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

January 24, 2019

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 Landfill
325 W. Hanes Mill Road
Winston-Salem, NC 27105

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

EPA will process this draft permit as a proposed permit and perform its 45-day review provided by Sec. 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 EPA 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 St., Winston-Salem, North Carolina 271014120; 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 February 23, 2019, the close of the public comment period.

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-6	(2019)	December 2, 2023	March 2, 2023

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-6
(2019)

Table of Contents

PART I - AIR QUALITY TITLE V OPERATION PERMIT
Table of Contents 2

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 & 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, 3-0200 of the Forsyth County Air Quality Ordinance (FCAQO), 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 this 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 Secs. 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 [Secs. 3Q-0507(k), 3Q-0508(i)(16), 3Q-0508(i)(9) and 3Q-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 (1) 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 [Sections 3Q-0507(c), 3Q-0508(i)(16) and 3Q-0104]

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:

Forsyth County Office of Environmental Assistance and Protection
Forsyth County Government Center, 5th Floor
201 North Chestnut Street
Winston-Salem, NC 27101-4120.

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 Sec.tion 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 Sec.tion 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 [Sections 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 [Sections 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 [Secs. 3D-0535(f), 3Q-0508(f)(2), 3Q-0508(i)(16), & 3Q-0508(g)]

"Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections 3D-0500, 3D-0900, 3D-1200, or 3D-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 Sections 3D-0524, 3D-1110 or 3D-1111 -<u>Excess Emissions and Permit Deviations:</u>

1) If the source specific NSPS (3D-0524) or NESHAP (3D -1110 or 3D-1111) defines "excess emissions", these shall be reported as prescribed in 3D-0524, 3D-1110 or 3D-1111.
2) If the source specific NSPS (3D-0524) or NESHAP (3D-1110 or 3D-1111) <u>*does not*</u> 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 <u>in writing</u> 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 <u>*not*</u> subject to Sections 3D-0524, 3D-1110, or 3D-1111

1) <u>Excess Emissions Greater than Four (4) Hours in Duration [3D-0535(f)]</u>
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 Standard Time (EST) of this Office's next business day of becoming aware of the occurrence as described in Sec. 3D-0535(f)(1);
a) 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 (4) Hours in Duration and Deviations [3Q-0508(f)]
The permittee shall report excess emissions less than four (4) hours in duration and deviations from permit requirements as follows:

a) Report to this Office any excess emissions less than four (4) 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 (4) 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) The permittee shall comply with all other requirements contained in Sec. 3D-0535 (Sec. 3D-0535(g) is ***Locally Enforceable Only***.)

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 [Sections 3Q-0206(b), 3Q-0508(i)(10), & 3Q-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)> [Sections 3Q-0508(n) & 3Q-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 **(U.S. EPA Region 4, Air Enforcement Section, Mail Code: 4APT-AEEB, 61 Forsyth Street, S.W., Atlanta, GA 30303)** 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 (5) 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 five (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 to 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 Section 3D-2600, except as may be otherwise required in FCAQTC Sections 3D-0524, 3D-0912, 3D-1110, 3D-1111, and 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 be 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(s) 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 Re-openings, Modifications, Revocations and Re-issuances, or Terminations [Sec. 3Q-0508(i)(5)]

The Director may reopen, modify, revoke and reissue, or terminate this permit for reasons specified in Sections 3Q-0517 or 3Q-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 Sec. 3Q-0513]

This permit is issued for a term not to exceed five (5) years. Permits issued under Title IV of the Clean Air Act shall be issued for a fixed period of five (5) 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 [Sections 3Q-0517 and 3Q-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 (3) 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 3Q-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 accordance with all applicable provisions of Sections 3Q-0100 and 3Q-0300.

2.29 Permit Modifications [Sections 3Q-0514, 3Q-0515, 3Q-0516, 3Q-0517, 3Q-0523, & 3Q-0524]

A) Permit modifications may be subject to the requirements of Sections 3Q-0514, 3Q-0515, 3Q-0516, and 3Q-0524.
B) Changes made pursuant to Secs. 3Q-0523(a) and (b) do not require a permit modification.
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 (MACT) standards, emissions trading shall be allowed without permit revision pursuant to Sec. 3Q-0523(c).

2.30 Insignificant Activities [Sections 3Q-0503 and 3Q-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 [Sections 3Q-0505 and .0507]

The permittee shall submit applications and required information in accordance with the provision of Sections 3Q-0505 and 3Q-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) [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 [Section 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 Section 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 Odors [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, or 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 (6) minutes in any one (1) 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).

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.

2.41 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.

2.42 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.

2.43 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.

2.44 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.

2.45 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.

2.46 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.

2.47 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.

2.48 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).

2.49 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.

2.50 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.

2.51 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.

2.52 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.

2.53 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.	FCAQTC Sec. 3D-0524, New Source Performance Standards (NSPS) & 40 CFR Part 60, Subpart WWW, NSPS for Municipal Solid Waste Landfills
Hazardous Air Pollutants (HAP)	Comply with NSPS; additional reporting requirements, SSM 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.*)

A) **40 CFR 60, Subpart WWW: Standards of Performance for New Stationary Sources: Municipal Solid Waste Landfills (Sec. 3D-0524)**

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 Sec. 3D-0524, "New Source Performance Standards" (NSPS), promulgated in 40 CFR Part 60, Subpart WWW, including all applicable requirements and provisions specified by the general provisions of the New Source Performance Standards (40 CFR 60, Subpart A).

a) The provisions of 40 CFR 60, Subpart WWW apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed five (5) days for collection systems, and shall not exceed one (1) hour for treatment or control devices.
[Sec. 3D-0524, 40 CFR 60.755(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 Sections 60.753 through §60.758, 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 40 CFR 60.753 through §60.758, and the applicable permit conditions herein.
[Sec. 3D-0524, 40 CFR 60.752(b)(2)(i)(B) and (C), 40 CFR 63.1955(c)]

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 *CCS*), meeting the specifications and requirements of 40 CFR 60.752(b)(2)(ii), that effectively captures the LFG generated within the landfill.
   a) The CCS shall be installed in conformance to the Office-approved "design plan".
   b) Changes or additions to the CCS 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 60.752(b)(2(ii)(A)(1) and 60.755(a)(1)]
   d) The active CCS 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 CCS and/or treatment system equipment.
   [Sec. 3D-0524, 40 CFR 60.752(b)(2)(ii)(A)(1)]
   e) The active CCS 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 60.752(b)(2)(ii)(A)(2), 60.753(a), & 60.755(a)(2)]
   f) The CCS 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 60.755(a)(3) and permit **Condition 3.1(A)(6)(c).**
   [Sec. 3D-0524, 40 CFR 60.752(b)(2(ii)(A)(3)]
   g) The CCS shall be designed to minimize off-site migration of subsurface gas.
   [Sec. 3D-0524, 40 CFR 60.752(b)(2(ii)(A)(4)]
   h) Pursuant to the NSPS, 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 60.752(b)(2)(iii)]
   i) The CCS shall be operated in accordance with the operational standards, compliance provisions, and monitoring requirements of 40 CFR 60.753, §60.755, and §60.756, and permit conditions **3.1(A)(5)-(7)**.
   [Sec. 3D-0524, 40 CFR 60.752(b)(2)(iv)]

3) **Specifications for Active Collection Systems**
   a) Unless alternative procedures have been previously approved by this Office, as provided for in 40 CFR 60.752(b)(2)(i)(C) and (D), 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 60.759(a)(1) through (3).
   [Sec. 3D-0524, 40 CFR 60.759(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 60.759(a)(1)]
   c) The CCS 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.
[Sec. 3D-0524, 40 CFR 60.759(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 CCS through the use of active or passive systems at the landfill perimeter and/or exterior.
[Sec. 3D-0524, 40 CFR 60.759(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 60.759(a)(3)(i) and §60.758(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 60.759(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 60.759(a)(3)]

f) The LFG extraction components shall 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 60.759(b)(1)]

g) The permittee shall extend the CCS as necessary in order to maintain compliance with all applicable LFG emission and migration standards.
[Sec. 3D-0524, 40 CFR 60.759(b)(1)]

h) Collection devices such as wells and horizontal collectors shall be perforated to allow LFG entry without head loss sufficient enough to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration.
[Sec. 3D-0524, 40 CFR 60.759(b)(1)]

i) Vertical wells shall be placed so as not to endanger underlying liners, and shall address the occurrence of water within the landfill.
[Sec. 3D-0524, 40 CFR 60.759(b)(2)]

j) Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross section dimensions so as to allow for their proper construction and completion.
[Sec. 3D-0524, 40 CFR 60.759(b)(2)]

k) Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover, refuse into the collection system, or LFG into the ambient air.
[Sec. 3D-0524, 40 CFR 60.759(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 60.759(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 §60.759(b)(3)]
n) All collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.
   [Sec. 3D-0524, 40 CFR 60.759(b)(3)]
o) Pursuant to 40 CFR 60.752(b)(2)(iii), the permittee shall convey the LFG to the CCS through the collection header pipe(s). All gas mover equipment shall 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 60.759(c)(1) and (2).
   [Sec. 3D-0524, 40 CFR §60.759(c)]

4) **Removal of Collection and Control System (CCS)**
The permittee may deactivate, cap, or remove the CCS upon compliance with the following provisions of CFR 60.752(b)(2)(v)(A), (B), and (C), 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 60.751. A closure report as required by 40 CFR 60.757(d) shall be submitted to this Office for approval.
   b) The collection and control system shall have been in operation a *minimum of 15 years*.
   c) The NMOC of the LFG produced by the landfill shall be *less than 50 megagrams per year* on three successive test dates. The test dates shall be no less than 90 days, and no more than 180 days apart.
   d) The permittee shall calculate the NMOC emission rate using the methodology and equation provided in 40 CFR 60.754(b).

   [Sec. 3D-0524, 40 CFR §60.754(b) and §60.752(b)(2)(v)]

5) **Operational standards** - [Sec. 3D-0524, 40 CFR 60.753]
   a) The permittee shall operate the CCS pursuant to the requirements set forth in permit **Condition 3.1(B)(3)**.
      [Sec. 3D-0524, 40 CFR 60.753(a)]
   b) The permittee shall operate the CCS 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 60.757(f)(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 shutdown to accommodate for declining LFG flow. All design changes accommodating decommissioned wells shall be approved by this Office.
      [Sec. 3D-0524, 40 CFR 60.753(b)]
   c) The permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees centigrade, and with either a nitrogen level less than 20% or an oxygen level less than 5%.
      i) The nitrogen level shall be determined using Method 3C, unless an alternative test method is established as allowed by 40 CFR 60.752(b)(2)(i).

ii) The oxygen level shall be determined by an oxygen meter using Method 3A or 3C with the exceptions to the method described in Sec. 60.753(c)(2)(i) through (v), unless an alternative test method is established as allowed by Sec. 60.752(b)(2)(i).
[Sec. 3D-0524, 40 CFR 60.753(c)]

iii). 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 60.753(d) and as provided in the surface methane monitoring conditions at condition **3.1(A)(7)(c**).
[Sec. 3D-0524, 40 CFR 60.753(d)]

iv) The permittee shall operate the system such that all collected landfill gases are vented to a control system designed and operated in compliance with Sec. 60.752(b)(2)(iii).
[Sec. 3D-0524, 40 CFR 60.753(e)]

v) 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 §60.753(f)]

vi) 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 60.753(e)]

vii) If monitoring demonstrates that the operational requirements of the NSPS and conditions 3(b) through (g) are not met, corrective action shall be taken as specified in Section 60.755(a)(3) through (5) or Section 60.755(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 60.753(g)]

d) The permittee may establish a higher operating temperature, nitrogen, or oxygen value at extraction wells upon approved demonstration to this office.
[Sec. 3D-0524, 40 CFR 60.753(c)]

6) **Compliance provisions** - Except as provided in 40 CFR 60.752(b)(2)(i)(B), and permit condition **3.1(A)(1)(b)**, paragraphs (a)(1) through (a)(6) of 40 CFR 60.755 and the following conditions shall be used to determine whether the gas collection system is in compliance with 40 CFR 60.752(b)(2)(ii) and permit condition **3.1(A((2**):

a) To determine compliance with 40 CFR 60.752(b)(2)(ii)(A)(1) and permit condition **3.1(A)(2)(a)**, the permittee shall use the most appropriate equation found in 40 CFR 60.755(a)(1) to calculate the maximum expected gas generation flow rate.
[Sec. 3D-0524, 40 CFR 60.755(a)(1)]

b) For the purposes of determining sufficient density of gas collection devices for compliance with 40 CFR 60.752(b)(2)(ii)(A)(2) and permit condition **3.1(A)(2)(c)**, the permittee shall 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 60.755(a)(2)]

c) The permittee shall place each collection well and/or design component as specified in the approved LFG CCS design plan.
[Sec. 3D-0524, 40 CFR 60.755(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 60.755(b)]

e) To demonstrate that the gas collection system flow rate is sufficient to determine compliance with 40 CFR 60.752(b)(2)(ii)(A)(3) 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 60.755(a)(3) and permit condition **3.1(A)(7)(b)**.
[Sec. 3D-0524, 40 CFR §60.755(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 60.753(c) and permit condition **3.1(A)(7)(c).**
[Sec. 3D-0524, 40 CFR §60.755(a)(5)]

g) To determine compliance with the surface methane requirements of 40 CFR 60.753(d) and permit condition **3.1(A)(5)(d)**, the permittee shall conduct monitoring and take corrective action(s) as required by 40 CFR 60.755(c), set forth in permit condition **3.1(A)(7)(d)**.
[Sec. 3D-0524, 40 CFR 60.755(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 month.
[Sec. 3D-0524, 40 CFR 60.755(a)(3)]

ii) If a positive pressure reading is measured, action shall 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 60.753(b) and permit condition **3.1(A)(5)(b)**.
[Sec. 3D-0524, 40 CFR 60.756(a)(1)]

iii) If negative pressure cannot be achieved without excess air infiltration within **15** calendar days of the first measurement, the LFG collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective action measure shall not cause exceedances of any other operational or performance standard. An alternate timeline for correcting the exceedance may be submitted to this Office for approval.
[Sec. 3D-0524, 40 CFR §60.755(a)(3)]

iv) The permittee will not be required to install additional collection wells as required in paragraph (7)(c) above during the first 180 days after the LFG collection system start-up.
[Sec. 3D-0524, 40 CFR §60.755(a)(4)]

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 60.756(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 provided in 40 CFR 60.753(c) and 60.756(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 correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the LFG collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of any other operational or performance standard.
[Sec. 3D-0524, 40 CFR 60.755(a)(5) and 60.753(a)(2)]

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 60.755(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 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 60.753(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 60.755.
[Sec. 3D-0524, 40 CFR 60.755(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 60.755(c)(4)(i)-(v) shall be taken. The monitored exceedance is *not* considered a violation of the operational requirements of 40 CFR 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 60.755(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 60.755(c)(4)(v)]

vi) 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 60.756(f)]

vii) For capped areas of the landfill, 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 60.755(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.
[Sec. 3Q-0508(f)**,** Sec. 3D-0524 and 40 CFR 60.758(a) – (e)]

b) The permittee shall keep for at least five (5) years records of the design capacity report which originally triggered 40 CFR 60.752(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate.
[Sec. 3Q-0508(f)**,** Sec. 3D-0524 and 40 CFR 60.758(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.
[Sec. 3Q-0508(f), Sec. 3D-0524 and 40 CFR 60.758]

i) The maximum expected gas generation flow rate of the collection system as calculated in 40 CFR 60.755(a)(1) or as calculated by another method, if the method has been approved by this Office.
[Sec. 3Q-0508(f)**,** Sec. 3D-0524 and 40 CFR 60.758(b)(1(i)]

ii) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in Section 60.759(a)(1) and permit condition **3.1(A)(3)**.
[Sec. 3Q-0508(f)**,** Sec. 3D-0524 and 40 CFR 60.758(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.
[Sec. 3Q-0508(f)**,** Sec. 3D-0524 and 40 CFR 60.758(b)(4)]

iv) During all periods when the permittee is seeking to comply with 40 CFR 60.750 *et seq*. by use of an open flare, continuous records of the flame or flare pilot flame monitoring specified under 40 CFR 60.756(c),and records of all periods during which the pilot flame of the flare flame is absent.
[Sec. 3Q-0508(f)**,** Sec. 3D-0524 and 40 CFR 60.758(b)(4)]

d) The permittee shall keep for at least five (5) years continuous records of the equipment operating parameters specified in section 60.756 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 and 40 CFR 60.758(c)(2)]

e) The permittee shall 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 60.756 and permit condition **3.1(A)(5)(f)**.
[Sec. 3Q-0508(f)**,** Sec. 3D-0524 and 40 CFR 60.758(c)]

f) The permittee shall 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 and 40 CFR 60.758(d)]

g) The permittee shall keep records of the installation date and location of all newly installed collectors as specified under 40 CFR 60.755(b) and permit conditions **3.1(A)(6)(b)**.
[Sec. 3Q-0508(f)**,** Sec. 3D-0524 and 40 CFR 60.758(d)]

h) The permittee shall 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 60.759(a)(3)(i) and (ii) and permit condition **3.1(A)(3)(e)**.
[Sec. 3Q-0508(f)**,** Sec. 3D-0524 and 40 CFR 60.758(d)]

i) The permittee shall keep for at least five (5) years records of all collection and control system exceedances of the operational standards in 40 CFR 60.753 and permit condition **3.1(A)(5)**.
[Sec. 3Q-0508(f)**,** Sec. 3D-0524 and 40 CFR 60.758(e)]

9) **Reporting Requirements** - [Sec. 3Q-0508(f), 40 CFR 60.757 and 40 CFR 63.1980(a)]

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 60.757(f)(1) through (6) and paragraphs (i) through (vi), below. Reportable exceedances for flares are defined under 40 CFR 60.758(c). The report shall include:

i) Value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c), and (d) 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 Sec.tion 60.756 and permit conditions **3.1(A)(5)**.
iii) Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating.
iv) All periods when the collection system was not operating in excess of five (5) days.
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.
vi) The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 60.755(a)(3),(b), and (c)(4).
vii) 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 §60.757(f), 40 CFR 63.1955(c) and 63.1980(a) and (b)]

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 60.757(d)]

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 60.752(b)(2)(ii) 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 (b), above;
   B) A copy of the initial performance test report demonstrating that the fifteen (15) year minimum control period has expired; and,
   C) Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.

[Sec. 3D-0524, 40 CFR 60.757(e)]

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 60, Subpart WWW, 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(b) and 63.1960]

b) Continuous parameter monitoring data, collected under the provisions of 40 CFR 60, Subpart WWW shall be used to demonstrate compliance with the operating conditions for the permittee's LFG control systems.
[Sec. 3D-1110, 40 CFR 63.1960]

c) With the exceptions noted in 40 CFR 63.1955(c), 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 60, Subpart WWW and condition **3.1(A)(1)(b)** may be used to demonstrated compliance with the NESHAP MACT,
[Sec. 3D-1110, 40 CFR 63.1955(c)]

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 60.752(b)(2) and permit condition **3.1(A)(1)(b)**.
[Sec. 3D-1110, 40 CFR 63.1955(c)]

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 63.1960]

f) The provisions of subpart AAAA apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed five (5) days for collection systems and shall not exceed 1 hour for treatment or control devices.
[Sec. 3D-1111, 40 CFR 63.1960, 40 CFR 60.755(e)]

g) The permittee shall develop, implement, and maintain on-site a written Start-up / Shutdown / Malfunction (SSM) plan pursuant to the provisions set forth in 40 CFR 63.6(e)(3).
[Sec. 3D-1111, 40 CFR 63.1960]

h) For the purposes of the landfill monitoring and SSM plan requirements, deviations are defined as:
   i) Whenever the control device operating parameter boundaries described in 40 CFR 60.758(c)(1) are exceeded;
   ii) Whenever one hour or more of the hours during the three-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour;
   iii) When a SSM plan is not developed, implemented, or maintained on site.
   [Sec. 3D-1111, 40 CFR 63.1965]

2) **Monitoring** [Sec. 3Q-0508(f**)** and 40 CFR 63.1960]
The permittee shall monitor the CCS pursuant to 40 CFR §60.750 *et seq*. and Condition **3.1(A)(7)**.

3) **Recordkeeping Requirements** [Sec. 3Q-0508(f) and 40 CFR 63.1980]
   a) The permittee shall maintain all records specified in 40 CFR Part 60, Subpart WWW.
   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 SSMs,
      ii) Records of all required maintenance, and
      iii) Records of all actions taken during startup or shutdown whenever applicable emission

limitations are exceeded and actions taken differ from those specified in the SSM plan. [Sec. 3D-1111, 40 CFR 63.1980, §63.1990 and §63.10(d)(5)]

4) **Reporting Requirements** -
   a) A semi-annual "Collection and Control System Report", as described in 40 CFR 60.757(f), 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.
   b) SSM reports, containing the information specified in 40 CFR 63.10(d)(5) shall be submitted to this Office no later than July 30 and January 30 for each preceding semi-annual period.
   c) If actions taken during startup, shutdown, or malfunction events (or if actions taken to correct a malfunction) result in an emissions exceedance and are inconsistent with the SSM, then the permittee shall report such actions to this Office within (2) working days after commencing such actions. This report shall be followed by a formal letter submitted to this Office seven (7) days after the event.
   [Secs. 3Q-0508(f) and 3D-1111, 40 CFR 63.1980, §63.1990, and §63.10(d)(5)]

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 60, Subpart WWW, 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 60, Subpart WWW, 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 60, Subpart WWW, 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) Standards of Performance for New Stationary Sources: Municipal Solid Waste Landfills (Secs. 3D-0524 and 40 CFR Part 60, Subpart WWW, 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, "New Source Performance Standards" (NSPS), promulgated in 40 CFR Part 60, Subpart WWW, 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 §60.752(b)(2)(iii)(A)]
   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.

c) During all periods when the permittee is seeking to comply with 40 CFR 60.750 *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 §60.752(b)(2)(iii)(A)]

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 §§60.752(b)(2)(iii)(A)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 60.752(b)(2)(iii)(A) and 60.18(c)(3)(ii)]

f) The provisions of 40 CFR 60, Subpart WWW apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed five (5) days for collection systems, and shall not exceed one (1) hour for treatment and/or control devices.
[Sec. 3D-0524, 40 CFR 60.755(e)]

2) **Monitoring**

a) During all periods when the permittee is seeking to comply with 40 CFR 60.750 *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 is 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)).

   [Sec. 3Q-0508(f) and 40 CFR 60.756 and 60.18]

b) During all periods when the permittee is seeking to comply with 40 CFR 60.750 *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.

   [Sec. 3Q-0508(f) and 40 CFR 60.756(c) and §60.18]

3) **Recordkeeping**

a) When the permittee is seeking to comply with 40 CFR 60.750 *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 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.

[Sec. 3Q-0508(f) and 40 CFR 60.752(b)(2)(iii)(A) and 60.18(c)(1)]

b) During all periods when the permittee is seeking to comply with 40 CFR 60.750 *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, of the flare flame is absent.
[Sec. 3Q-0508(f) and 40 CFR 60.758(b)(4)]

c) 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.
   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.
   [Sec. 3Q-0508(f) and 40 CFR 60.758(b)(4)]

d) 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 and 40 CFR 60.758]

4) **Reporting**

a) The following constitute exceedances that shall be recorded and reported in the annual report required under Section 60.757(f) 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 in excess of three (3) hours.
   ii) If no deviations have occurred during the reporting period, the permittee shall state this fact in the report.

[Sec. 3Q-0508(f) and 40 CFR 60.758]

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 60, Subpart WWW, the Hanes Mill Road landfill shall comply with all applicable Subpart AAAA regulations set forth in permit **condition 3.1(B)**.

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
xylenes (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 Renewal 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-6
Responsible Official: Janis McHargue, P.E. City/County Utilities Administrator	**Technical Contact:** Micah Johnson 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 Date:** 9-26-2018
Primary SIC Code: 4953 - Refuse Systems	**NAICS Code:** 562212 – Sanitary Landfill	

Date Application Dated:	Date Application Received:	Date Determined Complete:
20-MAR-2018	22-MAR-2018	2-APR-2018

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 premise#: 00913-TV-5. The facility is technically a “non-major” Title V source, as it is subject to 40 CFR Part 70/71 by virtue of also being a MSW landfill with a waste-in-place design capacity of greater than 2.5 million Mg, subject to 40 CFR 60, Subpart WWW.

HMRLF submitted its Title V Renewal Application to the Office on February 23, 2018. There have been no modifications to their current Title V permit since the last renewal.

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 waste, recyclables, and 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 considered "off-site" for permitting purposes, it is permitted separately as a synthetic minor (SM) source in Forsyth County under premise number 00884R9. 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

Since opening in 1972, HMRLF has never been 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 landfill New Source Performance Standard (NSPS) found in 40 CFR 60, Subpart WWW, 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. There have been no modifications to the operating permit or Design Plan since TV-5 was issued. As a result, the new Title V permit will undergo a review to incorporate any applicable regulatory changes since the last renewal. The final permit will be issued as 00913-TV-6, effective on XX/XX/2019

4.0 Statement of Compliance

Table 4.1, HMRLF Expansion NSPS Compliance Through TV-5 Permit Cycle

Cell	Initial Placement Date	NSPS Trigger Date	Wells Installed?
1	5/1/2005	4/30/2010	Yes
2	4/1/2007	3/30/2012	Yes
3A	8/1/2013	7/31/2018	Yes
3B	4/1/2012	3/31/2017	Yes
4A	5/1/2014	4/30/2019	Yes
4B	5/1/2013	4/30/2018	No(1)
4C	12/1/2011	11/30/2016	No(1)
5	3/28/2018	3/27/2023	No
(1) Waste in subcells 4B & 4C is too shallow to activate wellheads. Thus, these cells are connected to the CCS through the leachate cleanout risers (LCOs) until they are full and wells are installed.			

The Case Manager has reviewed the compliance status of HMRLF. Based on a comprehensive review of the permitting materials and knowledge of this facility from regularly scheduled inspections, the facility is found to be in full compliance with all applicable federal, state, and local requirements.

The applicant has certified in the renewal letter that the facility will be in compliance with all applicable requirements at the time of permit issuance and will continue to comply with all current regulations, as well as any requirements that may subsequently take effect during the term of this permit, meeting such requirements on a timely basis.

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

LFG emissions from ES-1 are controlled by collection through an NSPS prescribed Collection & Control System (CCS). 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 NSPS-approved methods for control of collected LFG.

6.0 Applicable Regulatory Requirements

6.1 Facility-Wide 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-6.

The permittee is required by General Condition **2.14** of the permit to submit a report 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 semiannually for NSPS and MACT related deviations and quarterly for deviations from other requirements.

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

Table 6.1 below provides a summary of the applicable limits and/or standards for the emission source ES-1 as described above. A comprehensive review of the information in reporting (R170 and R234) and inspection records since the last permit renewal ensures that the appropriate limits and associated calculations used to show compliance are correct.

6.2.1 40 CFR 60, Subpart WWW, "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 60, Subpart WWW, "New Source Performance Standard for Municipal Solid Waste Landfills" (codified under Forsyth County Air Quality Technical Code (FCAQTC) at 3D-0524).
HAP	Meet the requirements of NSPS, WWW, SSM requirements, and all additional reporting requirements	40 CFR Part 63, Subpart AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills, 40 CFR 63.1930 *et seq.*

6.2.1.1 Background & General Applicability

Proposed on May 30, 1991, and promulgated on May 21, 1996, NSPS Subpart WWW regulates 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. Each owner/operator must either comply 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 must calculate an NMOC emission rate for the landfill using the procedures given in 60.754 to show that actual NMOC emissions are less than the 50 megagrams (Mg) per year threshold that would trigger the control requirements.

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, 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). 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)**.

6.2.1.1 Installation of Collection and Control System (CCS)

6.2.1.3.1 Applicable Regulatory Background

The LFG Collection and Control System ("CCS") must meet all operational standards, compliance provisions, and monitoring requirements of the NSPS, the appropriate sections of which are duly noted. The NSPS at 40 CFR 60, Subpart WWW requires HMRLF to "*install and maintain a collection and control system that effectively captures the gas generated within the landfill and meets the specifications and requirements of §60.752(b)(2)(ii)*." 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 Section 60.755(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.

Table 6.2, HMRLF Collection & Control System Components

Component:	#	Location:	Well ID#s:
Vertical Extraction Wells	55	Original (Closed / Unlined) Cell	9-261, 226A, 227A, 257A
	31	Lateral Expansion (closed)	501-514, 516-532
	11	Phase 1 Expansion, Cell 1	801-807, 809-811, 816
	10	Phase 1 Expansion, Cell 2	808, 812-815, 817-819, 825, 826
	7	Phase 1 Expansion, Cell 3	823, 824, 827-831
		Phase 2 Expansion, Cell 4	820-822
Horizontal Collectors	5	Original Cell	301-305
	1	Original Cell (under Cells 3A/B)	600
	3	Cell 1	402, 404, 405
Horizontal Collector Trench	1	Eastern Limit of Waste-In-Place	n/a
Leachate Cleanout Connections	1	"Piggyback" Expansion (closed)	700
	7	Phase 1, Cells 1-3 & Phase 2, Cell 4	PH1LCO-31-33 & 42-45

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

6.2.1.3.2 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 the NSPS at 40 CFR 60.759 ("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 permit. Pursuant to 60.759(a), 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 60.759(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-6 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 NSPS compliance.

A Professional Engineer (P.E.) must certify that comprehensive control of surface gas emissions will be achieved. Pursuant to 40 CFR 60.759(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. 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 60.759(a)(3), permit condition **3.1(A)(3)(e)** requires collection devices (wells) to be placed in all gas 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.

Specific NSPS 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.

6.2.1.3.3 CCS Removal

Permit condition **3.1(A)(4)** sets forth provisions for compliance with all removal/capping requirements. NSPS provisions at 40 CFR 60.752(b)(2)(v), §60.754(b), and §60.757(d) 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-6 permit cycle, it is not expected that any capping or removal of currently active areas should occur during the period covered by this permit.

6.2.1.3.4 CCS Operational Standards

HMRLF is required by the NSPS at 40 CFR 60.753 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 NSPS 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 §60.752(b)(2)(iii). Whenever the CCS in 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. By permit **Condition 3.1(A)(5)(c)(vii)**, no violation of operational requirements has occurred as long as specified corrective actions are taken and documented.

Unless allowed by specific exceptions listed, each CCS well is to operate under conditions of negative pressure. Additionally, each well's oxygen (or alternatively nitrogen) level is limited to no greater than 5%, and the interior well temperature is limited to no greater than 55°C / 131°F (though demonstrated higher operating values are allowed on a case-by-case basis following Office approval). 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 is mandated by the NSPS to ensure compliance, with compliance provisions specified in the permit under condition **3.1(A)(7)(c)** (see Section 6.2.1.3.6 below).

6.2.1.3.5 Compliance Provisions

As specified by permit condition **3.1(A)(1)(b)**, compliance with the CCS installation and operation

provisions of §60.752(b)(2)(ii) is determined by the methods set forth in §60.755 unless alternative methodology pursuant to §60.752(b)(2)(i)(B) 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 00913-TV-6 under condition **3.1(A)(6)**. Compliance to the Subpart WWW NSPS is ensured by confirming that the performance of the required monitoring is adequately indentifying that no excess air infiltration into the CCS is occurring, as well as that the 500 ppm NSPS surface methane limit as determined by landfill surface monitoring is maintained. If exceedences 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)** (see Sections 6.2.1.3.6 and 6.2.1.3.7 below) collectively serve to assure HMRLF will continue to be in full compliance with the Subpart WWW NSPS.

6.2.1.3.6 CCS Monitoring Requirements

HMRLF must follow all monitoring requirements specified in 40 CFR 60.755 and §60.756 to ensure proper operation of the CCS, as required by the NSPS. 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 NSPS monitoring requirements are adequate to satisfy the periodic monitoring requirements specified by the standard, and are set forth in the Title V permit at condition **3.1(A)(7)**. Specific monitoring requirements are listed in Table 6.3 below.

Table 6.3, NSPS Subpart WWW CCS Well Continuous Monitoring Requirements

Permit Condition	Monitoring Requirement(s)	Applicable Subpart WWW Regulation
3.1(A)(7)(a)	Install sampling port and a thermometer (or other temperature measuring device), or an access port for temperature measurements at each well.	§60.756(a)
3.1(A)(7)(b)	Read gauge pressure in the CCS collection well monthly.	§60.756(a)(1)
3.1(A)(7)(c)	Monitor nitrogen OR oxygen concentration on a monthly basis to determine whether excess air infiltration is occurring.(1)	§60.755(a)(5)

(1) 60.753(c) requires that HMRLF operate each interior well with a LFG temperature less than 55 degrees centigrade with either a nitrogen level less than 20 percent OR an O_2 level less than 5 percent. Higher values may be established at a particular well with data showing that the elevated parameter does not cause fires or inhibit anaerobic decomposition by killing methanogens.

6.2.1.3.7 CCS Recordkeeping Requirements

NSPS Recordkeeping requirements pursuant to 40 CFR 60.758 have been set forth in Title V permit condition **3.1(A)(8)**, and will not change in the renewed permit. 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 the gas generation flow rate of the CCS, the density of wells and horizontal and 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 NSPS-required performance tests, which must be kept for the life of the control equipment.

6.2.1.3.8 CCS Reporting Requirements

HMRLF is required by Title V 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 60.757, *Reporting requirements*, the Subpart WWW NSPS sets forth further specific reporting requirements. These are found in the Title V permit under condition **3.1(A)(9)**. The collection and control system (CCS) compliance report required under 60.757(f) is due annually, within 30 days after the close of each calendar year. NESHAP Subpart

AAAA provisions per 40 CFR 63.1980(a), however, requires this report to be submitted semi-annually (refer to Section 6.2.3.5.3 for more details).

Since the Subpart WWW NSPS does not numerically define excess emissions, the permittee is required by condition **2.10** to report to the Office *any* deviations from permit requirements by the next business day, unless an 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 should be detailed in the subsequent required NSPS and NESHAP semi-annual CCS compliance report(s). In addition, the NESHAP 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.

Though not applicable to the upcoming permit cycle, HMRLF must report permanent closure of permitted landfill areas within 30 days following the cessation of waste acceptance pursuant to the procedures set forth in permit condition **3.1(A)(4)**. These provisions also mandate no less than 30 days advance notice for the removal, or ceasing operation, of any control equipment at the landfill.

6.2.1.2 Off-site Destruction or Subsequent Use of Collected LFG

6.2.1.2.1 Applicable Regulatory Requirements

Pursuant to 40 CFR 60.752(b)(2)(iii), all collected LFG must be routed to a control system that complies with one of three alternative requirements found in §60.752(b)(2)(iii)(A), (B), or (C), requiring the facility:

(A) operate an open flare, designed and operated pursuant to the requirements of 40 CFR 60.18;
(B) 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; and
(C) convey the collected gas to a treatment system that processes the gas, making it suitable for subsequent off-site sale or use.

6.2.1.2.2 Satisfaction of the Subpart WWW NSPS

Though HMRLF began collecting LFG for use in generating electricity at the HMRLF well prior to the 1996 promulgation of the NSPS, the City of Winston-Salem has 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 1999, defined in the Agreement as the "*Expanded Landfill*".

SES achieves regulatory compliance on behalf of HMRLF by combusting LFG 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 **00884R9**. 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 Subpart WWW NSPS.

6.2.1.2.3 Alternative Compliance Scenarios

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

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 NSPS requirements, and switching between them would have no affect 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-6 Title V permit.

Throughout the term of 00913-TV-5, both HMRLF and SES have continued to operate 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 NSPS. 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 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)** have been 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 NSPS, 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 NSPS. Failure of SES to meet (or to renew) its contractual obligations will not mitigate any failures to comply with the NSPS on the part of HMRLF.

Permit condition 3.1(A)(1) requires HMRLF to be in compliance with all requirements of the Subpart WWW NSPS at all times while using the flare, except during SSM, and limits the duration of SSM for the CCS and treatment and piping system (CD-01) and the flare (CD-02). With Office approval, certain alternatives are allowed to various operational and compliance standards under 40 CFR 60.752(b)(2)(i)(C) and §63.1955(c). However, these fall under the auspices of the Subpart AAAA NESHAP as set forth in permit condition **3.1(B)** (see Section 6.2.3.6 for more details on compliance with the NESHAP). Monitoring, recordkeeping, and reporting requirements for the CD-02 Utility Flare are detailed in its own section 6.3 below.

6.2.2 40 CFR 60, Subpart XXX - "Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification after July 17, 2014"

On November 14, 2014, the US EPA promulgated its final rule under 40 CFR 60, Subpart XXX, "*Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification after July 17, 2014*". This rule is intended to take the place of the

existing Subpart WWW NSPS for new landfills with a potential capacity above 34 Mg, or existing landfills above 34 Mg capacity that undergo modification after the effective date of the rule. As HMRLF has not undergone modification since well prior to the rule's effective date, it is not subject in any way to the provisions of Subpart XXX. Should HMRLF modify its TV permit in the future to include expansion of its potential waste disposal area(s), it will then become subject to the new NSPS Subpart XXX, which will supersede all Subpart WWW provisions in the permit.

6.2.3 40 CFR 63, Subpart AAAA, "National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills"

6.2.3.1 Background & Applicability

Pursuant to 40 CFR 63.1935, because HMRLF has a design capacity equal to or greater than 2.5 million megagrams (Mg) with estimated uncontrolled emissions equal to or greater than 50 Mg per year (as calculated pursuant to Sec. 60.754(a) of the NSPS Subpart WWW), 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.,* promulgated January 16, 2003 and revised July 1, 2005). 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*."

6.2.3.2 Standards of Performance

Subpart AAAA requires that subject landfills apply Maximum Achievable Control Technology (MACT) by complying with the 40 CFR 60, Subpart WWW NSPS. Since the NSPS required 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, except during periods of startup, shutdown, and malfunction (SSM). 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 NSPS. Permit Conditions **3.1(B)(1)-(2)** and **2.46** have been brought forward to assure continued compliance during the 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 both the NSPS and the NESHAP (at 40 CFR 63(b)(1)), the general conditions remain unchanged in the renewed permit 00913-TV-6 in conditions **2.19** and **2.47** through **2.53** to retain continuity. 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 permit cycle, relevant provisions pursuant to 40 CFR 63.5(b), (d), and (e) will be brought forward in the permit under condition **3.1(B)(1)**, incorporating by reference **2.46** & **2.49**.

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 practices at all time at all times. This is especially important during SSM periods. As such, Subpart AAAA requires reduction of emissions to the greatest extent possible during such periods, consistent with safety and good pollution control practices, requiring that malfunctions be corrected as soon as practicable and emissions be minimized during any SSM event. The NESHAP mandates that operation and maintenance requirements (O/M) are fully enforceable regardless of any emissions limitation or other requirements in relevant standards. To achieve these NESHAP goals, HMRLF has implemented a SSM plan in compliance with 40 CFR 63.6(e)(3), and is required to adhere to its provisions at all

times. Permit Conditions **2.46, 2.47, 3.1(B)(3)(c),** and **3.1(B)(4)** ensure compliance with these requirements.

6.2.3.5 Monitoring, Recordkeeping, & Reporting

6.2.3.5.1 Monitoring Requirements

All monitoring requirements specified by the NESHAP are required in the TV permit and are presumed 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 WWW NSPS, and have been incorporated by reference by permit condition **3.1(B)(2).**

6.2.3.5.2 Recordkeeping Requirements

In line with NSPS requirements already set forth (see section 6.2.1.3), HMRLF is required by 40 CFR 63.10(b)(2)(i)–(b)(2)(v) to maintain records of all SSM activity, required maintenance on NSPS-related equipment, emissions and/or monitoring exceedences, and any activity deviating from the procedures specified in the facility's SSM plan. Compliance also requires HMRLF to maintain comprehensive records demonstrating conformance with their SSM plan. Condition **3.1(B)(3)** has been brought forward to the renewal permit to assure continued compliance to these requirements specific to Subpart AAAA.

6.2.3.5.3 Reporting Requirements

In addition to the semi-annual CCS compliance report required to comply with the NSPS (at 40 CFR 60.757(f); refer to Section 6.2.1.3.7), the SSM report specified by 40 CFR 63.10(d)(5) fully satisfies HMRLF's Subpart AAAA reporting requirements The required semi-annual SSM reports must be submitted on July 30 and January 30 for each preceding recording period. However, if actions taken during startup or shutdown caused an emissions exceedance, or if a malfunction, or actions taken to correct a malfunction, is inconsistent with the SSM, HMRLF must submit an interim SSM report declaring the cause(s) and corrective action(s) within *2 working days*. No alternative reporting requirements have been requested by HMRLF pursuant to this section as part of this renewal. Therefore, conditions **3.1(B)(4)** and **3.1(A)(9)(a)** have been brought forward unchanged to the renewed 00913-TV-6 permit.

6.2.3.6 Alternative Operating Scenarios

Pursuant to 40 CFR 63.1955(c), HMRLF may submit (for Office approval) alternatives to any NSPS / NESHAP operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping, and reporting provisions. However, there are no allowances for alternative procedures to supersede any SSM and compliance reporting requirements under the Subpart AAAA NESHAP. Condition **3.1(A)(1)(b)** has been brought forward to the renewal permit to cover both Subpart WWW requirements, as well as to reflect this caveat specific to the Subpart AAAA NESHAP.

As previously stated in Section 6.2.1.2.3, the permit contains the option for HMRLF to use their utility flare CD-02 to dispose of any LFG SES cannot or will not accept for off-site destruction or electric power generation. In complying with the Subpart WWW NSPS using this alternative scenario, HMRLF also complies with the NESHAP Subpart AAAA MACT. Refer to Section 6.3 below for specific requirements for flare operations.

6.3 Landfill Gas Specialties CF-103018 Utility Flare with AeroVent blower (ID No. CD-02)

6.3.1 Background & Applicability

HMRLF's primary method in complying with the Subpart WWW NSPS and Subpart AAAA NESHAP is to collect all LFG in the CCS and transfer it offsite to SES for electricity generation or destruction in their candlestick flare. However, in 00913-TV-3, HMRLF was granted permission to install and operate

a Utility Flare on its property in order to combust any or all LFG that SES is unwilling or unable to dispose of. This alternative option is fully compliant with the provisions set forth in §60.752(b)(2)(iii)(A), so long as the flare is designed and operated in accordance with the NSPS general provision 40 CFR §60.18. Due to the flare's distinct requirements under the NSPS, it is permitted separately from the CCS purposes rather than be considered part the system as a whole.

The Utility Flare CD-02 was originally permitted in 2006 as a "non-assisted" (or passive flow) flare equipped with a propane-fired pilot flame. It has since come to the attention of this Office that the flare is indeed equipped with a 2100 scfm booster blower. Regardless, the flare has been permitted for a maximum rated firing capacity of 1,000 scfm of LFG throughput at condition **3.2(A)(1)(f)** since installation. The flow of LFG to CD-02 is measured continuously by an in-line flow meter.

6.3.2 New Source Performance Standards at 40 CFR 60, Subpart WWW (Sec. 3D-0524)

Table 6.4, 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 60, Subpart WWW, & 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 60, Subpart WWW, & 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 60, Subpart WWW, & 40 CFR Part 60, Subpart A, General Provisions, Section 60.18(c)(3)(iii) and 60.18(f)(5)
SO2	<2.5 lb/MMBtu	FCAQTC Sec. 3D-0516, "*Sulfur Dioxide Emissions from Combustion Sources*"

6.3.2.1 Design Requirements

The Subpart WWW NSPS at §60.752(b)(2)(ii) requires that the LFG CCS be designed to handle the maximum expected gas flow rate from all areas of the landfill subject to the NSPS for the life expectancy of the CCS. The flare CD-02 is guaranteed by the manufacturer to handle a maximum LFG firing capacity (throughput) of 2100 sfcm. Since the passive LFG flow at the HMRLF at the time of initial permitting was only 8.17 scfm, the flare's design capacity was considered sufficient throughout the active life of the CCS as HMRLF's permitted waste-in-place capacity is approached.

6.3.2.2 Emissions

At the time of its original permitting in 2006, HMRLF's consultant, SRS, performed and forwarded to this Office calculations for the flare to confirm the PTE of its expected CAP emissions. These calculations held the average heating value of the LFG to 500 Btu per scf, methane content at 50% by volume, a firing flow rate of 1000 scfm (as requested by HMRLF and set forth at permit condition 3.2(A)(1)(f)), and the flare running 8760 hours per year with no provisions for maintenance or other periods of downtime.

$$\frac{1000\ scf}{Min} \left| \frac{500\ Btu}{scf} \right| \frac{60\ min}{hr} \left| \frac{0.37\ lb\ CO}{} \right| \frac{8760\ hr}{yr} \left| \frac{1\ ton}{2000\ lb} \right. = 48.6\ tpy\ CO$$

The factor for CO was taken from the old Supplement D, Table 11.5-1 of AP-42 Volume 4. Published in 1991, these factors, specific to industrial flares, were determined through the firing of a propylene /

propane mixture, not LFG. As such, in her review of the application, the original case manager Laura Cauble used factors specific to landfill flares firing LFG, taken directly from AP-42, Volume 5, Table 4.2-5 (1998). In these calculations, CO was volumetrically tied to methane, which was assumed to be 100% of the LFG.

$$\frac{1000\ scf}{Min} \left| \frac{750\ lb/MMscf\ CO}{1\ MMdscf\ CH_4} \right| \frac{60\ min}{hr} \left| \frac{8760\ hr}{yr} \right| \frac{1\ ton}{2000\ lb} = 197.1\ tpy\ CO$$

Both sets of calculations have been discarded in favor of basing the flare's CAP emissions on the actual volume of methane produced by the HMRLF during the most recently available 2017 calendar year, as calculated by the EPA's LandGEM version 3.2. LandGEM output, which takes into account the current waste-in-place tonnage, produces a total of approximately 615.535 MMscf of methane generated by the landfill in 2017, 71% of which, or 439.488 MMscf of CH_4, by SES flow meter records, was collected and sent to SES for control. By substituting the total CH_4 sent offsite into the flare CD-02 as the sole control device, the CAP emissions can be calculated:

PM: (17 lb PM / 1 MMdscf CH_4) x (439.488 MMdscf CH_4) x (1 ton/2000 lb) = 3.74 tpy
NOX: (40 lb NOX / 1 MMdscf CH_4) x (439.488 MMdscf CH_4) x (1 ton/2000 lb) = 8.79 tpy
CO: (750 lb CO / 1 MMdscf CH_4) x (439.488 MMdscf CH_4) x (1 ton/2000 lb) = 230.8 tpy
VOC[(1)]: *(0.14 lb total HC / 1 MMdscf CH_4) x (439.488 MMdscf CH_4) x (1 ton/2000 lb) = 0.03 tpy*
SO_2[(2)]: *(4.39 lb SO_2 / 1 MMdscf CH_4) x (439.488 dscf CH_4) x (1 ton/2000 lb) = 0.97 tpy*

(1) VOC factor based on total hydrocarbons only, all other VOC species omitted.
(2) Sulfur dioxide factor based on the total btu calculated from estimated sulfur content in the LFG of 0.0026%. The total LFG produced and sent to SES is substituted for CH_4 in this calculation.

Thus, the revised calculations show that none of the PSD major source threshold PTEs of 250 tpy of any CAP would be exceeded should CD-02 be utilized as the sole control device at the HMRLF for all 8,760 hours of any calendar year. As far as the 1000 scfm flow limitation, with these new calculations, this poses a new question: can the flare CD-02 actually handle the total LFG flow that would otherwise be transported offsite to SES for control? To answer this question, the original 2006 permit application stated that the Landfill Gas Specialties Model CF-103018 flare coupled with the Aerovent blower has a maximum firing throughput of 2100 scfm. Assuming 71% throughput of all LFG produced at HMRLF sent to SES in CY2017 was reported as 878.976 MMscf (LFG held at 50% *CH_4*), the average flow of LFG to SES during the year was 1672.3 scfm:

$$\frac{878{,}976{,}000\ scf}{1\ yr} \left| \frac{1\ yr}{8760\ hr} \right| \frac{1\ hr}{60\ min} = 1672.3\ scfm$$

Conditionally limiting the flare's firing flow rate from 2100 to 1000 scfm would not match the level of emissions currently SES removes off-site from HMRLF. As a result, it is not certain that HMRLF would be able to maintain compliance with the Subpart WWW NSPS by combusting only 1000 scfm in its flare. Because the limit is unnecessary for regulatory reasons and constricts HMRLF's ability to extract an appropriate column of LFG to confidently maintain ongoing compliance, the limit will be removed from the renewed permit 00913-TV-6

6.3.2.2 Performance Testing
As agreed upon by this Office in permitting of the CD-02 utility flare in 00913-TV-2 (10/3/2006), Initial performance testing pursuant to 40 CFR 60.8 and §60.18 at HMRLF consisted of a Method 22 VE compliance test, the determination of exit velocity pursuant to a §60.18(f)(4) approved method, and a determination of heat content of the LFG calculated pursuant to §60.18(f)(3). The performance testing was completed on June 8, 2007. No further performance tests for CD-02 are required under the rule.

6.3.2.3 Monitoring Requirements

Monitoring of the flare is required by 40 CFR 60.756. All monitoring requirements specified by the MSW landfill NSPS are required in the TV permit and are presumed to be adequate to satisfy periodic monitoring requirements for that standard, since the NSPS was promulgated after 40 CFR Part 70. Monitoring requirements specified by the landfill NSPS specific to the flare are set forth in permit condition **3.2(A)(2).**

6.3.2.4 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 are set forth in permit condition **3.2(A)(3)**.

6.3.2.5 Reporting Requirements

6.3.3 40 CFR 63, Subpart AAAA, "National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills" (Sec. 3D-1110)

There are no additional compliance requirements in the Subpart AAAA NESHAP specific to the operation of the flare in lieu of sending LFG off-site to SES. As a result, compliance to the MACT is assured when HMRLF follows all applicable provisions found in Sections 6.2.3 and 6.3.2 at all times when the facility uses the utility flare CD-02 to comply with the Subpart WWW NSPS.

6.3.4 3D-0516 - Sulfur Dioxide Emissions from Combustion Sources (local only)

Pursuant to this rule, emissions of SO_2 from a combustion source must not exceed 2.3 pounds per million Btu. Compliance with this standard is required as set forth in permit condition 3.2(B)(1), and is assured since LFG will be the only fuel combusted in the flare (following ignition from the propane-fuelled 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.

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

6.4.1 Background & Applicable Regulatory Requirements

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 covered by the NESHAP MACT standard under 40 CFR 63, Subpart AAAA, the affected sources at the facility qualify for the TAPs exemption under the statute. For this renewal review, 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-6 permit.

6.4.2 Air Toxic Modeling Compliance Demonstration

As part of previous permitting reviews, this Office had required HMRLF to demonstrate compliance with the Forsyth County Toxic Air Pollutants (TAP) program through air dispersion modeling. The identified TAPs for the prior modeling demonstration were benzene, vinyl chloride, and hydrogen sulfide. Each of these pollutants was modeled in 2013 based on projected emissions increases through the 00913-TV-5 permit cycle. HMRLF completed its demonstration, which was approved by the Office. The evaluation demonstrated the following emission rates as being full potential estimated for 2018 and did not contribute to a violation of their associated AALs:

Table 6.5, Modeled Maximum Allowable TAPs Rates for 00913-TV-5

Pollutant	**Maximum Facility-wide 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 = (1664.6lb/yr / 365 d/yr)

Because HMRLF has not requested TAP limits be removed from the permit as part of this renewal, this Office is required to review local air toxics to determine if a revised compliance demonstration is necessary. A screening was performed averaging the previous five (5) years actual emissions of the modeled pollutants to determine how much of to the maximum modeled rate limit was consumed.

Table 6.6, 5-year Annual Emission Rates of Modeled TAPs

Pollutant	**2013**	**2014**	**2015**	**2016**	**2017**	**5-yr Avg**	**% Limit**
benzene (71-43-2)	54.87	64.96	78.80	65.70	67.78	66.40	42.7
vinyl chloride (75-01-4)	48.05	57.60	69.95	58.25	60.09	58.79	42.6
hydrogen sulfide (7783-06-4)	580.72	687.54	535.06	695.33	717.35	643.20	38.6

As none of the three (3) pollutants came close to the modeled emission rate either for a single calendar year, or averaged over the life of the TV-5 permit, this Office has determined that the previously modeled emission rates are appropriate to continue throughout the upcoming TV-6 permit cycle. Thus, the previously permitted limits will be brought forward to the renewed permit at Section 4. Condition **4(B)** brings forward the de minimus (TAPR) rates unchanged, while **4(C)** will continue to require continuing compliance with the benzene, hydrogen sulfide and vinyl chloride modeled emission rates as modeled in 2013. As before, this Office will require no additional monitoring or recordkeeping to ensure compliance with previously established TAP de minimis or modeled emission limits.

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 an 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 (see 6.2.1.2.3) 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.

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 Insignificant & Miscellaneous Activities

7.1 General Applicability

As of the application date of this renewal, HMRLF has certified that no changes to the permit have occurred since the last renewal. Thus, the insignificant activities listed in the previous permit 00913-TV-5 have been reviewed and verified. Although not listed in the Title V permit, these activities are included as an attachment to the permit. A general condition has been brought forward to the renewed permit stating that all insignificant activities shall comply with the applicable requirements.

7.2 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).

7.3 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.

7.4 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**.

8.0 Permit Shield (Including Non-applicable Requirements)

In accordance with FCAQTC Sec. 3Q-0512, general condition **2.7** of the Title V Operating Permit 00913-TV-6 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.

Since 00913-TV-6 will be subject to EPA review, the modification(s) previously permitted in the expiring permitting cycle will be removed from **Table 1.2**. The empty table will remain in the permit as a placeholder for subsequent permit shield tracking should any modifications be applied for prior to the renewed TV-6 permit's expiration date.

9.0 Public Notice & EPA Review

As the current 00913-TV-5 permit has expired, the 00913-TV-6 permit will be a full renewal carrying the date of actual issue. Pursuant to FCAQTC Section 3Q-0521, a notice of the draft TV-6 Title V Operating Permit shall be placed in a newspaper of general circulation in the area where the facility is located and posted on the Office website. This notice shall provide for a 30 day public notice period, and a public hearing if requested by the public. Copies of the public notice shall be sent to persons on the current Title V mailing list and the US EPA. Concurrent with the 30 day public notice period, the draft permit (and any supporting documentation) shall be provided to EPA Region 4 office for a review period of 45 days. Following closure of the public notice period, and subsequent approval by the EPA, the permit will be available for final approval and issuance by this Office.

10.0 Summary and Recommendations

The Case Manager has comprehensively reviewed this renewal application, has 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 renewed Title V Operating Permit #00913-TV-6 be issued forthwith to HMRLF upon successful completion of EPA review. The permit will become effective upon the actual issue date of XX/XX/2019, with its expiration/renewal date remaining December 3, 2023.

Reviewed By: _____ Date Completed: _____

Approved By: _____ Date Approved: _____