted emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

2.9 **Good Air Pollution Control Practice** [Sec. 3D-0502 and 3Q-0508(i)(16)]

At all times, the equipment listed in *Section 1* shall be operated and maintained in a manner consistent with the design and emissions control as applied for in the application.

2.10 **Reporting Requirements for Excess Emissions and Permit Deviations**

“Excess Emissions” - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections 3D-0500, 0900, 1200 or 1400; or by a permit condition; or that exceeds a **Locally Enforceable Only** emission limit established in a permit issued under Section 3Q-0700. (*Note: This definition applies where the NSPS does not further define excess emissions for an affected NSPS emissions source.*)

“Deviation” - means any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions.

A. Sources subject to Sec. 3D-0524, 1110 or 1111
Excess Emissions and Permit Deviations

1. If the source specific NSPS (Sec. 3D-0524) or NESHAP (Sec. 3D-1110 or 1111) defines “excess emissions”, these shall be reported as prescribed in Sec. 3D-0524, 1110 or 1111.
2. If the source specific NSPS (3D-0524) or NESHAP (Sec. 3D-1110 or 1111) does NOT define “excess emissions”, the permittee shall report excess emissions as deviations from permit requirements as prescribed in paragraph 3, below.
3. In addition to any specific NSPS or NESHAP reporting requirements the permittee shall upon becoming aware:

- a. report to this Office any deviations from permit requirements by the next business day, unless an alternative reporting schedule is specifically provided in the permit, and
 - b. report in writing to this Office all deviations from permit requirements or any excess emissions within two business days, unless an alternative reporting schedule is specifically provided in the permit. The written report shall include the probable cause of such deviations and any corrective actions or preventative actions taken. Reports of all deviations from permit requirements shall be certified by a responsible official.
- B. Sources NOT subject to Sec. 3D-0524, 1110 or 1111
- 1. Excess Emissions Greater than Four Hours in Duration [3D .0535(f)]
The permittee shall report excess emissions greater than four hours in duration as prescribed in Sec. 3D-0535(f) including, but not limited to the following:
 - a. Notify this Office of any such occurrence by 9:00 a.m. Eastern time of this Office's next business day of becoming aware of the occurrence as described in Sec. 3D-0535(f)(1);
 - b. Notify this Office immediately when corrective measures have been accomplished; and
 - c. Submit, if requested, to this Office within 15 days after the request, a written report as described in Sec. 3D-0535(f)(3).
 - 2. Excess Emissions Less than Four Hours in Duration and Deviations [Sec. 3Q-0508(f)]
The permittee shall report excess emissions less than four hours in duration and deviations from permit requirements as follows:
 - a. Report to this Office any excess emissions less than four hours in duration and any deviations from permit requirements quarterly, unless an alternative reporting schedule is specifically provided in the permit; and
 - b. Report in writing to this Office any excess emission less than four hours in duration or any deviations from permit requirements quarterly, unless an alternative reporting schedule is specifically provided in the permit. The written report shall include the probable cause of such excess emissions and deviations and any corrective actions or preventative actions taken. All reports of excess emissions and deviations from permit requirements shall be certified by a responsible official.
- C. Other Requirements under Sec. 3D-0535 (Sec. 3D-0535(c) and (g)) **Locally Enforceable Only**

The permittee shall comply with all other requirements contained in Sec. 3D-0535(c) for excess emissions that do not occur during startup or shutdown and Sec. 3D-0535(g) for excess emissions that occur during startup or shutdown.

2.11 **Emergency Provisions** <40 CFR 70.6(g)>

The permittee shall be subject to the following provision with regard to emergencies:

- A. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit due to unavoidable

increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

- B. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in paragraph C below are met.
- C. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs, or other relevant evidence that include information as follows:
 - 1. an emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - 2. the permitted facility was at the time being properly operated;
 - 3. during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the standards, or other requirements in the permit; and
 - 4. the permittee submitted notice of the emergency to this Office within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, and steps taken to mitigate emissions, and corrective actions taken.
- D. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- E. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

2.12 Permit Fees [Sec. 3Q-0206(b),-0508(i)(10) and-0519(a)(4)]

If, within 30 days after being billed, the permittee fails to pay an annual permit fee required under Subchapter 3Q .0200 of the FCAQTC, the Director may initiate action to terminate this permit under Sec. 3Q-0519 of the FCAQTC.

2.13 Annual Emission Inventory Requirements [Sec. 3Q-0207]

The permittee shall report to the Director by June 30th of each year the actual emissions of each air pollutant listed in Sec. 3Q-0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form(s) as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

2.14 Compliance Certification <40 CFR 70.6(c)> [Sec. 3Q-0508(n) and 0508(i)(16)]

By March 1st unless another date is established by the Director, the permittee shall submit to this Office and the U.S. EPA Air Enforcement Branch a compliance certification by a responsible official with all terms and conditions in the permit, including emissions limitations, standards, or work practices. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the federal Clean Air Act. The compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports as applicable):

- A. the identification of each term or condition of the permit that is the basis of the certification;
- B. the status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the methods or means designated in 40 CFR 70.6(c)(5)(iii)(B). The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR 64 occurred;
- C. whether compliance was continuous or intermittent;
- D. the identification of the method(s) or other means used by the owner and operator for determining the compliance status with each term and condition during the certification period; these methods shall include the methods and means required under 40 CFR Part 70.6(a)(3); and
- E. such other facts as the Director may require to determine the compliance status of the source.

2.15 Retention of Records [Sec. 3Q-0508(f)]

The permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit.

2.16 NESHAP - Recordkeeping Requirement for Applicability Determinations <40 CFR 63.10(b)(3)> [Sec. 3D-1111]

If the permittee determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants is not subject to a relevant standard or other requirement established under 40 CFR Part 63, the permittee shall keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source. This record shall include all of the information required under 40 CFR 63.10(b)(3).

2.17 Duty to Provide Information [Sec. 3Q-0508(i)(9)]

- A. The permittee shall furnish to this Office, in a timely manner, any reasonable information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
- B. The permittee shall furnish this Office copies of records required to be kept by the permit when such copies are requested by the Director.

2.18 Duty to Supplement or Correct Application [Sec. 3Q-0507(f)]

The permittee, upon becoming aware that any relevant facts were omitted from the application or that incorrect information was submitted with the application, shall promptly submit such supplementary facts or corrected information to this Office. The permittee shall also provide

additional information necessary to address any requirements that become applicable to the source after the date a complete application was submitted but prior to release of the draft permit.

2.19 Certification by Responsible Official [Sec. 3Q-0520]

A responsible official (as defined in 40 CFR 70.2) shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statement and information in the document are true, accurate, and complete.

2.20 Inspection and Entry [Sec. 3Q-0508(l)]

- A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized representatives of this Office to perform the following:
1. enter upon the permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
 2. have access to and copy, at reasonable times, any records that must be kept under conditions of the permit;
 3. inspect, at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
 4. sample or monitor substances or parameters, at reasonable times and using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements.

Nothing in this condition shall limit the ability of the U.S. EPA to inspect or enter the premises of the permittee under Section 114 or other provisions of the Clean Air Act.

- B. No person shall obstruct, hamper or interfere with any such authorized representative while in the process of carrying out his official duties.

2.21 Averaging Times <40 CFR 70.6(a)(3)> [Sec. 3Q-0508(f)]

Unless otherwise specified in *Section 3* of this permit for a specific emission standard or limitation, the applicable averaging period for determining compliance with an emission standard or limitation during compliance testing shall be based on the applicable U.S. EPA reference test method.

2.22 Compliance Testing [Sec. 3D-2602(e)]

When requested by this Office for determining compliance with emission control standards, the permittee shall provide sampling ports, pipes, lines, or appurtenances for the collection of samples and data required by the test procedure; scaffolding and safe access to the sample and data collection locations; and light, electricity, and other utilities required for sample and data collection.

2.23 General Emissions Testing and Reporting Requirements [Sec. 3D-2602 and Sec. 3Q-0508(i)(16)]

Testing shall be conducted in accordance with FCAQTC Sec. 3D-2600 except as may be otherwise required in FCAQTC Sections 3D-0524, 3D-0912, 3D-1110, 3D-1111, 3D-1415 or a permit condition specific to the emissions source. Requests to use an alternative test method or procedure must be made in writing at least 45 days prior to the test and approved by this Office. Alternatives to test methods or procedures specified for emissions sources subject to test requirements under 40 CFR 60, 40 CFR 61 or 40 CFR 63, may require approval by the U.S. EPA. When required to conduct emissions testing under the terms of the permit:

- A. The permittee shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved prior to air pollution testing. Emission testing protocols must be submitted at least 45 days before conducting the test for pre-approval prior to testing if requested by the permittee.
- B. The permittee shall notify this Office of the specific test dates at least 15 days prior to the scheduled test date in order to afford this Office the opportunity to have an observer on-site during the sampling program.
- C. During all sampling periods, the permittee shall operate the emission source(s) under operating conditions that best fulfill the purpose of the test and are approved by the Director or his delegate.
- D. The permittee shall submit one copy of the test report to this Office not later than 30 days after sample collection. The permittee may request an extension to submit the final test report if the extension request is a result of actions beyond the control of the permittee. The test report shall contain at a minimum the following information:
 - 1. a certification of the test results by sampling team leader and facility representative;
 - 2. a summary of emissions results expressed in the same units as the emission limits given in the rule for which compliance is being determined and text detailing the objectives of the testing program, the applicable state and federal regulations, and conclusions about the testing and compliance status of the emission source(s) as appropriate;
 - 3. a detailed description of the tested emission source(s) and sampling location(s) process flow diagrams, engineering drawings, and sampling location schematics as necessary;
 - 4. all field, analytical and calibration data necessary to verify that the testing was performed as specified in the applicable test methods;
 - 5. example calculations for at least one test run using equations in the applicable test methods and all test results including intermediate parameter calculations; and
 - 6. documentation of facility operating conditions during all testing periods and an explanation relating these operating conditions to maximum normal operation. If necessary, provide historical process data to verify maximum normal operation.
- E. This Office will review emission test results with respect to the specified testing objectives as proposed by the permittee and approved by this Office.

2.24 Termination, Modification, and Revocation of the Permit [Sec. 3Q-0519]

The Director may terminate, modify, or revoke and reissue this permit if:

- A. the information contained in the application or presented in support thereof is determined to be incorrect;
- B. the conditions under which the permit or permit renewal was granted have changed;
- C. violations of conditions contained in the permit have occurred;
- D. the permit holder fails to pay fees required under Section 3Q .0200 within 30 days after being billed;
- E. the permittee refuses to allow the Director or his authorized representative upon presentation of credentials:
 - 1. to enter, at reasonable times and using reasonable safety practices, the permittee's premises in which a source of emissions is located or in which any records are required to be kept under terms and conditions of the permit;
 - 2. to have access, at reasonable times, to any copy or records required to be kept under terms and conditions of the permit;
 - 3. to inspect, at reasonable times and using reasonable safety practices, any source of emissions, control equipment, and any monitoring equipment or method required in the permit; or
 - 4. to sample, at reasonable times and using reasonable safety practices, any emission sources at the facility;
- F. the U.S. EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
- G. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of Chapter 3 of the Forsyth County Code.

2.25 Permit Reopenings, Modifications, Revocations and Reissuances, or Terminations [Sec. 3Q-0508(i)(5)]

The Director may reopen, modify, revoke and reissue, or terminate this permit for reasons specified in Sec. 3Q-0517 or .0519. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition in this permit.

2.26 Permit Renewal [Sec. 3Q-0508(e) and 0513]

This permit is issued for a term not to exceed five years. Permits issued under Title IV of the Clean Air Act shall be issued for a fixed period of five years. This permit shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete renewal application is submitted at least nine months before the date of permit expiration. If the permittee or applicant has complied with Sec. 3Q-0512(b)(1), this permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of this permit shall remain in effect until the renewal permit has been issued or denied.

2.27 Reopening for Cause [Sec. 3Q-0517 and 0508(g)]

This permit shall be reopened and revised in accordance with Sec. 3Q-0517 prior to its expiration date, for any of the following reasons:

- A. Additional applicable requirements become applicable to the facility with remaining permit term of three or more years.
- B. Additional requirements, including excess emissions requirements, become applicable to this source under Title IV of the Clean Air Act. Excess emissions offset plans for this source shall become part of this permit upon approval by the U.S. EPA.
- C. The Director or the U.S. EPA finds that a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.
- D. The Director or the U.S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

2.28 Construction and Operation Permits [Sections 3Q-0100 and-0300]

A construction and operating permit shall be obtained by the permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in following the procedures under Sec. 3Q-0500 (except for Sec. 3Q-0504) or a construction and operation permit following the procedures under Sec. 3Q-0504 and filing a complete application to modify the construction and operation permit to meet the requirements of Section 3Q-0500. If the procedures under Sec. 3Q-0504 are followed, the application to meet the requirements of Section 3Q-0500 shall be submitted:

- A. within 12 months of beginning operation if the modification does not contravene or conflict with a condition in the existing permit, or
- B. before beginning operation if the significant modification contravenes or conflicts with a condition in the existing permit.

2.29 Permit Modifications [Sec. 3Q-0514, 0515, 0516, 0517, 0523 and 0524]

- A. Permit modifications may be subject to the requirements of Sec. 3Q-0514, 0515, 0516 and 0524.
- B. Changes made pursuant to Sec. 3Q-0523(a), Section 502(b)(10) changes, and (b), Off-permit changes do not require a permit modification. The permittee shall notify the Director and U.S. EPA Region 4, Air Permits Section as provided in Condition **2.3** least seven days before making a 502(b)(10) change.
- C. The permittee shall submit an application for reopening for cause in accordance with Sec. 3Q-0517 if notified by this Office.
- D. To the extent that emissions trading is allowed under FCAQTC Subchapter 3D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to Sec. 3Q-0523(c).

2.30 Insignificant Activities [Sec. 3Q-0503 and 0508(i)(15)]

Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The permittee shall have available at the facility at all times and made available to an authorized representative of this Office upon request, documentation, including calculations if necessary, to

demonstrate that an emission source or activity is insignificant.

2.31 Standard Application Form and Required Information [Sec. 3Q-0505 and 0507]

The permittee shall submit applications and required information in accordance with the provision of Sec. 3Q-0505 and 0507.

2.32 Property Rights [Sec. 3Q-0508(i)(8)]

This permit does not convey any property rights of any sort, or any exclusive privileges.

2.33 Refrigerant Requirements (Stratospheric Ozone and Climate Protection) <40 CFR Part 70> [Sec. 3Q-0508(b)]

- A. If the permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR 82 Subpart A, Appendices A and B, the permittee shall service, repair, and maintain such equipment according to the work practices and personnel certification requirements, and the permittee shall use certified recycling and recovery equipment specified in 40 CFR 82 Subpart F.
- B. The permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR 82 Subpart F.
- C. The permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the U.S. EPA or its designee as required.

2.34 Prevention of Accidental Releases - Section 112(r) [Sec. 3Q-0508(h)]

If the permittee is required to develop and register a risk management plan pursuant to Section 112(r) of the federal Clean Air Act, then the permittee is required to register this plan in accordance with 40 CFR Part 68.

2.35 Title IV Allowances [Sec. 3Q-0508(i)(1)]

The facility's emissions are prohibited from exceeding any allowances that the facility lawfully holds under Title IV of the Clean Air Act. This permit shall not limit the number of allowances held by the permittee, but the permittee may not use allowances as a defense to noncompliance with any other applicable requirement.

2.36 Air Pollution Alert, Warning or Emergency [Sec. 3D-0300]

Should the Director of this Office declare an Air Pollution Alert, Warning or Emergency, the permittee will be required to operate in accordance with the permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in Sec. 3D-0300.

2.37 Registration of Air Pollution Sources [Sec. 3D-0202]

The Director of this Office may require the permittee to register a source of air pollution. If the

permittee is required to register a source of air pollution, this registration and required information shall be in accordance with Sec. 3D-0202(b).

2.38 Ambient Air Quality Standards [Sec. 3D-0501(e)]

In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in Sec. 3D-0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

2.39 Odor [Sec. 3D-0522] *Locally Enforceable Only*

The permittee shall not cause or permit the emission of odors beyond the facility's property lines which are harmful, irritating or which unreasonably interfere with the use and enjoyment of any person's properties or living conditions, or any public properties or facilities. Such odors are prohibited by Sec. 3D-0522. No violation shall be cited, provided that the best practical treatment, maintenance, and control of odor(s) currently available is used. This requirement does not apply to normal agricultural practices, nor to accidental emissions of odors which are not normally produced during routine operations and activities as determined by the Director.

2.40 Fugitive Dust Control Requirement [Sec. 3D-0540]

The permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR 60, Appendix A), the owner or operator may be required to submit and implement a fugitive dust control plan as described in 3D .0540(f).

2.41 NESHAP - National Emission Standard for Asbestos <40 CFR Part 61, Subpart M> [Sec. 3D-1110]

The permittee shall comply with all applicable standards for demolition and renovation activities pursuant to the requirements of 40 CFR Part 61, Subpart M. The permittee shall not be required to obtain a modification of this permit in order to perform the referenced activities.

New Source Performance Standards (NSPS) General Conditions - [Sec. 3D-0524]

Following are conditions found in the 40 CFR Part 60 NSPS General Provisions. The following conditions only apply to sources subject to a relevant standard of a subpart of 40 CFR Part 60, except when otherwise specified in a particular subpart or in a relevant standard.

2.42 NSPS - General Provisions <40 CFR 60 Subpart A> [Sec. 3D-0524]

The permittee shall comply with all applicable requirements specified in the general provisions of the New Source Performance Standards (40 CFR 60 Subpart A), including, but not limited to requirements concerning notifications, testing, monitoring, recordkeeping, modifications and reconstruction.

2.43 **NSPS - Good Air Pollution Control Practice** <40 CFR 60.11(d)> [Sec. 3D-0524]

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

2.44 **NSPS - Circumvention** <40 CFR 60.12> [Sec. 3D -0524]

Permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard under 40 CFR 60. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

2.45 **NSPS - Maintain Records, Startup/Shutdown/Malfunction** <40 CFR 60.7(b)> [Sec. 3D-0524]

The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

2.46 **NSPS - Files Available for Inspection** <40 CFR 60.7(f)> [Sec. 3D-0524]

The permittee shall maintain a file of all measurements, including, if applicable, performance test measurements and all other information required in 40 CFR 60. This file shall be kept in a permanent form suitable for inspection and shall be retained at least two (2) years following the date of such measurements, maintenance, reports, and records.

2.47 **NSPS - Performance Testing Facilities Provided by Permittee** <40 CFR 60.8(e)> [Sec. 3D-0524]

A) For any performance testing, the permittee shall provide, or cause to be provided, performance testing facilities as follows:

1) Sampling ports adequate for the applicable test methods. This includes:

- a) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures, and;
- b) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.

2) Safe sampling platform(s) with safe access

3) Utilities for sampling and testing equipment.

B) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For purposes of

determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply.

National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP) General Conditions - [Sec. 3D-1111]

Following are conditions found in the 40 CFR Part 63 NESHAP General Provisions. The following conditions only apply to sources subject to a relevant standard of a subpart of 40 CFR Part 63 except when otherwise specified in a particular subpart or in a relevant standard.

2.48 NESHAP - General Provisions <40 CFR 63 Subpart A> [Sec. 3D-1111]

The permittee shall comply with all applicable requirements specified in the general provisions of the National Emission Standards for Hazardous Air Pollutants for Source Categories (40 CFR 63 Subpart A) including but not limited to requirements concerning notifications, testing, monitoring, recordkeeping, modifications, construction, and reconstruction.

2.49 NESHAP - Startup Shutdown and Malfunction Plan <40 CFR 63.6(e)(3)> [Sec. 3D-1111]

The permittee shall develop and implement a written startup, shutdown and malfunction plan in accordance with the requirements in 40 CFR 63.6(e)(3).

2.50 NESHAP - Good Air Pollution Control Practice <40 CFR 63.6(e) and 63.8(c)> [Sec. 3D-1111]

- A) At all times, including periods of startup, shutdown, and malfunction, the permittee shall maintain and operate any affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions at least to the levels required by all relevant standards.
- B) The permittee also shall maintain and operate each continuous monitoring system (CMS) as specified in 40 CFR 63.8, or in a relevant standard, and in a manner consistent with good air pollution control practices.
- C) Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required by 40 CFR 63.6(e)(3).
- D) Operation and maintenance requirements established pursuant to Section 112 of the Clean Air Act are enforceable independent of emissions limitations or other requirements in relevant standards.

2.51 NESHAP - Circumvention <40 CFR 63.4(b)> [Sec. 3D-1111]

The permittee shall not build, erect, install, or use any article, machine, equipment or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to:

- A) the use of gaseous diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere;

- B) the use of diluents to achieve compliance with a relevant standard for visible emissions, and;
- C) the fragmentation of an operation such that the operation avoids regulation by a relevant standard.

2.52 NESHAP - Maintain Records <40 CFR 63.10(b)(2)> [Sec. 3D-1111]

For affected sources, the permittee shall maintain relevant records of:

- A) the occurrence and duration of each startup, shutdown, or malfunction of operation;
- B) the occurrence and duration of each malfunction of the air pollution control equipment;
- C) all maintenance performed on the air pollution control equipment;
- D) actions taken during periods of startup, shutdown, and malfunction and all information necessary to demonstrate compliance with the affected source's startup, shutdown, and malfunction plan when all actions taken are consistent with the procedures specified in the plan;
- E) each period during which a CMS is malfunctioning or inoperative;
- F) all required measurement needed to demonstrate compliance with a relevant standard;
- G) all results of performance tests, CMS performance evaluations, and opacity and visible emission observations;
- H) all measurements as may be necessary to determine the conditions of performance tests and performance evaluations;
- I) all CMS calibration checks;
- J) all adjustments and maintenance performed on CMS;
- K) any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements if the source has been granted a waiver under 40 CFR 63.10(f);
- L) all emission levels relative to the criterion for obtaining permission to use an alternative to the relative accuracy test if the source has been granted such permission under 40 CFR 63.8(f)(6); and
- M) all documentation supporting initial notifications and notifications of compliance status under 40 CFR 63.9.

2.53 NESHAP - Files Available for Inspection <40 CFR 63.10(b)(1)> [Sec. 3D-1111]

- A) The permittee shall maintain files of all information required by 40 CFR Part 63 recorded in a form suitable and readily available for expeditious inspection and review.

- B) The files shall be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.
- C) At a minimum, the most recent two years of data shall be retained on site; the remaining three years of data may be retained off site.

2.54 NESHAP - Performance Testing Facilities Provided by Permittee <40 CFR 63.7(d)>
[Sec. 3D-1111]

- A) For any performance testing for each new source and, at the request of the Director, for each existing source, the permittee shall provide performance testing facilities as follows:
 - 1) Sampling ports adequate for test methods applicable to the affected source. This includes:
 - a) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and
 - b) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
 - 2) Safe sampling platform(s).
 - 3) Safe access to sampling platform(s).
 - 4) Utilities for sampling and testing equipment.
 - 5) Any other facilities that the Director deems necessary for safe and adequate testing of a source.
- B) Unless otherwise specified in the applicable subpart, each performance test shall be conducted according to the requirements in 40 CFR 63.7.

SECTION 3 SPECIFIC LIMITATIONS AND CONDITIONS

The emission source(s) and associated air pollution control device(s) listed in **Section 1** are subject to the following specific terms, conditions, and limitations:

3.1 MUNICIPAL SOLID WASTE LANDFILL (ES-1), CONTROLLED BY GAS COLLECTION SYSTEM AND TREATMENT SYSTEM FOR SUBSEQUENT SALE (CD-1)

Table 3.1, Summary of the limits and/or standards for emission source(s) in Section 1

Regulated Pollutant	Applicable Standard	Applicable Regulation
Non-methane Organic Compounds (NMOC)	Install and operate an approved LFG collection system; control by routing collected LFG to: a) Utility flare, designed & operated in accordance with 40 CFR 60.18, or b) LFG treatment system, for subsequent use or sale.	40 CFR 62, SUBPART OOO Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014, and Have Not Been Modified or Reconstructed Since July 17, 2014 ("Federal Plan")
Hazardous Air Pollutants (HAP)	Comply with the Federal Plan at 40 CFR 62, Subpart OOO and all additional reporting requirements.	FCAQTC Sec. 3D-1110 & 40 CFR Part 63, Subpart AAAA, <i>National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills</i> (40 CFR 63.1930 <i>et seq.</i>)

A) 40 CFR 62, Subpart OOO: Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014, and Have Not Been Modified or Reconstructed Since July 17, 2014

1) Applicable Regulatory Requirements

The permittee shall comply with all applicable standards and provisions, including the notification, testing, work practices, monitoring, recordkeeping, and reporting requirements of the emission guidelines (EG) as promulgated in 40 CFR 62, SUBPART OOO, "Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014, and Have Not Been Modified or Reconstructed Since July 17, 2014" (the "Federal Plan")

- a) The provisions of 40 CFR 62, Subpart OOO apply at all times, including periods of start-up, shutdown, or malfunction, During periods of startup, shutdown, and malfunction, you must comply with the work practice specified in §63.1958(e)(1) and §62.16716(e) in lieu of the compliance provisions in §63.1960 and §62.1672 [Sec. 3D-0524, 40 CFR 62.1960(e) & 40 CFR 62.16720(e)]
- b) The permittee may propose, for approval by this Office, alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of 40 CFR 62.16716 through §62.16726, and of applicable conditions of this permit. However, until any such alternative is approved, and until such time as any required permit modification is made, the permittee shall comply with section (a) above and the applicable permit conditions herein.

[Sec. 3D-0524, 40 CFR Part 60, Subpart Cf, 40 CFR 62.16724(d)(2)-(3), 40 CFR 63.1955(a)]

2) Installation and Maintenance of Collection & Control System

The permittee shall install and maintain a **landfill gas** (hereinafter denoted as LFG) **collection and control system** (hereinafter denoted as GCCS), meeting the specifications and requirements of 40 CFR 62.16714(b), that effectively captures the LFG generated within the landfill.

- a) The GCCS shall be installed in conformance to the Office-approved “design plan”.
- b) Changes or additions to the GCCS shall be performed pursuant to an amended design plan prepared and certified by a professional engineer.
- c) The permittee shall submit to this Office any amendments to the design plan.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16714(b)(2)(i), and 62.16720(a)(1)]
- d) The active GCCS shall be designed to as appropriate to convey the maximum expected LFG flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control system equipment.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16714(b)(2)(i)].
- e) The active GCCS shall collect LFG from each area, cell, or group of cells in which the initial solid waste has been placed for a period of five (5) years or more if active, or two (2) years or more if closed or at final grade. The LFG collection devices shall be located at a density sufficient to meet all operational and performance standards.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, 62.16714(b)(2)(ii), and 60.75362.16716(a)]
- f) The GCCS shall collect LFG at a sufficient extraction rate to meet all applicable standards. The permittee shall demonstrate the sufficiency of the extraction rate by following the procedures of 40 CFR 62.16720(a)(3) and permit Condition 3.1(A)(6)(c).
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 62.16714(b)(2)(iii)]
- g) The GCCS shall be designed to minimize off-site migration of subsurface gas.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 62.16714(b)(2)(iv)]
- h) Pursuant to the Emission Guidelines, the permittee shall route the collected LFG to a treatment system that processes the gas for subsequent use or sale, or to a flare designed in accordance with 40 CFR 60.18 and that meets all requirements set forth in permit Condition 3.2.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 62.16714(c)]
- i) The GCCS shall be operated in accordance with the operational standards, compliance provisions, and monitoring requirements of 40 CFR 62.16716, §62.16720, and §62.16722, and permit conditions 3.1 (A)(5)-(7).
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62, Subpart OOO]

3) Specifications for Active Collection Systems

- a) Unless alternative procedures have been previously approved by this Office, as provided for in 40 CFR 62.16724(d)(3), the permittee shall site, throughout all LFG producing areas of the landfill, active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density pursuant to the procedures set forth in 40 CFR 62.16728(a)(1) through (3).
[Sec. 3D-0524, 40 CFR 62.16728(a)]
- b) The collection devices within the interior and along the perimeter areas of the landfill shall be certified by a professional engineer that they are able to achieve comprehensive control of surface LFG emissions.
[Sec. 3D-0524, 40 CFR 62.16728(a)(1)]

- c) The GCCS design certified by the professional engineer shall address the following Subjects:
- i) depth(s) of placed refuse,
 - ii) refuse gas generation rates and flow characteristics,
 - iii) cover/cap properties,
 - iv) gas collection system expandability,
 - v) leachate and condensate management,
 - vi) accessibility,
 - vii) compatibility with filling operations,
 - viii) integration with closure/end-use,
 - ix) air intrusion control,
 - x) corrosion resistance,
 - xi) fill settlement,
 - xii) resistance to the decomposition heat of the placed refuse.,
 - xiii) ability to isolate individual components or sections for repair or troubleshooting without shutting down the entire collection system.
- [Sec. 3D-0524, 40 CFR 60, Subpart Cf,, 40 CFR 62.16728(a)(1)]
- d) The determination of the sufficient density of the collection devices, as required in permit Condition 3.1(A)(3)(a), shall address possible LFG migration issues and future augmentation of the GCCS through the use of active or passive systems at the landfill perimeter and/or exterior.
- [Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16728(a)(2)]
- e) The placement of collection devices shall control all LFG producing areas, with the following exceptions:
- i) Any segregated area of asbestos or non-degradable material may be excluded if documented as provided in Sections §62.16728(a)(3)(i), §62.16726(d), and permit condition 3.1 (A)(8)(h).
 - ii) Any non-productive area of the landfill may be excluded if the permittee, using the procedures provided in Section §62.16728(a)(3)(ii), demonstrates to the satisfaction of this Office that the *total of all excluded areas contributes less than 1 percent of the total amount of NMOC emissions* from the balance of the landfill.
- [Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16728(a)(3)]
- f) The LFG extraction components ~~shall~~ must be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to convey projected amounts of gases, withstand installation, static, and settlement forces, and withstand planned overburden or traffic loads.
- [Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16728(b)(1)]
- g) The permittee shall extend the GCCS as necessary in order to maintain compliance with all applicable LFG emission and migration standards.
- [Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16728(b)(1)]
- h) Collection devices such as wells and horizontal collectors must be perforated to allow LFG entry without head loss sufficient enough to impair performance across the intended extent of control. Perforations must be situated with regard to the need to prevent excessive air infiltration.
- [Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16728(b)(1)]
- i) Vertical wells shall be placed so as not to endanger underlying liners, and ~~shall~~ must address the occurrence of water within the landfill.
- [Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16728(b)(2)]
- j) Holes and trenches constructed for piped wells and horizontal collectors ~~shall~~ must be of sufficient cross section dimensions so as to allow for their proper construction

and completion.

[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16728(b)(2)]

- k) Collection devices must be designed so as not to allow indirect short circuiting of air into the cover, or refuse into the collection system, or LFG into the ambient air.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16728(b)(2)]
- l) Any gravel fill used around pipe perforations should be of dimensions that will not penetrate, block, or otherwise disrupt the perforations.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16728(b)(2)]
- m) LFG collection devices may be connected to the collection header pipes either below or above the landfill surface. Each connector assembly shall include:
 - i) a positive-closing throttle valve,
 - ii) any necessary seals and couplings,
 - iii) access couplings, and
 - iv) at least one sampling port.[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16728(b)(3)]
- n) All collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16728(b)(3)]
- o) Pursuant to 40 CFR 62.16714(c), the permittee must convey the LFG to the GCCS through the collection header pipe(s). All gas mover equipment must be sized to handle the maximum LFG generation flow rate expected over the intended use period of the gas moving equipment pursuant to the procedures set forth in 40 CFR 62.16728(c)(1) and (2).
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16728(c)]

4) **Removal of Landfill Gas Collection and Control System (GCCS)**

The permittee may cap, remove, or decommission the GCCS upon compliance with the following provisions of 40 CFR 62.16714(f)(1)-(4), and all provisions of permit condition **3.1(A)(9)(b)**:

- a) The landfill shall be considered a “*closed landfill*”, as defined by 40 CFR 62.16730; a closure report as required by 40 CFR 62.16724(f) shall be submitted to this Office for approval.
- b) The collection and control system shall have been in operation a *minimum of 15 years*, or the landfill owner or operator demonstrates that the gas collection and control system will be unable to operate for 15 years due to declining LFG flow.
- c) The NMOC of the LFG produced by the landfill shall be *less than 34 megagrams (Mg) per year* on three successive test dates. The test dates must be no less than 90 days, and no more than 180 days apart.
- d) For the closed landfill subcategory (as defined in §62.16730), the NMOC of the LFG produced by the landfill shall be less than 50 Mg per year on three successive test dates. The test dates shall must be no less than 90 days, and no more than 180 days apart. The permittee shall calculate the NMOC emission rate using the methodology and equation provided in 40 CFR 62.16718(b).
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16718(b), and 62.16724(f)]

5) **Operational Standards**

- a) The permittee shall operate the GCCS pursuant to the requirements set forth in permit **Condition 3.1(B)(3)**.

- [Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16716(a)]
- b) The permittee shall operate the GCCS with negative pressure at each LFG wellhead, with the following exceptions:
- i) When positive pressure occurs in efforts to avoid a fire or increased temperature at a well. All such instances shall be recorded and submitted with the next semi-annual reports as required by 40 CFR 62.16724(h)(1) and permit **Condition 3.1(A)(9)(a)**.
 - ii) When a geomembrane or synthetic cover is in place; the permittee shall develop acceptable pressure limits in the design plan submitted to this Office for approval.
 - iii) At a decommissioned well, for which a static positive pressure may occur after shut down to accommodate for declining LFG flow. All design changes accommodating decommissioned wells shall be approved by this Office.
- [Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16716(b)]
- c) The permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 62.8 degrees centigrade.
- i) The nitrogen or oxygen level shall be monitored and determined using Method 3C, Method 3A or 3C, respectively unless an alternative test method is established as allowed by 40 CFR 62.16724(d).
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 63.1961(a)(2)]
 - ii). The permittee shall operate the collection system so that the methane concentration is less than *500 parts per million* above background at the surface of the landfill. The permittee shall comply with this requirement pursuant to 40 CFR 62.16716(d) and as provided in the surface methane monitoring conditions at condition **3.1(A)(7)(c)**.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16716(d)]
 - iii) The permittee shall operate the system such that all collected landfill gases are vented to a control system designed and operated in compliance with §60.752(b)(2)(iii).
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16716(e)]
 - iv) The permittee shall operate the control or treatment system at all times when the collected gas is routed to the system.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16716(f)]
 - v) If for any reason the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the landfill gas to the atmosphere shall be closed within one hour.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16716(e)]
 - vi) If monitoring demonstrates that the operational requirements of the NSPS Emission Guidelines at 40 CFR 62.16716(b), (c), or (d) are not met, corrective action must be taken as specified in 40 CFR 62.16720(a)(3) and (5) **or** Section 62.16720(c) and conditions **3.1(A)(7)(a) through (c)**. If such corrective action is taken, the monitored exceedance is not a violation of these operational standards.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16716(g)]
- d) The permittee may establish a higher operating temperature at extraction wells upon approved demonstration to this office.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16716(c), and 63.1958(c)(2)]
- 6) **Compliance provisions** - Except as provided in 40 CFR 62.16724(d), permit condition **3.1(A)(1)(b)**, and Section 62.16720(a)(1) through (a)(6), the following conditions shall be used to determine whether the gas collection system is in compliance with 40 CFR 62.16714(b)(1) and permit condition **3.1(A)(2)**:
- a) To determine compliance with 40 CFR 62.16714(b)(2)(i) and permit condition **3.1(A)(2)(a)**, the permittee must use the most appropriate equation found in 40 CFR 62.16720(a)(1) to

calculate the maximum expected gas generation flow rate.

[[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(a)(1)]

- b) For the purposes of determining sufficient density of gas collection devices for compliance with 40 CFR 62.16714(b)(2)(ii) and permit condition **3.1(A)(2)(c)**, the permittee must design a system of vertical wells, horizontal collectors, or other collection devices, subject to approval by this Office, capable of controlling and extracting enough LFG from all portions of the landfill to sufficiently meet all operational and performance standards.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(a)(2)]
- c) The permittee shall place each collection well and/or design component as specified in the approved GCCS design plan.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(b)]
- d) Each collection well shall be installed within 60 days of the date on which the initial solid waste has been in place for 5 years or more, if active, or 2 years or more, if closed, or at final grade.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720 (b)]
- e) To demonstrate that the gas collection system flow rate is sufficient to determine compliance with 40 CFR 62.16714(b)(2)(iii) and permit condition **3.1(A)(2)(d)**, the permittee shall comply with all applicable provisions relating to monitoring of collection well header pressure and corrective action procedures set forth in 40 CFR 62.16720(a)(3) and permit Condition **3.1(A)(7)(b)**.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(a)(3)]
- f) In order to determine whether excess air infiltration into the landfill is occurring, the permittee shall conduct all applicable monitoring procedures pursuant to 40 CFR 63.1958(c)(1) and permit condition **3.1(A)(7)(c)**.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 63.1960(a)(4)]
- g) To determine compliance with the surface methane requirements of 40 CFR 62.16716(d) and permit condition **3.1(A)(5)(d)**, the permittee shall conduct monitoring and take corrective action(s) as required by 40 CFR 62.16720(c), set forth in permit condition **3.1(A)(7)(d)**.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(c)]

7) Monitoring and Corrective Action Requirements

a) Gauge Pressure Monitoring

- i) The permittee shall measure gauge pressure in the LFG collection system header at each individual well *no less than once per calendar month*.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(a)(3)]
- ii) If a positive pressure reading is measured, action shall must be initiated to correct the exceedance within **5** calendar days, except when there exists one or more of the three (3) conditions noted in 40 CFR 62.16716(b) and permit condition **3.1(A)(5)(b)**.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(a)(1)]
- iii) If negative pressure cannot be achieved without excess air infiltration within **15** calendar days of the first measurement of positive pressure, the owner or operator must conduct a root cause analysis and correct the exceedance as soon as practicable, but not later than 60 days after positive pressure was first measured.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(a)(3)(i)]
- iv) If corrective actions cannot be fully implemented within 60 days following the positive pressure or elevated temperature measurement for which the root cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the

measurement of positive pressure.

[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(a)(3)(ii)]

- (v) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, pursuant to 40 CFR 62.16724(h)(7) and (k).

[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(a)(3)(iii)]

b) Temperature and Air Infiltration Monitoring

- i) At each collection wellhead, the permittee shall install a sampling port and thermometer (or other appropriate temperature measuring device), or an access port for the measurement of well temperature.

[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(a)]

- ii) To identify whether excess air infiltration is occurring, the permittee shall monitor each well *no less than once per month* for temperature and nitrogen or oxygen, as required in 40 CFR 63.1960(a)(4), §62.16722(a)(2), and permit condition **3.1(A)(5)(c)**.

- iii) If a collection well exceeds one of the operating parameters described in (b)(i) or (b)(ii) above, action shall be initiated to correct the exceedance within **5** calendar days.

- iv) If a landfill gas temperature less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit) cannot be achieved within 15 days of the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit), the owner or operator must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) was first measured.

[Sec. 3D-1110 and 40 CFR 63.1960(a)(4)(i)(A)]

- v) If corrective actions cannot be fully implemented within 60 days following the temperature measurement for which the root-cause analysis was required, the owner or operator must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit).

[Sec. 3D-1110 and 40 CFR 63.1960(a)(4)(i)(B)]

- vi) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to 40 CFR 63.1981(h)(7) and (j).

[Sec. 3D-1110 and 40 CFR 63.1960(a)(4)(i)(C)]

- vii) If a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured, according to the procedures in 40 CFR 63.1961(a)(5)(vi) (or an alternative test method approved by the office) is greater than or equal to 1,000 ppmv the corrective action(s) for the wellhead temperature standard (62.8 degrees Celsius or 145 degrees Fahrenheit) must be completed within 15 days.

[Sec. 3D-1110 and 40 CFR 63.1960(a)(4)(i)(D)]

- A) Unless a higher operating temperature value has been approved by the Administrator under 40 CFR part 63, subpart AAAA or under 40 CFR part 60, subpart WWW; 40 CFR part 60, subpart XXX; or a federal plan or EPA-approved and effective state plan or tribal plan that implements either 40 CFR part 60, subpart Cc or 40 CFR part 60, subpart Cf, you must initiate enhanced monitoring at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit)

as follows:

- 1) Visual observations for subsurface oxidation events (smoke, smoldering as damage e to well) within the radius of influence of the well.
- 2) Monitor oxygen concentration as follows;
 - a) Unless an alternative test method is established as allowed by 40 CFR 63.1981(d)(2), the oxygen level must be determined by an oxygen meter using EPA Method 3A or 3C of appendix A-2 to part 60 or ASTM D6522-11 (incorporated by reference, see 40 CFR 63.14). Determine the oxygen level by an oxygen meter using EPA Method 3A or 3C of appendix A-2 to part 60 or ASTM D6522-11 (if sample location is prior to combustion) except that:
 - i) The span must be set between 10- and 12-percent oxygen;
 - ii) A data recorder is not required;
 - iii) Only two calibration gases are required, a zero and span;
 - iv) A calibration error check is not required; and
 - v) The allowable sample bias, zero drift, and calibration drift are ± 10 percent.[Sec. 3D-1110 and 40 CFR 63.1961(a)(2)(ii)]
 - B) A portable gas composition analyzer may be used to monitor the oxygen levels provided:
 - i) The analyzer is calibrated; and
 - ii) The analyzer meets all quality assurance and quality control requirements for EPA Method 3A of appendix A-2 to part 60 or ASTM D6522-11 (incorporated by reference, see § 63.14).[Sec. 3D-1110 and 40 CFR 63.1961(a)(2)(iii)]
- ix) Monitor temperature of the landfill gas at the wellhead on a monthly basis as provide for in 40 CFR 63.1960(a)(4). The temperature measuring device must be calibrated Annually using the procedure in Section 10.3 of EPA Method 2 of appendix A-1 to part 60.
- x) Monitor temperature of the landfill gas every 10 vertical feet of the well. This temperature can be monitored either with a removable thermometer, or using temporary or permanent thermocouples installed in the well.
[Sec. 3D-1110 and 40 CFR 63.1961(a)(6)]
- xi) Monitor the methane concentration with a methane meter using EPA Method 3C of appendix A-6 to part 60, EPA Method 18 of appendix A-6 to part 60, or a portable gas composition analyzer to monitor the methane levels provided that the analyzer is calibrated and the analyzer meets all quality assurance and quality control requirements for EPA Method 3C or EPA Method 18.
- xii) Monitor carbon monoxide concentrations, as follows:
 - A) Collect the sample from the wellhead sampling port in a passivated canister or multi-layer foil gas sampling bag (such as the Cali-5-Bond Bag) and analyze that sample using EPA Method 10 of appendix A-4 to part 60, or an equivalent method with a detection limit of at least 100 ppmv of carbon monoxide in high concentrations of methane; and
 - B) Collect and analyze the sample from the wellhead using EPA Method 10 of appendix A-4 to part 60, or an approved alternative, to measure carbon monoxide concentrations.
- xiii) The enhanced monitoring must begin seven days after the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit); and
- xiiii) The enhanced monitoring must be conducted on a weekly basis. If four consecutive weekly carbon monoxide readings are under 100 ppmv, then enhanced monitoring

may be decreased to monthly. However, if carbon monoxide readings exceed 100 ppmv again, the landfill must return to weekly monitoring.

- xiv) The enhanced monitoring can be stopped once a higher operating value is approved, at which time the monitoring provisions issued with the higher operating value should be followed, or once the measurement of landfill gas temperature at the wellhead is less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit).

[Sec. 3D-1110 and 40 CFR 63.1961(a)(5)]

c) Methane Surface Concentration Monitoring

- i) On a *quarterly* basis following installation of the LFG collection system, the permittee shall conduct monitoring of surface methane concentrations of along the entire perimeter of each collection area. The monitoring shall proceed along a pattern that either traverses the landfill at 30 meter intervals, or a follows a site specific spacing established under condition (7)(c)(ii) below.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(c)(1)]
- ii) Surfacing methane monitoring shall be conducted in accordance with the surface monitoring design plan as approved by this Office, which includes a topographical map denoting the terrain of the monitoring route. The owner or operator must 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. Thus, the owner or operator must monitor any openings that are within an area of the landfill where waste has been placed and a gas collection system is required. The permittee may establish an alternative traversing pattern that ensures equivalent coverage, providing the rationale for any site-specific deviations in the monitoring design plan is approved by this Office prior to establishment. A new or amended surface monitoring design plan shall be submitted to this Office for approval when changes to the collection and control system design plan occur as the LFG collection and control system is expanded. Areas with steep slopes or other dangerous areas may be excluded from the surface methane testing plan.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16716(d)]
- iii) The permittee shall follow all applicable equipment and instrumentation specifications, calibration requirements, monitoring condition requirements, and testing methods and procedures specified in 40 CFR 62.16720.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(c) and (d)]
- iv) Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the corrective action procedures set forth in 40 CFR 62.16720(c)(4)(i)-(v) shall be taken. The monitored exceedance is *not* considered a violation of the operational requirements of 40 CFR 62.16716 ~~60-753~~(d) or permit condition **3.1(A)(5)(c)(iii)** as long as all required actions specified are performed.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(c)(4)]
- v) For any location where monitored methane concentration equals or exceeds 500 parts per million (ppm) above background three (3) times within a quarterly period, a new collection well (or other appropriate collection device) shall be installed within 120 calendar days of the initial measured exceedance. An alternative remedy and a corresponding time line for installation may be submitted to this Office for approval.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(c)(4)(v)]
- vi) The Permittee shall comply with the instrumentation specifications and procedures for surface emission monitoring devices provided in 40 CFR 62.16720(d).
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(d)]

- vii) Upon closure of the landfill, if there are no monitored exceedances of the surface methane operational standard in three (3) consecutive quarterly monitoring periods, the permittee may change to an annual monitoring schedule. If a methane reading of 500 ppm or more above background is detected during an annual monitoring event, however, the permittee shall return to a quarterly monitoring schedule.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16722(f)]
- viii) The permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(c)(5)]

8) Recordkeeping Requirements

- a) All required records and/or documentation shall be kept up-to-date and readily accessible. If records are maintained off-site, they shall be retrievable within four (4) hours. Paper and/or electronic formats are acceptable.
[Secs. 3Q-0508(f), 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16726(a) – (j)]
- b) The permittee shall keep for at least five (5) years records of the design capacity report which originally triggered 40 CFR 62.16714(e), the current amount of solid waste in-place, and the year-by-year waste acceptance rate.
[Secs. 3Q-0508(f), 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16726(a)]
- c) The permittee shall maintain records for the life of the control equipment of the data listed below as measured during the initial performance test. Records of subsequent tests or monitoring shall be maintained for a minimum of five (5) years. Records of the control device vendor specifications shall be maintained until removal.
[Secs. 3Q-0508(f), 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16726]

 - i) The maximum expected gas generation flow rate of the collection system as calculated in 40 CFR 62.16720(a)(1) or as calculated by another method, if the method has been approved by this Office.
[Secs. 3Q-0508(f), 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16726(b)(1)(i)]
 - ii) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in Section 40 CFR 62.16728(a)(1) and permit condition **3.1(A)(3)**.
[Secs. 3Q-0508(f), 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16726(b)(1)(ii)]
 - iii) The flare type, all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in 40 CFR 60.18. **PICK UP HERE**
[Sec. 3Q-0508(f), Sec. 3D-0524 40 CFR 60, Subpart Cf, and 40 CFR 62.16726(b)(4)]
 - iv) During all periods when the permittee is seeking to comply with 40 CFR 62.16710 ~~60.750~~ *et seq.* by use of an open flare, continuous records of the flame or flare pilot flame monitoring specified under 40 CFR 62.16722(c) and records of all periods during which the pilot flame of the flare flame is absent.
[Sec. 3Q-0508(f), Sec. 3D-0524 40 CFR 60, Subpart Cf, and 40 CFR 62.16726(b)(4)]

- d) The permittee shall keep for at least five (5) years continuous records of the equipment operating parameters specified in 40 CFR 62.16722 and permit condition **3.1(A)(5)** as well as records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.
[Sec. 3Q-0508(f), Sec. 3D-0524 40 CFR 60, Subpart Cf, and 40 CFR 62.16726(c)(2)]
- e) The permittee must keep continuous records of the indication of flow to the control device and/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 under 40 CFR 62.16722 and permit condition **3.1(A)(5)(f)**.

- [Sec. 3Q-0508(f), Sec. 3D-0524 40 CFR 60, Subpart Cf, and 40 CFR 62.16726(c)]
- f) The permittee must keep for the life of the collection system a plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector.
[Sec. 3Q-0508(f), Sec. 3D-0524 40 CFR 60, Subpart Cf, and 40 CFR 62.16726(d)]
- g) The permittee must keep records of the installation date and location of all newly installed collectors as specified under 40 CFR 62.16720(b) and permit conditions **3.1(A)(6)(b)**.
[Sec. 3Q-0508(f), Sec. 3D-0524 40 CFR 60, Subpart Cf, and 40 CFR 62.16726(d)]
- h) The permittee must keep documentation of the nature, date of deposition, amount, and location of asbestos-containing or non-degradable waste excluded from collection as well as any nonproductive areas excluded from collection pursuant to 40 CFR 62.16728(a)(3)(i) and (ii) and permit condition **3.1(A)(3)(e)**.
[Sec. 3Q-0508(f), Sec. 3D-0524 40 CFR 60, Subpart Cf, and 40 CFR 62.16720(d)]
- i) The permittee must keep for at least five (5) years records of all collection and control system exceedances of the operational standards in 40 CFR 62.16716 and permit condition **3.1(A)(5)**. The permittee shall keep a record of the root-cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the regulatory agency.
[Secs. 3Q-0508(f) & 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16726(e)(5), §63.1982, and §63.1983]

9) **Reporting Requirements** - [Sec. 3Q-0508(f), 40 CFR 60, Subpart Cf, 40 CFR 62.16724, 40 CFR 63.1981, §63.1982, and §63.1983]

- a) **Collection and Control System Compliance Report** - The permittee shall submit to this Office, on or before January 30 for the period from July to December and on or before July 30 for the period from January through June, reports of the information recorded pursuant to 40 CFR 62.16724(h)(1) through (7) and paragraphs (i) through (vi), below. Reportable exceedances for flares are defined under 40 CFR 62.16722(c). The report shall include:
- i) Value and length of time for exceedance of applicable parameters monitored under 40 CFR 62.16722(a) through (d) and (g), and permit conditions **3.1(A)(7)**.
 - ii) Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under 40 CFR 62.16722, and permit condition **3.1(A)(5)**.
 - iii) Description and duration of all periods when the control device (or treatment system) was not operating, and the length of time the control device (or treatment system) was not operating.
 - iv) All periods when the collection system was not operating.
 - v) The location of each exceedance of the 500 ppm methane concentration recorded at each location for which an exceedance was recorded in the previous month. For location, latitude and longitude coordinates must be determined using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.
 - vi) The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 62.16720(a)(3)-(4), (b), and (c)(4).
 - vii) For any corrective action analysis for which corrective actions are required in 40 CFR 62.16720(a)(3) or (4) and that take more than 60 days to correct the exceedance,

the root-cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or elevated temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

viii) The permittee shall note that 40 CFR Part 63, Subpart AAAA and Condition **3.1(B)(3)** requires that this report be submitted every six (6) months.

[Sec. 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16724(h), and Sec. 3D-1110. 40 CFR 63.1955(a), §63.1981, §63.1982, & §63.1983]

b) Closure report

- i) The permittee shall submit a closure report to this Office within 30 days of the cessation of waste acceptance.
- ii) This Office may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60.
- iii) If a closure report has been submitted, no additional waste may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4).

[Sec. 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16724(f)]

c) Equipment Removal Report

- i) The permittee shall submit an equipment removal report to this Office 30 days prior to removal or cessation of operation of the control equipment. This Office may request additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 62.16714(b) have been met, but the report shall contain all of the following items:
 - A) A copy of the closure report submitted in accordance with paragraph (bf) above;
 - B) A copy of the initial performance test report demonstrating that the fifteen (15) year minimum control period has expired, unless the report of the results of the performance test has been submitted to the EPA via the EPA's Central Data Exchange (CDX), or information that demonstrates that the gas collection and control system will be unable to operate for 15 years due to declining gas flows. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX;
 - C) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 34 Mg or greater of NMOC per year, unless the NMOC emission rate reports have been submitted to the EPA via the EPA's CDX. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports; or,
 - D) For the closed landfill subcategory, dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 Mg or greater of NMOC per year, unless the NMOC emission rate reports have been submitted to the EPA via the EPA's CDX. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu

of the NMOC emission rate reports.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16724(g)]

B) 40 CFR 63, Subpart AAAA: National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills (Sec. 3D-1110)

- 1) **Standard** - The permittee shall comply with all applicable standards and provisions, including the notification, testing, work practices, reporting, recordkeeping, and monitoring requirements of FCAQTC Sec. 3D-1110, "National Emission Standards for Hazardous Air Pollutants" (NESHAP), promulgated in 40 CFR Part 63, Subpart AAAA, including all applicable requirements and provisions specified by the general provisions of the National Emission Standards for Hazardous Air Pollutants (40 CFR 63, Subpart A).
[Sec. 3D .1110, 40 CFR 63.1930 *et seq.*]
 - a) The permittee shall comply with this standard by complying with all applicable requirements of 40 CFR 62, Subpart OOO, including (but not limited to) performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence.
[Sec. 3D .1110, 40 CFR 63.1955, and §63.1964]
 - b) Continuous parameter monitoring data, collected under the provisions of 40 CFR 62, Subpart OOO shall be used to demonstrate compliance with the operating conditions for the permittee's LFG control systems.
[Sec. 3D-1110, 40 CFR 63.1964]
 - c) With the exceptions noted in 40 CFR 63.1955, any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, that have been approved by this Office as allowed under 40 CFR 62, Subpart OOO and condition **3.1(A)(1)(b)** may be used to demonstrated compliance with the NESHAP MACT,
[Sec. 3D-1110, 40 CFR 63.1955(e)]
 - d) For approval of alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, the permittee must follow the procedures of 40 CFR 62.16714(b) and permit condition **3.1(A)(1)(b)**.
[Sec. 3D-1110, 40 CFR 63.1955(a)]
 - e) If a deviation, as defined in 40 CFR 63.1990 or permit condition **3.1(B)(1)(h)**, occurs, the permittee has failed to meet the control device operating conditions of the NESHAP and has deviated from its requirements.
[Sec. 3D .1110, 40 CFR 1964]
 - f) The provisions of subpart AAAA apply at all times, including periods of start-up, shutdown, or malfunction. During periods of startup, shutdown, and malfunction, you must comply with the work practice specified in 40 CFR 62.16716(e) in lieu of the compliance provisions in §62.16720.
[Sec. 3D-1111, 40 CFR 63.1960, 40 CFR 62.16720(e)]

2) **Monitoring** [Sec. 3Q-0508(f) and 40 CFR 63.1960]

The permittee shall monitor the GCCS pursuant to 40 CFR §62.16710 *et seq.* and Condition **3.1(A)(7)**.

3) **Recordkeeping Requirements** [Sec. 3Q-0508(f) & 40 CFR 63.1981, §63.1982, & §63.1983]

- a) The permittee shall maintain all records specified in 40 CFR Part 62, Subpart OOO.
- b) The permittee shall maintain records as specified in the general provisions; 40 CFR Part 60,

Subpart A.

- c) The permittee shall maintain the following records as specified in Table 1 of 40 CFR Part 63, Subpart AAAA, noting the applicable NESHAP General Provisions:
- i) Records of all required maintenance performed on the air pollution control or monitoring equipment,
 - ii) Records of CMS malfunctions, and
 - iii) Records of compliance measurements.

[Sec. 3D-1111, 40 CFR 63.19801, §63.1982, §62.1983, §63.1990]

- 4) **Reporting Requirements** - A semi-annual "Collection and Control System Report", as described in 40 CFR 62.16724(h), and required by Condition **3.1(A)(9)(a)**, must be submitted to this Office no later than July 30 and January 30 for each preceding semi-annual period. This semi-annual report must contain the following information:

- (a) Number of times that applicable parameters monitored under §63.1958(b), (c), and (d) were exceeded and when the gas collection and control system was not operating under §63.1958(e), including periods of SSM. For each instance, report the date, time, and duration of each exceedance.
 - 1) Provide a statement of the wellhead operational standard for temperature and oxygen you are complying with for the period covered by the report. Indicate the number of times each of those parameters monitored under 40 CFR 63.1961(a)(3) were exceeded. For each instance, report the date, time, and duration of each exceedance.
 - 2) Beginning no later than September 27, 2021, number of times the parameter for the site-specific treatment system in 40 CFR 63.1961(g) were exceeded.
- b) Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under 40 CFR 63.1961.
- c) Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating.
- d) All periods when the collection system was not operating.
- e) The location of each exceedance of the 500-ppm methane concentration as provided in §63.1958(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month. Beginning no later than September 27, 2021, for location, you record the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.
- f) The date of installation and the location of each well or collection system expansion added pursuant to § 63.1960(a)(3) and (4), (b), and (c)(4).
- g) For any corrective action analysis for which corrective actions are required in 63.1960(a)(3)(i) or (a)(5) and that take more than 60 days to correct the exceedance, the root-cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.
- h) Each owner or operator required to conduct enhanced monitoring in §§ 63.1961(a)(5) and (6) must include the results of all monitoring activities conducted during the period.
 - 1) For each monitoring point, report the date, time, and well identifier along with the value and units of measure for oxygen, temperature (wellhead and down-well), methane, and carbon monoxide.
 - 2) Include a summary trend analysis for each well subject to the enhanced monitoring requirements to chart the weekly readings over time for oxygen, wellhead temperature,

methane, and weekly or monthly readings over time, as applicable for carbon monoxide.

3) Include the date, time, staff person name, and description of findings for each visual observation for subsurface oxidation event.

[Sec. 3D-1110 and 40 CFR 63.1981(h)]

3.2 UTILITY FLARE (Landfill Gas Specialties CF-103018 with AeroVent blower - ID No. CD-02)

Table 3.2: Summary of Emission Limits, Standards and Other Applicable Requirements.

Regulated Pollutant	Applicable Standard	Applicable Regulation
visible emissions	no visible emissions	3D-0524 New Source Performance Standards and 40 CFR Part 62, Subpart OOO, and 40 CFR Part 60, Subpart A, General Provisions, Section 60.18(c)(1)
NMOC	flame present at all times	3D-0524 New Source Performance Standards and 40 CFR Part 62, Subpart OOO, and 40 CFR Part 60, Subpart A, General Provisions, Section 60.18(c)(2)
NMOC	maximum exit velocity 60 ft/sec	3D-0524 New Source Performance Standards and 40 CFR Part 62, Subpart OOO, and 40 CFR Part 60, Subpart A, General Provisions, Section 60.18(c)(3)(iii) and 60.18(f)(5)
Sulfur dioxide (SO ₂)	SO ₂ emissions less than 2.3 lb/MMBtu	Sec. 3D-0516, "Sulfur Dioxide Emissions from Combustion Sources"

A) Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014. (Secs. 3D-0524 & 40 CFR Part 62, Subpart OOO, as referenced by Section number)

- 1) **Standard - [Sec. 3D-0524]** - The permittee shall comply with all applicable standards and provisions, including the notification, testing, work practices, reporting, recordkeeping, and monitoring requirements of Sec. 3D-0524, "Emission Guidance (EG)" as promulgated in 40 CFR 60, Subpart Cf and 40 CFR Part 62, Subpart OOO, including all applicable requirements and provisions specified by the general provisions of the NSPS found in **40 CFR 60, Subpart A**.
 - a) Utility Flare CD-02 shall be designed and operated at all times in accordance with all applicable provisions of 40 CFR 60.18.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16714(c)(1)]
 - b) Utility Flare CD-02 shall be operated with no visible emissions as determined by 40 CFR 60, Appendix A-7, Method 22 (as specified in 40 CFR 60.18(f)), except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours, and except during periods of startup, shutdown, and malfunction. [Sec. 3D-0524 & 40 CFR 60.18(c)(1)]
 - c) During all periods when the permittee is seeking to comply with 40 CFR 62.16710 *et seq.* by use of CD-02, the flare shall be operated with a flame present at all times as determined by the methods specified in 40 CFR 60.18(f) and permit **Condition 3.2(A)(2)**.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16714(c)(1)]
 - d) The utility flare, CD-02, shall combust no LFG with net heating value of less than 200 Btu/scfm, as determined by the equation provided in 40 CFR 60.18(f)(3).
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16714(c)(1) and 60.18(c)(3)(ii)]
 - e) CD-02 shall be operated with an exit velocity no greater than 60 feet per second.

- [Sec. 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16714(c)(1) and 60.18(c)(3)(ii)]
- f) The provisions of 40 CFR 62, Subpart OOO apply at all times. During periods of startup, shutdown, and malfunction, you must comply with the work practice specified in §62.16716(e) in lieu of the compliance provisions in §62.16720.
[Sec. 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16720(e)]

2) Monitoring

- a) During all periods when the permittee is seeking to comply with 40 CFR 62.16710 *et seq.* by use of Utility Flare CD-02, the permittee shall perform no less than one (1) daily observation of the flare to determine if visible emissions (VE) are present.
- i) This observation shall be conducted for at least five (5) consecutive minutes.
 - ii) If VE are observed during this observation, the permittee shall, within thirty (30) minutes of observing VE, conduct a Method 22 observation for two (2) hours (as specified in 40 CFR 60.18(f)).
- [Secs. 3Q-0508(f), 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16722 and 60.18]
- b) During all periods when the permittee is seeking to comply with 40 CFR 62.16710 *et seq.* by use of Utility Flare CD-02, the permittee shall install, calibrate, maintain, and operate, according to the manufacturer and/or vendor specifications, the following equipment:
- i) A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light (or the flame itself) to indicate the continuous presence of a flame.
 - ii) A device that records LFG flow to and/or bypass from the flare. The permittee shall either:
 - (A) install, calibrate, and maintain a LFG flow rate measuring device that shall record the flow to the flare at least every 15 minutes, or
 - (B) secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A **visual inspection** of the seal or closure mechanism shall be performed **at least once every month** to ensure that the valve is maintained in the closed position, and that the LFG flow is not diverted through the bypass line.
- [Secs. 3Q-0508(f), 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16722(c) & 40 CFR 60.18]

3) Recordkeeping

- a) When the permittee is seeking to comply with 40 CFR 62.16710 *et seq.* by use of Utility Flare CD-02, the permittee shall keep a log of the daily flare observations conducted as specified in **Condition 3.2(A)(2)(a)**.
- i) The log of daily flare observations shall contain the following entries:
 - (A) the date and time of visual observation(s),
 - (B) the person(s) who performed visual observation(s),
 - (C) where emissions are observed, the operating conditions under which the visual observation(s) was conducted, and
 - (D) any actions taken to eliminate the visible emissions.
 - (E) the date, time, and results of any two (2) hour Method 22 VE tests.
 - ii) In order to be deemed in compliance with this requirement, data shall be available for at least 90% of the flare's operating days at the facility during the six-month reporting period to ensure compliance with the requirement of no visible emissions.
 - iii) The log shall be retained for at least five (5) years from the event recorded, and shall be made readily available upon request by an authorized representative of this Office or the U.S. EPA.
- [Secs. 3Q-0508(f), 3D-0524, 40 CFR 60, Subpart Cf, 40 CFR 62.16714(c)(1), and 40 CFR 60.18(c)(1)]

- b) During all periods when the permittee is seeking to comply with 40 CFR 62.16710 *et seq.* by use of Utility Flare CD-02, the permittee shall keep continuous records of the flare pilot flame, or flare flame monitoring, and records of all periods of operations during which the pilot flame, or the flare flame is absent.
[Secs. 3Q-0508(f), 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16726(b)(4)]
- c) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with 40 CFR 62.16714(c)(3) through use of a landfill gas treatment system:
 - i) Records of the flow of landfill gas to, and bypass of, the treatment system.
 - ii) A site-specific treatment monitoring plan, to include:
 - A) Monitoring records of parameters that are identified in the treatment system monitoring plan and that ensure the treatment system is operating properly for each intended end use of the treated landfill gas. At a minimum, records should include records of filtration, de-watering, and compression parameters that ensure the treatment system is operating properly for each intended end use of the treated landfill gas.
 - B) Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas.
 - C) Documentation of the monitoring methods and ranges, along with justification for their use.
 - D) Identify who is responsible (by job title) for data collection.
 - E) Processes and methods used to collect the necessary data.
 - F) Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems.
- d) For the life of the Utility Flare CD-02, the permittee shall maintain all VE readings, heat content determinations, flow rate and/or bypass flow rate measurements, and exit velocity determinations conducted during the performance test as specified in 40 CFR 60.18.
[Secs. 3Q-0508(f), 3D-0524 40 CFR 60, Subpart Cf, and 40 CFR 62.16726(b)(5)]
 - i) Records of subsequent tests or monitoring shall be maintained by the permittee for a minimum of five (5) years.
 - ii) Records of the manufacturer and/or vendor specifications for Utility Flare CD-02 shall be maintained until the flare's removal.
- e) All records and/or documentation required to be kept shall be up-to-date and readily accessible. If records are maintained off-site, they shall be retrievable within 4 hours. Paper and/or electronic formats are acceptable.
[Sec. 3Q-0508(f), Sec. 3D-0524 40 CFR 60, Subpart Cf, and 40 CFR 62.16726]

4) Reporting

- a) The following constitute exceedances that shall be recorded and reported in the annual report required under 40 CFR 62.16724(h) and permit **Condition 3.1(A)(9)(a)**:
 - i) exceedances of the parameter boundaries established during the most recent performance test,
 - ii) any instance of visible emissions observed pursuant to **Condition 3.2(A)(2)(a)**,
 - iii) the results of all two (2) hour Method 22 visible emissions observations conducted as required due to the instances specified in (i) and (ii) above.
- b) All instances of deviations from the requirements for this emission source, and the duration of these deviations, must be clearly identified and reported in writing to this Office by July 30th for the previous months of January through June, and by January 30th for the previous months of July through December.

- i) The report shall contain the results of investigations and any corrective actions taken as a result of a deviation and other malfunctions.
- ii) If no deviations have occurred during the reporting period, the permittee shall state this fact in the report.

[Secs. 3Q-0508(f), 3D-0524, 40 CFR 60, Subpart Cf, and 40 CFR 62.16726]

B) 40 CFR 63, Subpart AAAA: National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills (Sec. 3D-1110)

At all times when operating the Utility Flare CD-02 to comply with 40 CFR 62, Subpart OOO, the Hanes Mill Road landfill shall comply with all applicable Subpart AAAA regulations set forth in permit **condition 3.1(B)**.

[Sec. 3D-1110 and 40 CFR 63, Subpart AAAA]

C) Sulfur Dioxide Emissions from Combustion Sources (Sec. 3D-0516)

- 1) **Standard** - Emissions of sulfur dioxide from CD-02, the utility flare, shall *not exceed* 2.3 pounds of sulfur dioxide per million Btu input.
- 2) **Monitoring, Recordkeeping, Reporting** - [Sec. 3Q-0508(f)] - No monitoring, recordkeeping, or reporting is required for the permittee to comply with the requirements of Sec. 3D-0516.
[Sec. 3D-0516]

SECTION 4 CONTROL OF TOXIC AIR POLLUTANTS - LOCAL ENFORCEMENT ONLY

4.1 **Applicable Regulatory Requirements for TAP Sources** - The Hanes Mill Road landfill facility is subject to **Section 3D-1100** of the Forsyth County Air Quality Technical Code (FCAQTC), and is only enforceable locally. All emission sources and associated air pollution control device(s) in operation at the landfill are subject to the following specific terms, conditions, and limitations, including monitoring, recordkeeping, and reporting requirements as applicable.

A) **Toxic Air Pollutants (TAP) - General** - Specification of a listed TAPs in this permit does not excuse the permittee from complying with the requirements of Sections 3D-1100 and 3Q-0700 of the FCAQTC with regard to any other listed TAP emitted from the regulated facility, nor does this permit exempt the permittee from compliance with any future air toxics regulations promulgated pursuant to the requirements of the United States Clean Air Act.
[Sections 3D-1100 and 3Q-0700]

B) **De minimis Limits**

1) Total facility-wide emissions of the pollutants listed in **Table 4.1** shall not exceed their respective de minimis emissions limits pursuant to Sec. 3Q-0711.

Table 4.1, Sec. 3Q-0711 Air Toxics Facility-wide De minimus Emission Rates

Pollutant (CAS Number)	De minimis level
1,1,1 trichlorethane (71556)	8.1 lb/yr
1,1,2,2,tetrachlorethane (79-34-5)	430 lb/yr
ethylene dichloride (107-06-2)	260 lb/yr
acrilonitrile (107-13-1)	10 lb/yr
carbon disulfide (75-15-0)	3.9 lb/day
carbon tetrachloride (56-23-5)	460 lb/yr
chlorobenzene (108-90-7)	46 lb/day
chloroform (67-66-3)	290 lb/yr
dichlorobenzene (106-46-7)	16.8 lb/hr
dichlorodifluoromethane (75-71-8)	5200 lb/day
dichlorofluoromethane (75-43-4)	10 lb/day
ethyl mercaptan (75-08-1)	0.025 lb/hr
ethylene dibromide (106-93-4)	27 lb/yr
hexane (110-54-3)	23 lb/day
mercury and compounds (199)	0.013 lb/day
methyl ethyl ketone (78-93-3)	78 lb/day and 22.4 lb/hr
methyl isobutyl ketone (108-10-1)	52 lb/day and 7.6 lb/hr
perchloroethylene (127-18-4)	13000 lb/yr
toluene (108-88-3)	98 lb/day
trichloroethylene (79-01-6)	4000 lb/yr
xylene (1330-20-7)	57 lb/day and 16.4 lb/hr

2) The permittee may submit for Office approval, a dispersion modeling demonstration is submitted and approved by this Office which shows that the emissions of the subject TAPs

from the facility will not pose an increased risk to human health.

- 3) Any modeling demonstration submitted to this Office for approval shall be produced in accordance with the requirements set forth in Sections 3D-1100 and 3Q-0700 of the FCAQTC, and must be completed using the most recently promulgated version of a U.S. EPA approved computer dispersion model.

[Sec. 3Q-0700]

C) Dispersion Modeling Emission Limits

- 1) Combined emissions of the TAPs from all sources not exempted by Sec. 3Q-0702(a) and (b) at this facility shall not exceed the emission rates listed in **Table 4.2** below.
- 2) The emission rates listed in **Table 4.2** shall be used as a basis for certifying that any future modifications or changes in the methods of operation will result in ambient impacts below their Ambient Allowable Limits (AAL).
- 3) In no case shall actual emissions resulting from changes or modifications exceed any of the following emission rates without first applying for and receiving a modified permit.
- 4) Upon approval by this Office, the permittee may submit an analysis calculated using the results of a previous modeling in lieu of a revised modeling demonstration showing compliance with the acceptable ambient levels (AAL) for the pollutants listed in **Table 4.2**.

[Secs. 3D-1100 and 3D-1104]

Table 4.2, Air Toxics Maximum Facility-wide Modeled Emission Rates

Pollutant	Maximum Emission Rate
benzene (71-43-2)	155.39 lb/yr
vinyl chloride (75-01-4)	137.77 lb/year
hydrogen sulfide (7783-06-4)	4.51 lb/day

D) Toxic Air Pollutant Recordkeeping Requirements

- 1) The permittee shall maintain updated records of production rates, throughputs, material usage, and other process operational information as is necessary to determine compliance with the emission rates specified in permit conditions **4(B) and (C)**.
- 2) At a minimum these records shall include data sufficient to calculate monthly averaged emission rates (in pounds per hour of emission source operation) for TAPs with 1-hour or 24-hour emission limits and annual emission rates (in pounds per calendar year) for TAPs with annual emission limits.
- 3) Copies of these records shall be retained by the permittee for a period of three (3) years after the date on which the record was made.
- 4) The permittee shall readily supply copies of these records at the time of inspection, or at any time if requested by an agent of this Office.

[Sections 3D-0605, 3D-1105, and 3Q-0308(a)(1)]

E) Toxic Air Pollutant Reporting Requirements - No reporting is required to demonstrate compliance with these requirements.

FORSYTH COUNTY
Office of Environmental Assistance and Protection
Title V Permit Administrative Amendment Statement of Basis

Applicant: City of Winston-Salem Hanes Mill Road MSW Landfill	Site Location: 325 W. Hanes Mill Road Winston-Salem, NC 27105	New Permit No.: 00913-TV-8
Responsible Official: Janis McHargue, P.E. City/County Utilities Administrator	Technical Contact: Gordon Dively Facility Engineer	Contact Phone: (336) 734-1502
Case Manager: Paul C. Martin Sr. Environmental Specialist	Agency QA Reviewer: Peter B. Lloyd, Ph.D., P.E. Division Manager	Review Start Date: August 18, 2023
Primary SIC Code: 4953 - Refuse Systems	NAICS Code: 562212 – Sanitary Landfill	

1.0 Executive Summary

The City of Winston-Salem operates its primary municipal solid waste (MSW) sanitary landfill at a 490 acre site at 325 West Hanes Mill Road, located on the far northern area of town adjacent to the US-52 freeway. The Hanes Mill Road Sanitary Landfill (HMRLF) is currently permitted as Title V facility in Forsyth County under permit #: 00913-TV-7. The facility is a Title V source solely by virtue of also being a MSW landfill with a waste-in-place design capacity of greater than 2.5 million Mg. Until June 21, 2021, the facility was subject to 40 CFR 60, Subpart WWW. However, on January 1, 2022, the facility was issued a new permit as it emerged under the umbrella of the new Federal Plan EG at 40 CFR 62, Subpart OOO. As such, though permitted in Forsyth County, the authority to enforce the EG currently falls with the US EPA itself, with this Office continuing to enforce general conditions and the NESHAP under 40 CFR 63, Subpart AAAA. On March 1, 2023, HMRLF formally submitted its request to this Office to renew their current operating permit 00913-TV-7. This application was accepted on March 2, 2023, with review beginning in August 2023. Upon completion of this review, this Office will issue the renewed Title V operating permit under new premise, 00913-TV-8.

2.0 Facility Description

The Hanes Mill Road Sanitary Landfill (hereafter referred to as HMRLF) is owned and operated by the City of Winston-Salem. It is located immediately west of the U.S. Highway 52 freeway, between Hanes Mill Road to the south, and Ziglar Road to the north. The permitted source is a “Subtitle D” MSW landfill, and the deposited waste is composed of both residential and industrial wastes typical of most municipal solid waste (MSW) landfills in the United States. The 490 acre site includes the MSW landfill areas, a citizens’ drop-off area for waste and recyclable materials, a white goods management area, and a landfill gas-to-energy facility area, leased to Salem Energy Systems (SES). The remaining acreage of the site is reserved for landfill support activities, such as access, leachate management, buffer, and erosion control.

The regulated (landfill) portion of the site includes:

- an 80-acre closed, unlined landfill with final cap construction in 1998;
- a 37-acre closed, lined landfill lateral expansion identified by HM as Cells 1, 2/3 B, and 3A, which ceased waste acceptance in 2005 (also known as the “Piggyback”);
- a 21-acre lined landfill expansion having received the initial placement of refuse in April 2007, identified as Phase 1, Cell 2;
- a 9-acre expansion identified as Phase 1, Cell 3
- a 46-acre expansion identified as Phases 2 and 3;

- a citizens' drop-off area for white goods; and
- One (1) KatoLite emergency diesel generator.

Together, the contiguous waste disposal areas are designated as emission source ES-1. Most landfill gas (LFG) generated by ES-1 is collected by a collection system of pipes and wells, kept under negative pressure. This system then conveys the collected LFG to a gas-to energy (LFGTE) electrical generation project owned and operated by a separate permitted facility, Salem Energy Systems (SES). SES maintains the option to use collected LFG to either to generate electricity, or combust it in a utility flare. As the SES facility is not under common control with the landfill, it is permitted separately as a synthetic minor (SM) source in Forsyth County under premise number 00884R10. The remainder of the LFG that escapes the landfill surface without entering the CSS to be conveyed off-site for use or destruction is considered "fugitive" emissions.

3.0 Permitting History

3.1 NSPS Applicability Background

Since opening in 1972, HMRLF has never been designated a "major" source for criteria pollutants (CAP, 100 TPY or greater) or hazardous air pollutants (HAP, 25 TPY or greater cumulative, 10 TPY for any single HAP). However, HMRLF is a MSW landfill that, as of May 30, 1991, possessed a solid waste design capacity of ≥ 2.5 million mega-grams and 2.5 million m³. Pursuant to the New Source Performance Standard (NSPS) found in 40 CFR 60, Subpart WWW (incorporating 40 CFR 60, Subpart Cc), HMRLF is required to operate under Title V operating permit. The initial Title V permit was developed in response to the promulgation of the final Subpart WWW rule in 1996, and issued on December 4, 1998.

The initial permit was modified shortly thereafter due to the development of the Phase II Expansion on land purchased in 1991, issued as 00913-TV-1 on June 25, 1999. In accordance with Subpart WWW, the Design Capacity Report (the "Design Plan") was amended to include the Phase II expansion on October 10, 2002. Title V operating permit 00913-TV-1 was modified due to the installation of a Landfill Gas Specialties CF-103018 Utility flare (with an AeroVent blower) control device (CD-02), issued as 00913-TV-2 in December, 2006. Minor modifications to the permit were issued on January 24, 2007 (TV-3) and on June 19, 2009 (TV-4), with a full renewal (TV-5) issued with no changes on March 19, 2014. With no major changes in equipment or design during the previous 5-year cycle, the permit was renewed as 00913-TV-6, issued on March 22, 2019.

3.2 Changes in Applicability

3.2.1 Transition to the Federal Plan at 40 CFR 62, Subpart OOO / [NSPS] Cf

On August 29, 2016, the US EPA issued a new Emission Guidelines (EG) for existing (also known as "legacy") Municipal Solid Waste (MSW) Landfills set forth in 40 CFR Part 60, Subpart Cf. Once implemented through revised state plans (SIP), this revised EG was intended by EPA to replace the requirements under the New Source Performance Standard (NSPS) in 40 CFR 60, Subpart WWW that had been in effect since 1996. On May 21, 2021, the US EPA Federal Plan under 40 CFR 62, Subpart OOO came into effect for all states (including North Carolina) which had not submitted for approval a state plan for implementing the EG.

According to 40 CFR 62, Subpart OOO, all existing MSW landfills, except those that are already classified as a "legacy controlled landfill", are required to submit an initial report declaring their new regulatory applicability under the Federal Plan and identifying their status within the regulation by identifying basic parameters like their design capacity and calculated annual NMOC generation, with initial reports due by September 19, 2021. However, HMRLF meets the definition of a "Legacy Controlled Landfill" found in §62.16730, and therefore, though the facility has been subject to this

switch from Subpart WWW to the Subpart OOO EG, it was deemed to not be required to submit this initial declaration report. In addition, per §62.16711(h), no initial design capacity report, NMOC emission rate reports, CCS design plan, initial performance test report, or initial TV ACC needed to be re-submitted as part of the permit action, as the facility had already done so under the superseded set of rules.

3.2.2 Changes to 40 CFR 63, Subpart AAAA, “National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills”

Along with the updates to the LFG EG, 40 CFR Part 60, Subpart Cf, the US EPA also promulgated an updated NESHAP for MSW landfills, 40 CFR 63, Subpart AAAA, which became effective on September 28, 2021. This revision is fairly narrow in scope, maintaining in §63.1955(a) that compliance with this subpart can be achieved through following the “operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, or reporting provisions that have already been approved” under the federal plan as set forth in 40 CFR 62, Subpart OOO and the Cf NSPS. For 00913-TV-7, Subpart AAAA is the remaining part of the federal rules covering landfill emissions this Office is currently approved by the US EPA to maintain enforcement authority.

Regardless, similarly as with the old Subpart WWW, compliance with Subpart OOO is sufficient to comply with all applicable requirements of the NESHAP AAAA. Due to these similarities, the new EG allows facilities to comply with the “major compliance provisions” of Subpart AAAA by complying with the “analogous provisions in the EG” using the federal plan. One notable difference found between the rules concerns LFG treatment. Since HMRLF sends its LFG for treatment and reuse (as fuel for Salem Energy Systems Solar turbine generator), they are required to operate under a “treatment system monitoring plan” as set forth in §63.1983(b)(5)(ii) of the NESHAP. These provisions came into effect as of 9/28/2021, with HMRLF submitting the final plan to this Office on May 7, 2022.

4.0 Statement of Compliance

As a comprehensive compliance review was conducted as part of the last full TV renewal for 00913-TV-6 in 2018 and there have been no changes to neither emissions sources, nor any regulated landfill operations, the Statement of Basis (SoB) completed as part of 00913-TV-6 is sufficient to be incorporated by reference to this renewal action. Table 4.0 below has been brought forward as a summary to reflect the current status of the NSPS compliant portions of the landfill, including those brought into compliance since the permit was issued. In addition, the Case Manager has conducted three (3) regularly scheduled full compliance evaluations, and seven (7) other partial compliance inspections focusing mainly on surface methane monitoring since the last permit renewal (covering both prior to and following the June 21, 2021 effective date of 40 CFR 62, Subpart OOO), confirming that the facility has continued in full compliance with all applicable federal, state, and local requirements that this Office maintains authority to enforce.

5.0 Summary of Emission Sources & Control Devices

Table 5.1, Permitted emission sources and associated control devices at HMRLF

Emission Source ID	Emission Source Description	Control Device ID	Control Device Description
ES-1	Municipal Solid Waste Landfill	CD-01	Landfill gas (LFG) collection and treatment system for offsite disposal
		CD-02	Landfill Gas Specialties CF-103018 Utility Flare with AeroVent Blower

5.1 Permitted Equipment

LFG emissions from ES-1 are controlled by collection through a prescribed Collection & Control System (CCS) required under the federal plan at 40 CFR 62, Subpart OOO. Collected gas is then either: (1) treated and piped (CD-01) to Salem Energy Systems (SES), a permitted facility, which uses the LFG to generate electricity, or (2) piped to and combusted by a Utility Flare, CD-02. Both are 40 CFR 62, Subpart OOO (EG) & 40 CFR 63, Subpart AAAA approved methods for control of collected LFG.

5.2 Insignificant Equipment / Activities

5.2.1 Solar Spark Flare

As part of corrective action to control LFG leakage from leachate collection knock-out access well (“wet-well”), a solar spark flare was installed. This flare, combined with repair and replacement of seals in the access cover, operates only when LFG is detected above a certain concentration threshold (well below 500 ppm) to destroy leaked gas until personnel can inspect and conduct repairs of the well cover. The device would only emit CAP and HAP emissions when operating, and at levels trivial enough as to have no effect on the permitting status of the facility. As a result, this flare is NOT included in the EG-compliant CCS equipment list, and is considered “insignificant”.

5.2.2 Emergency Generator

HMRLF also operates one (1) Katolite 150hp Diesel Emergency Generator for backup power to the administrative offices. The generator is exempt from permitting due to size and emissions. However, it is subject to 40 CFR 63, Subpart ZZZZ and must comply with all applicable provisions of the rule.

5.2.3 Leachate Storage

HMRLF operates a leachate storage tank on its property in compliance with MSW rules. The tank has been previously determined to be exempt from permitting by FCAQTC Sec. 3D-0102(B)(1)(d)(iii), which exempts aqueous solutions (less than 10 percent VOC).

5.2.4 Ozone-depleting Substances

Refrigerant reclamation operations from discarded appliances in the “White Goods Area” of HMRLF are not required to be permitted due to their limited size and production rates. However, federally-enforceable requirements pursuant to 40 CFR Part 82 for ozone depleting substances are included in the permit at general condition **2.33**.

5.2.5 Asbestos

Provisions regarding the “National Emission Standard for Asbestos”, will be a new addition to the renewed 00913-TV-8 permit. This rule states that the permittee must “*comply with all applicable standards for demolition and renovation activities pursuant to the requirements of 40 CFR Part 61, Subpart M*”. However, HMRLF will NOT be required to apply for a permit modification in order to perform the “referenced activities” set forth in this subpart. These provisions will be added to the permit at **Condition 2.41**.

6.0 Municipal Solid Waste (MSW) Landfill (ES-1), controlled by landfill gas Collection & Control System (with treatment system for subsequent use or sale), CD-01, OR Landfill Gas Specialties CF-103018 Utility Flare with AeroVent blower, CD-02

6.1 Applicable General Conditions

The “General Conditions” section of the Title V Operating Permit lists additional applicable rule requirements that the permittee must adhere to, as with any other permit condition. These requirements in general are common to all Title V facilities. The general conditions include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation,

submission of documents, inspections and entry procedures, reopen for cause, severability, etc. General conditions have been updated to reflect the current Title V standard template as of the date of issue of permit 00913-TV-8.

The permittee is required by General Condition **2.14** to submit a report (aka “Annual Compliance Certification” or ACC) by March 1 of each year, certifying compliance with all terms and conditions in the permit, including emissions limitations, standards, and work practices. The permittee is also required by general condition **2.10** to report malfunctions, emergencies, and any other upset conditions and report deviations from permit conditions resulting in excess emissions within one business day for requirements covered under Sections 3D-0524, 3D-0535, 3D-1110, and 3D-1111. The permittee is required to report deviations resulting in excess emissions within two business days for all other requirements (listed under section 6.2). In addition, all instances of deviations from the specific monitoring requirements not resulting in an excess emission (emissions above a limit established by rule or permit) must be reported semi-annually for NSPS & MACT related deviations, and quarterly for deviations from other requirements.

6.2 40 CFR 62, Subpart OOO (NSPS Cf), “Standards of Performance for New Stationary Sources: Municipal Solid Waste Landfills” (Sec. 3D-0524)

Table 6.1, Applicable NSPS Limits for ES-1

Regulated Pollutant	Applicable Standard	Applicable Regulation
NMOC	Methane concentration of <500 ppm above background at surface; collected gas routed to approved control device or treated for subsequent sale or destruction if all emissions from treatment system meet NMOC reduction requirement.	40 CFR Part 62, Subpart OOO, Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014 (FCAQTC Sec. 3D-0524 & 40 CFR 60 Subpart Cf)
HAP	Meet the requirements of NSPS Cf, including all SSM & additional reporting requirements	FCAQTC Sec. 3D-1110 & 40 CFR Part 63, Subpart AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills (40 CFR 63.1930 et seq.)

Promulgated on May 21, 1996, 40 CFR 60, Subpart WWW (NSPS Cc) regulated air emissions from larger landfills, requiring collection and control of landfill gas (LFG) produced by any MSW landfill with a waste-in-place design capacity equal to or greater than 2.5 million Mg. Under these rules, each owner/operator either complied with the requirements to submit for approval a collection and control system design plan and to install such a system, pursuant to 40 CFR 60.752(b)(2), or calculated and reported an NMOC emission rate for the landfill using the procedures prescribed in §60.754 in order to prove that actual annual NMOC emitted by the landfill were less than the 50 megagrams (Mg) threshold triggering the control requirements set forth in the NSPS.

The permitted design capacity of HMRLF landfill was increased to greater than 2.5 million Mg after May 30, 1991. As a result, HMRLF became subject to the NSPS under Subpart WWW, which required the facility to obtain a Part 70 (Title V) operating permit. HMRLF is *not* a major source of criteria pollutants or hazardous air pollutants (HAP), so the requirement to place the facility in the Title V program is set forth solely in Subpart WWW. In 1997, pursuant to 40 CFR 60.752(b)(2), HMRLF submitted a collection and control system (CSS) design plan, prepared and certified by a Professional Engineer (P.E). HMRLF has since that time, submitted updates to the CSS Plan whenever revisions

meet the applicable requirements of their Title V permit under condition **3.1(A)(2)**.

On June 21, 2021, the US EPA implemented the new Emissions Guideline, 40 CFR Part 60, Subpart Cf (EG) via the federal plan at 40 CFR 62, Subpart OOO. This new set of rules was intended to bring all legacy landfills which had not been modified since November 14, 2014 in line with the newer 40 CFR 60, Subpart XXX, reducing the NMOC triggering threshold from 50 Mg to 34 Mg. As a legacy landfill, HMRLF became subject to the new rules, which supersede the old NSPS Cc as implemented in 40 CFR 60, Subpart WWW. The structure and requirements of the federal plan at Subpart OOO closely mirror those of the older WWW, with only a few minor changes. Thus, this basis document will contain much of the same information and rule citations as the current 00913-TV-7 permit.

6.2.1 Landfill Gas Collection and Control System (CCS)

6.2.1.1 Applicable Regulatory Background

The LFG Collection and Control System (“CCS”) must meet all operational standards, compliance provisions, and monitoring requirements of the EG, the appropriate sections of which are duly noted. The federal plan at 40 CFR 62, Subpart OOO requires HMRLF to install and maintain a collection and control system that effectively captures the gas generated within the landfill. The CCS shall be designed to “*handle the maximum expected gas flow rate...over the intended use period of the gas control or treatment equipment.*” Pursuant to §62.1720(a)(1), HMRLF must “*calculate the maximum expected gas generation flow rate*”. This section further mandates the collection of gas from each area, cell, or group of cells in which waste has been in place for five (5) years, if active, or two (2) years if closed, or at final grade and that the collection wells be located at a density sufficient to meet all operational and performance standards.

As set forth in the Title V operating permit, the extraction rate is required to be determined by procedures specified in the EG. Off-site migration of subsurface gas must be minimized; the collected gas must be controlled by a method complying with the EG; and the CCS must be operated in accordance with the operational standards, compliance provisions, and monitoring requirements of the EG.

6.2.1.2 Specifications for Active Collection Systems

Condition 3.1(A)(3) of the Title V permit specifies the requirements for HMRLF’s active collection system (the “CCS”), and are derived directly from subpart Cf at 40 CFR 62.16728 (“Specifications for active collection systems”). As not all permitted areas of the active landfill have five (5) years of waste-in-place mandating NSPS compliance, all such CCS specification provisions will continue to be included in the renewed permit 00913-TV-8.

HMRLF must “*site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density. . .using the procedures set forth in Section 62.16728(a)(1) through (3), unless alternative procedures have been approved by the Office as provided in Secs. 60.752(b)(2)(i)(C) and (D).*” The requirements brought forward to 00913-TV-8 in permit condition **3.1(A)(3)** will ensure that future construction of the CCS into new cells of the landfill will provide the proper well density to achieve compliance with the applicable rules and standards.

A Professional Engineer (P.E.) must certify that comprehensive control of surface gas emissions will be achieved. Pursuant to 40 CFR 62.16728(a)(1), as specified in the Title V permit at Conditions **3.1(A)(3)(b)** and **(c)**, the CCS must be designed to address refuse depths, gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat. These provisions are formally addressed in the required Design Plan, of which the original was

comprehensively reviewed and approved by a P.E. employed by this Office prior to issuance of the initial Title V permit in 1998. Changes to the Design Plan, which are submitted as necessary when new CCS sections are added or decommissioned, are subsequently revised and approved by the P.E. to ensure compliance with these requirements.

Pursuant to 40 CFR 62.16728(a)(3)(i), permit condition **3.1(A)(3)(e)** requires collection devices (wells) to be placed in all LFG producing areas. The only allowable exceptions are segregated areas containing asbestos or other non-degradable material and non-productive areas that contribute less than 1 percent of total NMOC emissions. Other requirements found in this condition specify that all LFG extraction components shall be made of materials that comply with NSPS requirements, the CCS is extended as necessary to comply with emission and migration standards, and all wells are perforated such that gas entry does not produce a loss of pressure that would impair their performance or cause exceedances of the standard(s).

Specific EG requirements for the proper construction of wells are found in conditions **3.1(A)(3)(f)** through **(n)**. This includes provisions specifying that mitigation of water intrusion is addressed, vertical wells must not endanger the landfill's liners, and that gravel must not be able to penetrate or block perforations of the collection devices. Finally, in addition to capturing all LFG to prevent its reaching the ambient air, the CCS design must prevent indirect short circuiting of air into the geomembrane cover or allow refuse of any kind into the collection system.

6.2.1.3 CCS Removal

Permit condition **3.1(A)(4)** sets forth provisions for compliance with all removal/capping requirements. EG provisions at 40 CFR 62.16714(f)(1)-(4) and §62.16718(b), be followed to determine when and how the CCS may be removed or capped as cells are officially exhausted and closed. As HMRLF is an active landfill and is expected to continue to lay waste-in-place for many years past the expiration of the TV-8 permit cycle, it is not expected that any capping or removal of currently active areas will occur during the period covered by this permit.

6.2.1.4 CCS Operational Standards

HMRLF is required by the Federal Plan at 40 CFR 62.16716 to operate its landfill in accordance with specific operational standards. The provisions carried under condition **3.1(A)(5)** in the Title V permit, referring to each specific operating standard, requires that all collected gases in areas where waste has been in place for five (5) years (or two (2) years if the area is closed or at final grade) are vented to a control system (CCS) in compliance with 40 CFR 62.16714(b)(2)(iii). Whenever the CCS is inoperable *for any reason*, HMRLF must shut down the gas mover and seal all valves that may cause LFG venting within one hour. If monitoring indicates that these operational requirements have not been met, specified corrective action must be taken. It is important to note that, according to permit **Condition 3.1(A)(5)(c)(vi)**, no violation of operational requirements has occurred as long as specified corrective actions are taken and documented.

The new EG (Federal Plan) at Subpart OOO has provided a few minor tweaks in procedures and limits for monitoring. However, three (3) basic monitoring parameters remain. First, each well's oxygen OR nitrogen level is limited to no greater than 5%, and unless allowed by specific exceptions listed, each CCS well is to operate under conditions of negative pressure. Additionally, each well's interior temperature is limited to no greater than 62.8°C (145°F). Finally, the CCS must be operated such that the methane concentration across the landfill surface is less than 500 ppm above ambient background levels. Periodic surface testing continues to be mandated by the new EG to ensure compliance, with compliance provisions specified in the permit under condition **3.1(A)(6)**.

6.2.1.5 Compliance Provisions

Except as provided for in 40 CFR 62.16724(d), compliance with the CCS installation and operation

provisions of 40 CFR 62.16716 through §62.16726 is determined by the methods set forth in §62.16720 unless alternative methodology and/or an alternate timeline for compliance is first approved by this Office. The methodology of determining the maximum expected gas generation flow rate, the sufficiency of gas collector density, and compliance with system flow rate requirements will be brought forward to the renewed permit 00913-TV-8 under condition **3.1(A)(6)**. Compliance with the EG through Subpart OOO is ensured by confirming that the performance of the required monitoring adequately identifies that no excess air infiltration into the CCS occurs, as well as that the 500 ppm NSPS surface methane limit as determined by landfill surface monitoring is maintained uninterrupted. If exceedances to any operational standards are identified, proper corrective action and follow-up monitoring as required under permit condition **3.1(A)(7)**, as well as accurate recordkeeping pursuant to **3.1(A)(8)** collectively serve to assure HMRLF will continue to be in full compliance with the new EG through Subpart OOO.

6.2.1.6 CCS Monitoring Requirements

HMRLF must follow all monitoring requirements specified in 40 CFR 62.16720 to ensure proper operation of the CCS, as required by the EG. These sections provide methodology for the monitoring of CCS parameters, as well as testing of surface methane concentrations, specifying corrective actions if any parameters are exceeded. This Office assumes that the EG monitoring requirements are adequate to satisfy the periodic monitoring requirements specified by the standard, and are set forth in the permit 00913-TV-8 at condition **3.1(A)(7)**.

6.2.1.7 CCS Recordkeeping Requirements

Recordkeeping requirements pursuant to 40 CFR 62.16726 were initially set forth in permit 00913-TV-7 condition **3.1(A)(8)**, and will not change in the renewed permit 00913-TV-8. HMRLF must keep readily-accessible records of the maximum design capacity, current amount of solid waste-in-place, and year-by-year waste acceptance rate. Records must also be kept of both the gas generation flow rate of the CCS, and the density of wells & horizontal surface collectors. These records must be kept on-site and readily-accessible for a period of no less than five (5) years, except for the results of all federally-required performance tests, which must be kept for the operational life of the control equipment.

6.2.1.8 CCS Reporting Requirements

HMRLF is required by permit Condition **2.14** of the permit to submit a report certifying compliance with all terms and conditions in the permit, including emissions limitations, standards, and work practices. In addition, pursuant to 40 CFR 62.16724 ("*Reporting requirements*"), Subpart Cf sets forth further specific reporting requirements, which will be carried over to the renewed 00913-TV-8 permit under condition **3.1(A)(9)**. These reporting requirements cover those referenced in the Subpart AAAA NESHAP as well (under 40 CFR 63.1982 & §63.1983). The collection and control system (CCS) compliance report required under 62.16724(h) is due annually, within 30 days after the close of each calendar year. The NESHAP Subpart AAAA timeline for submission differs, however, with §63.1980(a) specifying that this report be submitted SEMI-annually.

Since the new EG still does not numerically define excess emissions, the permittee will continue to be required through 00913-TV-8 permit condition **2.10** to report to the Office any deviations from permit requirements by the next business day (unless an approved alternative reporting schedule is specifically provided in the permit). The facility must also, in writing, provide a report to this Office specifying all deviations from permit requirements, or any excess emissions, within two business days; again unless an alternative reporting schedule is specifically provided in the permit. These deviations shall be detailed in the subsequent required NSPS and NESHAP semi-annual CCS compliance report(s). In addition, the Subpart AAAA NESHAP still requires semi-annual Startup, shutdown, and malfunction reports. Since these requirements specifically provide an alternative reporting schedule, the reporting requirements in General Condition **2.10(A)(2)** and **(3)** do not apply.

6.2.1.9 Destruction or Subsequent Use of Collected LFG

All LFG collected by the CCS must be routed to a control system that complies with one of three requirements found in §62.16714(c)(i)-(iii), requiring the facility: (i) operate a non-enclosed open flare, designed and operated pursuant to the requirements of 40 CFR 60.18; (ii) operate a LFG control system, designed and operated to reduce NMOC by 98 percent by weight, with efficiency being shown by an initial performance test; or (iii) convey the collected gas to a treatment system that processes the gas, making it suitable for subsequent off-site sale or use.

Though HMRLF began collecting LFG for use in generating electricity at the HMRLF well prior to the 1996 promulgation of the EG 40 CFR Part 60 Subpart Cf and NSPS under 40 CFR 60, Subpart WWW, the City of Winston-Salem subsequently sold all “mining” rights to all LFG produced in the active areas of HMRLF to Salem Energy Systems (SES) through an agreement known as the “*Amended and Restated Landfill Gas Extraction Rights License Agreement*”, most recently executed on May 15, 2007. Pursuant to this Agreement, SES owns, operates, and maintains the CCS and all related equipment at the HMRLF. The Agreement also leases a parcel of land on the HMRLF site to SES on which it operates, from the City of Winston-Salem. From this leased parcel, SES is contractually bound to cooperate with HMRLF to achieve regulatory compliance, which it achieves by either combusting the LFG conveyed to its site in a combustion turbine to generate electricity, or destroying it in a utility flare. As defined by the Agreement, SES must accept LFG from all landfill areas including the Closed (unlined) and Expansion (“Lateral” & “Piggyback”) areas of the “Existing” landfill, and all three (3) phases of the active expansions permitted in 00913-TV-1 in 1998, defined in the Agreement as the “*Expanded Landfill*”.

SES HMRLF achieves regulatory compliance by conveying all collected LFG to the SES site, where it is treated and combusted in a gas-to-energy turbine or a utility flare. The SES utility flare and its turbine are permitted separately from HMRLF in Forsyth County under synthetic minor permit **00884R10**. The combustion turbine is the main method SES uses to destroy incoming LFG. Whenever there is insufficient LFG volume to run the turbine for efficient generation of electrical power, SES may choose to supplement combustion with natural gas or #2 fuel oil. However, when LFG production drops to the point where it is inefficient or unprofitable to run the turbine altogether (as in winter months), SES may choose to flare off all incoming LFG. Either method is satisfactory assurance to this Office that, through this Agreement, HMRLF will maintain continued compliance to the new EG implemented in the federal plan at 40 CFR 62, Subpart OOO.

6.2.1.10 Alternative Compliance Scenarios

HMRLF is permitted for two alternative operating scenarios for handling LFG under the EG:

1. Collection by CCS, conveying all collected LFG offsite to SES for subsequent use; and
2. Collection by CCS, sending all collected LFG to HMRLF utility flare (CD-02) for destruction by combustion.

Both of these scenarios comply with the new EG requirements pursuant to 40 CFR 62, Subpart OOO, and switching between them would have no effect on NSPS-prompted permit conditions with regard to the collection system. The only difference would be that the collected LFG would be destroyed on-site by HMRLF itself, rather than being transported off-site for SES to dispose of. Use of the CD-02 utility flare triggers additional NSPS requirements, which, for administrative convenience, are addressed separately in **Section 3.2** of the 00913-TV-8 Title V permit.

Throughout the current 00913-TV-7 permit term, both HMRLF and SES have operated in compliance with the original and amended Agreement. However, contractual terms and obligations between the two parties have been contentious in the past. HMRLF relies on SES’s accepting all LFG produced in all areas of the landfill to achieve compliance to the EG. In order to provide a backup plan designed to

allow HMRLF to achieve compliance on its own site, a minor modification was requested by HMRLF in 2006 to add its own Landfill Gas Specialties Model CF-103018 utility flare. The flare, CD-02, was permitted by this Office (issued as TV permit 00913-TV-2) to allow HMRLF to burn off, on its own property, any LFG that SES would otherwise be unwilling or incapable to accept.

Provisions under Condition **3.2(A)** were set forth to address all applicable requirements related to HMRLF flaring the LFG it produces as an alternative operating scenario. These provisions also allow HMRLF to flare off LFG collected from certain sections of the landfill, while still transporting for sale to SES LFG from other sections. These conditions provide HMRLF flexibility in ensuring that the facility is capable of complying with the EG, regardless of any issues that may arise between the two parties. As such, this Office believes it is appropriate to consider the City of Winston-Salem/Forsyth County Utilities Commission, the owner/operator of the landfill, as the sole responsible party for purposes of compliance with the EG. Failure of SES to meet (or to renew) its contractual obligations will not mitigate any failures to comply with the EG on the part of HMRLF.

Permit condition 3.1(A)(1) requires HMRLF to be in compliance with all requirements of the EG at 40 CFR 62, Subpart OOO at all times while using the flare as a NMOC control device. With Office approval, certain alternatives are allowed to various operational and compliance standards under 40 CFR 63.1955(c). However, as these fall under the auspices of the Subpart AAAA NESHAP as set forth in permit Condition **3.1(B)**. Monitoring, recordkeeping, and reporting requirements for the CD-02 Utility Flare are detailed in Sec. 6.2.1.11 below.

6.2.1.11 Special Provisions for Landfill Gas Specialties Utility Flare (ID No. CD-02)

6.2.1.11.1 Background & Applicability

HMRLF’s primary method in complying with the federal plan Subpart OOO & NESHAP Subpart AAAA is to collect all LFG in the CCS and convey it offsite to SES for electricity generation or destruction in their utility flare. As a permitted option, HMRLF has installed a utility flare on its property in order to combust any or all LFG that SES may be unwilling or unable to dispose of. This alternative is fully compliant with the provisions set forth 62.16714(c)(1), so long as the flare is designed and operated in accordance with the Part 60 general provision 40 CFR §60.18. Due to the flare’s distinct requirements under Part 60, and the fact it would be operated by HMRLF itself on-site, it has been permitted separately from the CCS. A detailed technical review was performed for CD-02 flare during the renewal phase of TV operating permit 00913-TV-6, the results of which can be found in the Statement of Basis document dated 3/21/2019.

Table 6.2.1.11, *Applicable NSPS Standards for CD-02*

Pollutant	Applicable Standard	Applicable Regulation
visible emissions	“no visible emissions”	FCAQTC Sec. 3D-0524 New Source Performance Standards, 40 CFR Part 62, Subpart OOO, & 40 CFR Part 60, Subpart A, General Provisions, Sec. 60.18(c)(1)
NMOC	“flame present at all times”	FCAQTC Sec. 3D-0524 New Source Performance Standards, 40 CFR Part 62, Subpart OOO, & 40 CFR Part 60, Subpart A, General Provisions, Sec. 60.18(c)(2)
NMOC	“maximum exit velocity”	FCAQTC Sec. 3D-0524 New Source Performance Standards, 40 CFR Part 62, Subpart OOO, & 40 CFR Part 60, Subpart A, General Provisions, Section 60.18(c)(3)(i) and 60.18(f)(5)
SO2	<2.5 lb/MMBtu	FCAQTC Sec. 3D-0516, “Sulfur Dioxide Emissions from Combustion Sources”

6.2.1.11.2 Monitoring Requirements

Monitoring of the flare is required by 40 CFR 62.16722. All monitoring requirements specified by the MSW landfill EG were added to the operating permit 00913-TV-07, and are presumed to be adequate to satisfy periodic monitoring requirements for that standard, since the standard was promulgated after 40 CFR Part 70. Monitoring requirements specified by the landfill NSPS specific to the flare will be brought forward to renewed permit 00913-TV-8, remaining in permit condition **3.2(A)(2)**.

6.2.1.11.3 Recordkeeping Requirements

Recordkeeping of the LFG flow rate to CD-02 should be monitored during usage periods to ensure the flare remains capable of handling potential increases in LFG flow as additional cells are added to the system and existing cells mature. Recordkeeping requirements specific to the operation of CD-02 Utility Flare will be brought forward to renewed permit 00913-TV-8, remaining in permit condition **3.2(A)(3)**.

6.2.1.11.4 Reporting Requirements

Only the exceedences and deviations specified in permit Condition 3.2(B)(4) specific to the operation of the flare are to be reported as part of each semi-annual report required under 40 CFR 62.16724(h). Otherwise compliance to the MACT is assured when HMRLF follows all applicable provisions found in the permit conditions for the CCS at all times when the facility uses the utility flare CD-02 to comply with the EG.

6.2.1.11.5 3D-0516 - Sulfur Dioxide Emissions from Combustion Sources (local only)

Pursuant to this rule, emissions of SO₂ from a combustion source shall not exceed 2.3 pounds per million Btu. Compliance with this standard is required as set forth in permit condition **3.2(C)(1)**, and is assured since LFG will be the only fuel combusted in the flare (following ignition from the propane-fueled pilot flame). Combustion of any other fuel would require HMRLF to apply for a Title V permit modification. No monitoring, recordkeeping, or reporting is required to comply with this rule.

6.2.2 40 CFR 63, Subpart AAAA, “National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills” [FCAQTC Sec. 3D-1110]

6.2.2.1 Background & Applicability

Pursuant to 40 CFR 63.1935, because HMRLF has a waste-in-place design capacity equal to or greater than 2.5 million Mg and estimated uncontrolled emissions equal to or greater than 50 Mg per year (as calculate according to §63.1959), it is subject to 40 CFR Part 63, Subpart AAAA, “*National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*” (40 CFR 63.1930 *et seq.*, originally promulgated January 16, 2003 and revised March 26, 2020). This NESHAP regulates hazardous air pollutants (HAP) at municipal solid waste (MSW) landfills. Pursuant to §63.1940(a), the affected source at HMRLF consists of the entire disposal facility in a “*contiguous geographic space where household waste is placed in or on land.*” The authority to implement and regulate NESHAPs in Forsyth County can be found in the Code at Section 3D-1110.

6.2.3.2 Standards of Performance

Subpart AAAA requires that subject landfills apply Maximum Achievable Control Technology (MACT) by complying with the EG through 40 CFR 62, Subpart OOO (Pt. 60 Subpart Cf). Since the EG requires installation of a CCS at HMRLF, the MACT requires the facility to comply with all applicable NESHAP general provisions as specified in Table 1 to Subpart AAAA, as well as with any applicable regulations from 40 CFR 63.1960 through §63.1985. 40 CFR 63.6(f) requires that non-opacity emissions standards of the MACT shall apply at all times. Compliance with non-opacity emission standards of the NESHAP is determined by conformance with all operation and maintenance (O/M) requirements, as well as any relevant monitoring data collected in conformance with the Subpart Cf

NSPS. Permit Conditions **3.1(B)(1)-(2)** and **2.46** will be brought forward to 00913-TV-8 to assure continued compliance through upcoming permit cycle.

6.2.3.3 General Provisions (Table 1 to 40 CFR 63, Subpart AAAA)

As HMRLF is an existing landfill and has been in operation and continuously compliant to all iterations of EG and NESHAP (at 40 CFR 63(b)(1)), the general conditions will be brought forward to the renewed 00913-TV-8 permit, with numbering changed to Conditions **2.48** through **2.54**. Per Table 1 of 40 CFR 63, Subpart AAAA, HMRLF these conditions cover applicable regulations pursuant to 40 CFR 63.1(a)-(b), §63.2, and §63.4. Should HMRLF choose to expand during the TV-8 permit cycle, relevant provisions pursuant to 40 CFR 63.5(b), (d), and (e) will be brought forward to the modified/amended permit, remaining under Condition **3.1(B)(1)**.

6.2.3.4 Operations & Maintenance

In order to minimize HAP emissions, the general NESHAP provisions at 40 CFR 63.6(e) and §63.10(d)(5) require subject MSW landfills to operate under good air pollution control work practices at all times. Further, during SSM periods, the facility must operate under specific work practices as set forth in 63.1960(e) & 40 CFR 62.16720(e). As such, Subpart AAAA requires reduction of emissions to the greatest extent possible during such periods, consistent with safety and good pollution control practices. A new provision covering SSM incorporates by reference 40 CFR 62.16716(e), requiring specific work practices be followed during such events. The NESHAP mandates that operation and maintenance requirements (O/M) are fully enforceable regardless of any emissions limitation or other requirements in relevant standards. Permit Conditions **2.48, 2.49, 3.1(B)(3)(c), and 3.1(B)(4)** will appear in the renewed permit 00913-TV-8 to ensure compliance with all O/M requirements.

6.2.3.5 Monitoring, Recordkeeping, & Reporting

6.2.3.5.1 Monitoring Requirements

All monitoring requirements specified by the NESHAP will be forwarded to renewed 00913-TV-8 permit, and are presumed by this Office to be adequate to satisfy periodic monitoring requirements for the standard. All monitoring provisions relevant to HMRLF required by Subpart AAAA are the same as those for the Subpart OOO at §62.16710, and have been incorporated by reference by permit condition **3.1(B)(2)**.

6.2.3.5.2 Recordkeeping Requirements

In line with EG requirements already set forth in the Federal Plan at 40 CFR 62, Subpart OOO, HMRLF is no longer required by Subpart AAAA to maintain records of all SSM activity. However, the facility IS required to maintain records regarding all maintenance and/or malfunctions of EG-related monitoring (including CMS) and control equipment, as well as any compliance measurements. Condition **3.1(B)(3)** will be forwarded to the renewed permit 00913-TV-8 to reflect these changes.

6.2.3.5.3 Reporting Requirements

Due to the removal of nearly all SSM requirements in the revised rules, wholesale changes to reporting requirements have been set forth requiring extensive revisions to permit condition **3.1(B)(4)**. The new provisions under 40 CFR 62.16724(h) now requires a "Collection and Control System Report" to be submitted to this Office no later than July 30 and January 30 of each year for each preceding 6-month reporting period. All requirements due from this report are specified in Conditions **3.1(B)(4)(a) through (h)** of the renewed 00913-TV-8 permit.

6.4 Toxic Air Pollutants (Sec. 3D-1100, Local Enforcement Only)

Toxic Air Pollutants (TAP) are regulated locally pursuant to applicable provisions codified in FCAQTC 3D-1100 and 3Q-0700. However, *House Bill 952* (codified as N.C. General Statute §143215.107(a)(5)(b), dated June 28th, 2012) removed the requirement for sources covered under 40

CFR 63 from the requirements of rules governing toxic air pollutants. The HMRLF facility is covered under National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP), 40 CFR Part 63 Subpart AAAA. From Section 1(a)(5)a of the Statute.:

“Except as provided in sub-subdivision b. of this subdivision rules adopted pursuant to this subdivision that control emissions of toxic air pollutants shall not apply to an air emission source that is any of the following:

- 1. Subject to an applicable requirement under 40 C.F.R Part 61 as amended.*
- 2. An affected source under 40 C.F.R. Part 63. as amended...”*

This language, in effect, implies removal of the requirement for the facility to submit an air toxics demonstration for any construction permit and/or permit renewal for all TAPs emitted at said facility. As a caveat, however, HB 952 also requires this Office to determine if toxic air pollutants emitted from the facility, including NESHAP sources, cause an “unacceptable risk to human health”. From Section 1(a)(5)b.:

“Upon receipt of a permit application for a new source or facility, or for the modification of an existing source or facility, that would result in an increase in the emission of toxic air pollutants, the Office shall review the application to determine if the emission of toxic air pollutants from the source or facility would present an unacceptable risk to human health...”

The authority for the Office to act on this requirement is reserved under FCAQTC Sec. 3Q-0712. As the TAP emitting facility at HMRLF is parallel to the NESHAP MACT standard under 40 CFR 63, Subpart AAAA, the affected sources at the facility qualify for the TAPs exemption under the statute. As of this permit opening, however, the permittee has not sought relief under the Statute. Therefore, current TAP provisions, including all previously permitted emission limits, will be brought forward unchanged to the renewed 00913-TV-8 permit. For more information on how these limits were derived, please refer to Statement of Basis for Title V permit renewal 00913-TV-6, Section 6.4.2.

6.5 Control of Visible Emissions (Sec. 3D-0521)

This rule was promulgated for the prevention, abatement, and control of emissions generated from fuel burning operations and other industrial processes where emissions can be reasonably expected to occur, except during startups, shutdowns or malfunctions made in accordance with other conditions in the Title V permit. With the exception of haul roads and grading operations, visible emissions (VE) would not be expected to result from the normal operation of a MSW landfill or collection of LFG. VE from hauling and grading are considered should be considered fugitive and exempt from evaluation.

Inefficient operation of the Utility Flare CD-02 during an alternative operating scenario period may result in visible emissions. VE from the utility flare is specifically limited in the NSPS general provisions to 0% for any flare being used to comply with the NSPS, and any violation of VE from the flare brings the facility into non-compliance with [unchanged] Condition 2.38 of the renewed 00913-TV-8 permit.

6.6 Control of Odorous Emissions (Sec.3D-0522, Local Enforcement Only)

This regulation, set forth in the permit at **Condition 2.39**, applies to all facilities and prohibits the emissions of odors beyond the property lines that are harmful, irritating or which unreasonably interfere with the use and enjoyment of any person’s properties or living conditions, or any public properties or facilities. Violation of this regulation is determined by the Office upon investigation of an officially lodged complaint. Though HMRLF has an official internal odor complaint recordkeeping and response program, there exists no current requirement for the permittee to perform any monitoring, recordkeeping or reporting activities specific to Sec. 3d-0522. Any future requirements will only be imposed as part of the response to complaints received that this Office determines would specifically trigger Sec. 3D-0522.

7.0 Permit Shield

In accordance with FCAQTC Sec. 3Q-0512, general condition 2.7 of the Title V Operating Permit 00913-TV-8 will contain a provision stating that compliance with the terms, conditions, and limitations of the Title V permit shall be deemed in compliance with applicable requirements specifically identified in the permit, as of the date of permit issuance. If the permit does not expressly state that a permit shield exists, then it shall be presumed not to provide such a shield.

8.0 Public Notice & EPA Review

This permit opening has been initiated as a “renewal” review. As such, the 00913-TV-8 permit will require official placement on public notice. The US EPA will be notified directly by this Office of the new permit number, with a final draft copy to be provided for their review.

9.0 Summary and Recommendations

The Case Manager has comprehensively reviewed and incorporated all known amendments, has recently inspected the facility, and has confirmed that the City of Winston-Salem, Hanes Mill Road Landfill (HMRLF) is compliant to all Federal, State, and Local requirements. The reviewer’s signature certifies, and recommends that the amended Title V Operating Permit #00913-TV-8 be issued forthwith to HMRLF. The permit will become effective upon the actual issue date of December 2, 2023, with an expiration date of December 2, 2028.

Reviewed By: _____

Date Completed: _____

Approved By: _____

Date Approved: _____