MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION

EFFECTIVE DATE: September 1, 2022

ISSUED TO

Eagle Valley Landfill

State Registration Number (SRN): N3845

LOCATED AT

600 West Silver Bell Road, Orion, Oakland County, Michigan 48359

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-N3845-2022

Expiration Date: September 1, 2027

Administratively Complete ROP Renewal Application
Due Between March 1, 2026 and March 1, 2027

This Renewable Operating Permit (ROP) is issued in accordance with and subject to Section 5506(3) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Pursuant to Rule 210(1) of the administrative rules promulgated under Act 451, this ROP constitutes the permittee's authority to operate the stationary source identified above in accordance with the general conditions, special conditions and attachments contained herein. Operation of the stationary source and all emission units listed in the permit are subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

Michigan Department of Environment, Great Lakes, and Energy

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Joyce Zhu, Warren District Supervisor

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AUTHORITY AND ENFORCEABILITY

For the purpose of this permit, the **permittee** is defined as any person who owns or operates an emission unit at a stationary source for which this permit has been issued. The **department** is defined in Rule 104(d) as the Director of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) or his or her designee.

The permittee must comply with all specific details in the permit terms and conditions and the cited underlying applicable requirements. All terms and conditions in this ROP are both federally enforceable and state enforceable unless otherwise footnoted. Certain terms and conditions are appli33cable to most stationary sources for which an ROP has been issued. These general conditions are included in Part A of this ROP. Other terms and conditions may apply to a specific emission unit, several emission units which are represented as a flexible group, or the entire stationary source which is represented as a Source-Wide group. Special conditions are identified in Parts B, C, D and/or the appendices.

In accordance with Rule 213(2)(a), all underlying applicable requirements are identified for each ROP term or condition. All terms and conditions that are included in a PTI are streamlined, subsumed and/or is state-only enforceable will be noted as such.

In accordance with Section 5507 of Act 451, the permittee has included in the ROP application a compliance certification, a schedule of compliance, and a compliance plan. For applicable requirements with which the source is in compliance, the source will continue to comply with these requirements. For applicable requirements with which the source is not in compliance, the source will comply with the detailed schedule of compliance requirements that are incorporated as an appendix in this ROP. Furthermore, for any applicable requirements effective after the date of issuance of this ROP, the stationary source will meet the requirements on a timely basis, unless the underlying applicable requirement requires a more detailed schedule of compliance.

Issuance of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

A. GENERAL CONDITIONS

Permit Enforceability

- All conditions in this permit are both federally enforceable and state enforceable unless otherwise noted. **(R 336.1213(5))**

- Those conditions that are hereby incorporated in a state-only enforceable Source-Wide PTI pursuant to Rule 201(2)(d) are designated by footnote one. **(R 336.1213(5)(a), R 336.1214a(5))**

- Those conditions that are hereby incorporated in a federally enforceable Source-Wide PTI pursuant to Rule 201(2)(c) are designated by footnote two. **(R 336.1213(5)(b), R 336.1214a(3))**

General Provisions

1. The permittee must comply with all conditions of this ROP. Any ROP noncompliance constitutes a violation of Act 451, and is grounds for enforcement action, for ROP revocation or revision, or for denial of the renewal of the ROP. All terms and conditions of this ROP that are designated as federally enforceable are enforceable by the Administrator of the United States Environmental Protection Agency (USEPA) and by citizens under the provisions of the federal Clean Air Act (CAA). Any terms and conditions based on applicable requirements which are designated as "state-only" are not enforceable by the USEPA or citizens pursuant to the CAA. **(R 336.1213(1)(a))**

2. It must not be a defense for the 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 ROP. **(R 336.1213(1)(b))**

3. This ROP may be modified, revised, or revoked for cause. The filing of a request by the permittee for a permit modification, revision, or termination, or a notification of planned changes or anticipated noncompliance does not stay any ROP term or condition. This does not supersede or affect the ability of the permittee to make changes, at the permittee's own risk, pursuant to Rule 215 and Rule 216. **(R 336.1213(1)(c))**

4. The permittee must allow the department, or an authorized representative of the department, upon presentation of credentials and other documents as may be required by law and upon stating the authority for and purpose of the investigation, to perform any of the following activities: **(R 336.1213(1)(d))**
   a. Enter, at reasonable times, a stationary source or other premises where emissions-related activity is conducted or where records must be kept under the conditions of the ROP.
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the ROP.
   c. Inspect, at reasonable times, any of the following:
      i. Any stationary source.
      ii. Any emission unit.
      iii. Any equipment, including monitoring and air pollution control equipment.
      iv. Any work practices or operations regulated or required under the ROP.
   d. As authorized by Section 5526 of Act 451, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the ROP or applicable requirements.

5. The permittee must furnish to the department, within a reasonable time, any information the department may request, in writing, to determine whether cause exists for modifying, revising, or revoking the ROP or to determine compliance with this ROP. Upon request, the permittee must also furnish to the department copies of any records that are required to be kept as a term or condition of this ROP. For information, which is claimed by the permittee to be confidential, consistent with the requirements of the 1976 PA 442, MCL 40 CFR 15.231 et seq., and known as the Freedom of Information Act, the person may also be required to furnish the records directly to the USEPA together with a claim of confidentiality. **(R 336.1213(1)(e))**

6. A challenge by any person, the Administrator of the USEPA, or the department to a particular condition or a part of this ROP must not set aside, delay, stay, or in any way affect the applicability or enforceability of any other condition or part of this ROP. **(R 336.1213(1)(f))**

7. The permittee must pay fees consistent with the fee schedule and requirements pursuant to Section 5522 of Act 451. **(R 336.1213(1)(g))**

8. This ROP does not convey any property rights or any exclusive privilege. **(R 336.1213(1)(h))**

Equipment & Design

9. Any collected air contaminants must be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants must be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2).[2] **(R 336.1370)**

10. Any air cleaning device must be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**

Emission Limits

11. Unless otherwise specified in this ROP, the permittee must comply with Rule 301, which states, in part, "Except as provided in Subrules 2, 3, and 4 of this rule, a person must not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following:"[2] **(R 336.1301(1))**
    a. A 6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity.
    b. A limit specified by an applicable federal new source performance standard.

    The grading of visible emissions must be determined in accordance with Rule 303.

12. The permittee must not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:
    a. Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.[1] **(R 336.1901(a))**
    b. Unreasonable interference with the comfortable enjoyment of life and property.[1] **(R 336.1901(b))**

Testing/Sampling

13. The department may require the owner or operator of any source of an air contaminant to conduct acceptable performance tests, at the owner's or operator's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001(1).[2] **(R 336.2001)**

14. Any required performance testing must be conducted in accordance with Rule 1001(2), Rule 1001(3) and Rule 1003. **(R 336.2001(2), R 336.2001(3), R 336.2003(1))**

15. Any required test results must be submitted to the Air Quality Division (AQD) in the format prescribed by the applicable reference test method within 60 days following the last date of the test. **(R 336.2001(5))**

Monitoring/Recordkeeping

16. Records of any periodic emission or parametric monitoring required in this ROP must include the following information specified in Rule 213(3)(b)(i), where appropriate. **(R 336.1213(3)(b))**
    a. The date, location, time, and method of sampling or measurements.
    b. The dates the analyses of the samples were performed.
    c. The company or entity that performed the analyses of the samples.
    d. The analytical techniques or methods used.
    e. The results of the analyses.
    f. The related process operating conditions or parameters that existed at the time of sampling or measurement.

17. All required monitoring data, support information and all reports, including reports of all instances of deviation from permit requirements, must be kept and furnished to the department upon request for a period of not less than 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings, or other original data records, for continuous monitoring instrumentation and copies of all reports required by the ROP. **(R 336.1213(1)(e), R 336.1213(3)(b)(ii))**

Certification & Reporting

18. Except for the alternate certification schedule provided in Rule 213(3)(c)(iii)(B), any document required to be submitted to the department as a term or condition of this ROP must contain an original certification by a Responsible Official which state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**

19. A Responsible Official must certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification must include all the information specified in Rule 213(4)(c)(i) through (v) and must state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The USEPA address is: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**

20. The certification of compliance must be submitted annually for the term of this ROP as detailed in the special conditions, or more frequently if specified in an applicable requirement or in this ROP. **(R 336.1213(4)(c))**

21. The permittee must promptly report any deviations from ROP requirements and certify the reports. The prompt reporting of deviations from ROP requirements is defined in Rule 213(3)(c)(ii) as follows, unless otherwise described in this ROP. **(R 336.1213(3)(c))**
    a. For deviations that exceed the emissions allowed under the ROP, prompt reporting means reporting consistent with the requirements of Rule 912 as detailed in Condition 25. All reports submitted pursuant to this paragraph must be promptly certified as specified in Rule 213(3)(c)(iii).
    b. For deviations which exceed the emissions allowed under the ROP and which are not reported pursuant to Rule 912 due to the duration of the deviation, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report must describe reasons for each deviation and the actions taken to minimize or correct each deviation.
    c. For deviations that do not exceed the emissions allowed under the ROP, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report must describe the reasons for each deviation and the actions taken to minimize or correct each deviation.

22. For reports required pursuant to Rule 213(3)(c)(ii), prompt certification of the reports is described in Rule 213(3)(c)(iii) as either of the following: **(R 336.1213(3)(c))**
    a. Submitting a certification by a Responsible Official with each report which states that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
    b. Submitting, within 30 days following the end of a calendar month during which one or more prompt reports of deviations from the emissions allowed under the ROP were submitted to the department pursuant to Rule 213(3)(c)(ii), a certification by a Responsible Official which states that; "based on information and belief formed after reasonable inquiry, the statements and information contained in each of the reports submitted during the previous month were true, accurate, and complete." The certification must include a listing of the reports that are being certified. Any report submitted pursuant to Rule 213(3)(c)(ii) that will be certified on a monthly basis pursuant to this paragraph must include a statement that certification of the report will be provided within 30 days following the end of the calendar month.

23. Semiannually for the term of the ROP as detailed in the special conditions, or more frequently if specified, the permittee must submit certified reports of any required monitoring to the appropriate AQD District Office. All instances of deviations from ROP requirements during the reporting period must be clearly identified in the reports. **(R 336.1213(3)(c)(i))**

24. On an annual basis, the permittee must report the actual emissions, or the information necessary to determine the actual emissions, of each regulated air pollutant as defined in Rule 212(6) for each emission unit utilizing the emissions inventory forms provided by the department. **(R 336.1212(6))**

25. The permittee must provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the appropriate AQD District Office. The notice must be provided not later than two business days after the start-up, shutdown, or discovery of the abnormal conditions or malfunction. Notice must be by any reasonable means, including electronic, telephonic, or oral communication. Written reports, if required under Rule 912, must be submitted to the appropriate AQD District Supervisor within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports must include all of the information required in Rule 912(5) and must be certified by a Responsible Official in a manner consistent with the CAA.[2] **(R 336.1912)**

Permit Shield

26. Compliance with the conditions of the ROP must be considered compliance with any applicable requirements as of the date of ROP issuance if either of the following provisions is satisfied. **(R 336.1213(6)(a)(i), R 336.1213(6)(a)(ii))**
    a. The applicable requirements are included and are specifically identified in the ROP.
    b. The permit includes a determination or concise summary of the determination by the department that other specifically identified requirements are not applicable to the stationary source.

    Any requirements identified in Part E of this ROP have been identified as non-applicable to this ROP and are included in the permit shield.

27. Nothing in this ROP must alter or affect any of the following:
    a. The provisions of Section 303 of the CAA, emergency orders, including the authority of the USEPA under Section 303 of the CAA. **(R 336.1213(6)(b)(i))**
    b. The liability of the owner or operator of this source for any violation of applicable requirements prior to or at the time of this ROP issuance. **(R 336.1213(6)(b)(ii))**
    c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the CAA. **(R 336.1213(6)(b)(iii))**

d. The ability of the USEPA to obtain information from a source pursuant to Section 114 of the CAA. **(R 336.1213(6)(b)(iv))**

28. The permit shield must not apply to provisions incorporated into this ROP through procedures for any of the following:
    a. Operational flexibility changes made pursuant to Rule 215. **(R 336.1215(5))**
    b. Administrative Amendments made pursuant to Rule 216(1)(a)(i)-(iv). **(R 336.1216(1)(b)(iii))**
    c. Administrative Amendments made pursuant to Rule 216(1)(a)(v) until the amendment has been approved by the department. **(R 336.1216(1)(c)(iii))**
    d. Minor Permit Modifications made pursuant to Rule 216(2). **(R 336.1216(2)(f))**
    e. State-Only Modifications made pursuant to Rule 216(4) until the changes have been approved by the department. **(R 336.1216(4)(e))**

29. Expiration of this ROP results in the loss of the permit shield. If a timely and administratively complete application for renewal is submitted not more than 18 months, but not less than 6 months, before the expiration date of the ROP, but the department fails to take final action before the end of the ROP term, the existing ROP does not expire until the renewal is issued or denied, and the permit shield must extend beyond the original ROP term until the department takes final action. **(R 336.1217(1)(c), R 336.1217(1)(a))**

Revisions

30. For changes to any process or process equipment covered by this ROP that do not require a revision of the ROP pursuant to Rule 216, the permittee must comply with Rule 215. **(R 336.1215, R 336.1216)**

31. A change in ownership or operational control of a stationary source covered by this ROP must be made pursuant to Rule 216(1). **(R 336.1219(2))**

32. For revisions to this ROP, an administratively complete application must be considered timely if it is received by the department in accordance with the time frames specified in Rule 216. **(R 336.1210(10))**

33. Pursuant to Rule 216(1)(b)(iii), Rule 216(2)(d) and Rule 216(4)(d), after a change has been made, and until the department takes final action, the permittee must comply with both the applicable requirements governing the change and the ROP terms and conditions proposed in the application for the modification. During this time period, the permittee may choose to not comply with the existing ROP terms and conditions that the application seeks to change. However, if the permittee fails to comply with the ROP terms and conditions proposed in the application during this time period, the terms and conditions in the ROP are enforceable. **(R 336.1216(1)(c)(iii), R 336.1216(2)(d), R 336.1216(4)(d))**

Reopenings

34. A ROP must be reopened by the department prior to the expiration date and revised by the department under any of the following circumstances:
    a. If additional requirements become applicable to this stationary source with three or more years remaining in the term of the ROP, but not if the effective date of the new applicable requirement is later than the ROP expiration date. **(R 336.1217(2)(a)(i))**
    b. If additional requirements pursuant to Title IV of the CAA become applicable to this stationary source. **(R 336.1217(2)(a)(ii))**
    c. If the department determines that the ROP contains a material mistake, information required by any applicable requirement was omitted, or inaccurate statements were made in establishing emission limits or the terms or conditions of the ROP. **(R 336.1217(2)(a)(iii))**
    d. If the department determines that the ROP must be revised to ensure compliance with the applicable requirements. **(R 336.1217(2)(a)(iv))**

Renewals

35. For renewal of this ROP, an administratively complete application must be considered timely if it is received by the department not more than 18 months, but not less than 6 months, before the expiration date of the ROP. **(R 336.1210(9))**

Stratospheric Ozone Protection

36. If the permittee is subject to Title 40 of the Code of Federal Regulations (CFR), Part 82 and services, maintains, or repairs appliances except for motor vehicle air conditioners (MVAC), or disposes of appliances containing refrigerant, including MVAC and small appliances, or if the permittee is a refrigerant reclaimer, appliance owner or a manufacturer of appliances or recycling and recovery equipment, the permittee must comply with all applicable standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F.

37. If the permittee is subject to 40 CFR Part 82 and performs a service on motor (fleet) vehicles when this service involves refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed by the original equipment manufacturer. The term MVAC as used in Subpart B does not include the air-tight sealed refrigeration system used for refrigerated cargo or an air conditioning system on passenger buses using Hydrochlorofluorocarbon-22 refrigerant.

Risk Management Plan

38. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee must register and submit to the USEPA the required data related to the risk management plan for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 40 CFR 68.130. The list of substances, threshold quantities, and accident prevention regulations promulgated under 40 CFR Part 68, do not limit in any way the general duty provisions under Section 112(r)(1).

39. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee must comply with the requirements of 40 CFR Part 68, no later than the latest of the following dates as provided in 40 CFR 68.10(a):
    a. June 21, 1999,
    b. Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or
    c. The date on which a regulated substance is first present above a threshold quantity in a process.

40. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee must submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR Part 68.

41. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee must annually certify compliance with all applicable requirements of Section 112(r) as detailed in Rule 213(4)(c)). **(40 CFR Part 68)**

Emission Trading

42. Emission averaging and emission reduction credit trading are allowed pursuant to any applicable interstate or regional emission trading program that has been approved by the Administrator of the USEPA as a part of Michigan’s State Implementation Plan. Such activities must comply with Rule 215 and Rule 216. **(R 336.1213(12))**

Permit to Install (PTI)

43. The process or process equipment included in this permit must not be reconstructed, relocated, or modified unless a PTI authorizing such action is issued by the department, except to the extent such action is exempt from the PTI requirements by any applicable rule.[2] **(R 336.1201(1))**

44. The department may, after notice and opportunity for a hearing, revoke PTI terms or conditions if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of the PTI or is violating the department's rules or the CAA.[2] **(R 336.1201(8), Section 5510 of Act 451)**

45. The terms and conditions of a PTI must apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by the PTI. If a new owner or operator submits a written request to the department pursuant to Rule 219 and the department approves the request, this PTI will be amended to reflect the change of ownership or operational control. The request must include all of the information required by Subrules (1)(a), (b) and (c) of Rule 219. The written request must be sent to the appropriate AQD District Supervisor, EGLE.[2] **(R 336.1219)**

46. If the installation, reconstruction, relocation, or modification of the equipment for which PTI terms and conditions have been approved has not commenced within 18 months of the original PTI issuance date, or has been interrupted for 18 months, the applicable terms and conditions from that PTI, as incorporated into the ROP, must become void unless otherwise authorized by the department. Furthermore, the person to whom that PTI was issued, or the designated authorized agent, must notify the department via the Supervisor, Permit Section, EGLE, AQD, P. O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or modification of the equipment allowed by the terms and conditions from that PTI.[2] **(R 336.1201(4))**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

B. SOURCE-WIDE CONDITIONS

Part B outlines the Source-Wide Terms and Conditions that apply to this stationary source. The permittee is subject to these special conditions for the stationary source in addition to the general conditions in Part A and any other terms and conditions contained in this ROP.

The permittee must comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply to this source, NA (not applicable) has been used in the table. If there are no Source-Wide Conditions, this section will be left blank.

C. EMISSION UNIT SPECIAL CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee must comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no conditions specific to individual emission units, this section will be left blank.

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modificatio3 n Date	Flexible Group ID
EU-ASBESTOS	Any active or inactive asbestos disposal site.	12/24/1985	NA
EU-LANDFILL	A Municipal Solid Waste (MSW) landfill that commenced construction, reconstruction, or modification after July 17, 2014. The MSW landfill has a design capacity equal to or greater than 2.5 million megagrams, and 2.5 million cubic meters, and NMOC emissions equal to or greater than 34 Mg per year.	12/24/1985	FG-LANDFILL-XXX FG-LANDFILL-AAAA
EU-ACTIVECOLLECTION	This emission unit represents the active landfill gas collection system that uses gas mover equipment to draw landfill gas from the wells and moves the gas to the control equipment.	10/12/1993	FG-LANDFILL-XXX FG-LANDFILL-AAAA FG-ACTIVECOLLECTION-XXX FG-ACTIVECOLLECTION-AAAA
EU-TREATMENTSYSTEM1	Processing equipment that treats collected landfill gas for subsequent sale to General Motors Orion Assembly Plant.	07/01/1999	FG-LANDFILL-XXX FG-LANDFILL-AAAA FG-TREATMENTSYSTEM-XXX FG-TREATMENTSYSTEM-AAAA
EU-TREATMENTSYSTEM2	Processing equipment that treats collected landfill gas for subsequent combustion in LFG-fired IC engines.	NA	FG-LANDFILL-XXX FG-LANDFILL-AAAA FG-TREATMENTSYSTEM-XXX FG-TREATMENTSYSTEM-AAAA
EU-ENCLOSEDFLARE3	An enclosed flare is considered an enclosed combustor which is an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air.	10/16/1993	FG-LANDFILL-XXX FG-LANDFILL-AAAA FG-ENCLOSEDFLARES-XXX FG-ENCLOSEDFLARES-AAAA

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modificatio3 n Date	Flexible Group ID
EU-ENCLOSEDFLARE4	An enclosed flare is considered an enclosed combustor which is an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air.	04/01/2005	FG-LANDFILL-XXX FG-LANDFILL-AAAA FG-ENCLOSEDFLARES-XXX FG-ENCLOSEDFLARES-AAAA
EU-ICENGINE1	This emission unit, and any replacement of this unit as applicable under R 336.1285(2)(a)(vi), is for a spark ignition, lean burn, reciprocating internal combustion engine (Caterpillar G3520C, 2,233 bhp at 100% load) for combusting treated landfill gas to produce electricity (1.6-megawatt gross electrical output). The engine will drive an associated generator set to produce electricity.	02/15/2011	FG-ICENGINES FG-RICEMACT
EU-ICENGINE2	This emission unit, and any replacement of this unit as applicable under R 336.1285(2)(a)(vi), is for a spark ignition, lean burn, reciprocating internal combustion engine (Caterpillar G3520C, 2,233 bhp at 100% load) for combusting treated landfill gas to produce electricity (1.6-megawatt gross electrical output). The engine will drive an associated generator set to produce electricity.	02/15/2011	FG-ICENGINES FG-RICEMACT

EU-ASBESTOS
EMISSION UNIT CONDITIONS

DESCRIPTION

Any active or inactive asbestos disposal at the MSW landfill.

Flexible Group ID: FGLANDFILL-XXX

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. If the landfill accepts asbestos-containing waste materials from a source covered under 40 CFR 61.149, 40 CFR 61.150, or 40 CFR 61.155, the permittee must meet the following operational requirements: **(40 CFR 61.154)**
   a. Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of 40 CFR 61.154(c) or (d) must be met. **(40 CFR 61.154(a))**
   b. Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as required in 40 CFR 61.154(b) or the requirements of 40 CFR 61.154(c)(1) must be met. **(40 CFR 61.154(b))**
      i. Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. **(40 CFR 61.154(b)(1))** The warning signs must:
         (1) Be posted in such a manner and location that a person can easily read the legend. **(40 CFR 61.154(b)(1)(i))**
         (2) Conform to the requirements of 51 cm by 36 cm (20 inches by 14 inches) upright format signs specified in 29 CFR 1910.145(d)(4) and 40 CFR 61.154(b)(1). **(40 CFR 61.154(b)(1)(ii))**
         (3) The permittee must display the legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in 40 CFR 61.154(b)(1). Spacing between any two lines must be at least equal to the height of the upper of the two lines. **(40 CFR 61.154(b)(1)(iii))**
      ii. The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public. **(40 CFR 61.154(b)(2))**
      iii. Upon request and supply of appropriate information, the appropriate AQD District Supervisor will determine whether a fence or a natural barrier adequately deters access by the general public. **(40 CFR 61.154(b)(3))**
   c. Rather than meet the no visible emission requirement of 40 CFR 61.154(a), at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period must:

i. Be covered with at least 15 centimeters (6 inches) of compacted non-asbestos-containing material. **(40 CFR 61.154(c)(1))** or

ii. Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent must be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the appropriate AQD District Supervisor. For purposes of 40 CFR 61.154(c)(2), any used, spent, or other waste oil is not considered a dust suppression agent. **(40 CFR 61.154(c)(2))**

d. Rather than meet the no visible emission requirement of 40 CFR 61.154(a), use an alternative emissions control method that has received prior written approval by the appropriate AQD District Supervisor according to the procedures described in 40 CFR 61.149(c)(2). **(40 CFR 61.154(d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The placement of gas collection devices determined in paragraph 40 CFR 60.769(a)(1) must control all gas producing areas, except as provided by 40 CFR 60.769 (a)(3)(i) and (a)(3)(ii). **(40 CFR 60.769(a)(3))**

   a. Any segregated area of asbestos may be excluded from collection if documented as provided under 40 CFR 60.768(d). The documentation must provide the nature, date of deposition, location and amount of asbestos deposited in the area, and must be provided to the AQD upon request. **(40 CFR 60.769(a)(3)(i))**

V. TESTING/SAMPLING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. For all asbestos-containing waste material received, the permittee of the active waste disposal site must:

   a. Maintain waste shipment records that include the following information: **(40 CFR 61.154(e)(1))**

      i. The name, address, and telephone number of the waste generator. **(40 CFR 61.154(e)(1)(i))**

      ii. The name, address, and telephone number of the transporter(s). **(40 CFR 61.154(e)(1)(ii))**

      iii. The quantity of the asbestos-containing waste material in cubic meters (cubic yards). **(40 CFR 61.154(e)(1)(iii))**

      iv. The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the local, State, or USEPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or USEPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report. **(40 CFR 61.154(e)(1)(iv))**

      v. The date of the receipt. **(40 CFR 61.154(e)(1)(v))**

   b. As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator. **(40 CFR 61.154(e)(2))**

   c. Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or USEPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record) **(40 CFR 61.154(e)(3))**

2. The permittee must maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area storage. **(40 CFR 61.154(f))**

3. The permittee must keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or non-degradable waste excluded from collection as provided in 40 CFR 60.769(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in 40 CFR 60.769(a)(3)(ii). **(40 CFR 60.768(d)(2))**

4. The permittee must keep records of one the following regarding any active disposal site where asbestos containing materials have been deposited:

   a. USEPA Method 22 readings demonstrating no visible emissions from any active disposal site where asbestos containing materials have been deposited. These readings are to be taken for 15 minutes each operating day. **(R 336.1213(3))**

   b. Records of the date asbestos waste is received, the amount and type of material that has been used to cover the asbestos waste, and documentation that the cover material was applied in the frequency required in SC III.1.c. **(40 CFR 61.154(c))**

   c. Records pursuant to an alternative emissions control method that has prior written approval of the AQD District Supervisor as required in SC III.1.d. **(40 CFR 61.154(d))**

   The permittee must keep all records on file in a format acceptable to the AQD District Supervisor and make them available upon request. **(R 336.1213(3), 40 CFR 61.154)**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee must submit to the appropriate AQD District Supervisor, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities. **(40 CFR 61.154(h))**

5. The permittee must furnish upon request and make available during normal business hours for inspection by the AQD, all records required by 40 CFR Part 61. **(40 CFR 61.154(i))**

6. Notify the AQD Technical Programs Unit and the appropriate AQD District Office in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the appropriate AQD District Office at least 10 working days before excavation begins and in no event must excavation begin earlier than the date specified in the original notification. **(40 CFR 61.154(j))**

   Include the following information in the notice:

   a. Scheduled starting and completion dates. **(40 CFR 61.154(j)(1))**

   b. Reason for disturbing the waste. **(40 CFR 61.154(j)(2))**

   c. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the AQD or may require changes in the emission control procedures to be used. **(40 CFR 61.154(j)(3))**

d. Location of any temporary storage site and the final disposal site. **(40 CFR 61.154(j)(4))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

D. FLEXIBLE GROUP SPECIAL CONDITIONS

Part D outlines the terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee must comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-LANDFILL-XXX	This flexible group represents the general MSW landfill with a required collection and control system. This flexible group contains 40 CFR 60 Subpart XXX requirements.	EU-LANDFILL EU-ACTIVECOLLECTION EU-TREATMENTSYSTEM1 EU-TREATMENTSYSTEM2 EU-ENCLOSEDFLARE3 EU-ENCLOSEDFLARE4
FG-ACTIVECOLLECTION-XXX	This flexible group represents the active landfill gas collection system at the landfill that uses gas mover equipment to draw landfill gas from the wells and moves the gas to the control equipment. This flexible group contains 40 CFR 60 Subpart XXX requirements.	EU-ACTIVECOLLECTION
FG-TREATMENTSYSTEM-XXX	A treatment system that filters, de-waters, and compresses landfill gas for subsequent sale or beneficial use. This flexible group contains 40 CFR 60 Subpart XXX requirements.	EU-TREATMENTSYSTEM1 EU-TREATMENTSYSTEM2
FG-ENCLOSEDFLARES-XXX	Two enclosed flares with a combined capacity of 5,000 CFM, used in combusting landfill gas. An enclosed flare is an enclosed combustor which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. The enclosed flares serve as supplemental and back-up control equipment in the event of treatment system outage, or when gas generation exceeds end user demand. This flexible group contains 40 CFR 60 Subpart XXX requirements.	EU-ENCLOSEDFLARE3 EU-ENCLOSEDFLARE4
FG-ICENGINES	Two reciprocating internal combustion engine(s) fueled with treated landfill/digester gas and used to produce electricity.	EU-ICENGINE1 EU-ICENGINE2

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-RICEMACT	New and reconstructed non-emergency engines greater than 500 hp firing landfill/digester gas, located at a major source of HAPs. Commenced construction or reconstruction on or after December 19, 2002.	EU-ICENGINE1 EU-ICENGINE2

FG-LANDFILL-XXX
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

This flexible group represents the general MSW landfill with a required collection and control system. This flexible group contains both 40 CFR 60 Subpart XXX and 40 CFR Part 63 Subpart AAAA requirements.

Emission Units: EU-LANDFILL, EU-ACTIVECOLLECTION, EU-TREATMENTSYSTEM1, EU-TREATMENTSYSTEM2, EU-ENCLOSEDFLARE3, EU-ENCLOSEDFLARE4

POLLUTION CONTROL EQUIPMENT

Enclosed flare and landfill gas treatment system.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee must install a collection and control system that captures the landfill gas generated within the landfill according to the requirements in 40 CFR 60.762(b)(2)(ii) and 40 CFR 60.762(b)(2)(iii). **(40 CFR 60.762(b)(2))**

2. The permittee must route all the collected landfill gas to at least one of the following:

   a. A non-enclosed flare designed in accordance with 40 CFR 60.18 except as noted in 40 CFR 60.764(e). **(40 CFR 60.762(b)(2)(iii)(A))**

   b. A control system designed and operated to reduce NMOC by 98 weight percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 ppmv on dry basis, as hexane at 3% oxygen. **(40 CFR 60.762(b)(2)(iii)(B))**

   c. To a treatment system that processes the collected gas for subsequent sale or beneficial use. Venting of treated landfill gas to the ambient air is not allowed. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas must be controlled according to either 40 CFR 60.762(b)(2)(iii)(A) or (B). **(40 CFR 60.762(b)(2)(iii)(C))**

V. TESTING/SAMPLING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee must keep for at least five years up-to-date, readily accessible, on-site records of the design capacity report that triggered 40 CFR 60.762(b), the current amount of solid waste in place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within four hours. Either paper copy or electronic formats are acceptable. The permittee must keep all records on file in a format acceptable to the AQD District Supervisor and make them available upon request. **(R 336.1213(3), 40 CFR 60.768(a))**

2. Landfill owners or operators who convert design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of "design capacity", must keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within four hours. Either paper copy or electronic formats are acceptable. **(40 CFR 60.768(f))**

3. If reporting leachate or other liquids addition under 40 CFR 60.767(k), the permittee must keep records of any engineering calculations or company records used to estimate the quantities of leachate or liquids added, the surface areas for which the leachate or liquids were applied, and the estimates of annual waste acceptance or total waste in place in the areas where leachate or liquids were applied. **(40 CFR 60.768(j))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report must be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. Report must be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee has opted into Subpart AAAA as allowed in 40 CFR 60.762(b)(2)(iv); therefore, the permittee must comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961. The permittee must follow the semiannual reporting requirements in 40 CFR 63.1981(h) in lieu of 40 CFR 60.767(g). **(40 CFR 60.767(g))**

5. The permittee must submit an equipment removal report to the appropriate AQD District Supervisor 30 days prior to removal or cessation of operation of the control equipment. **(40 CFR 60.767(f))**

   a. The equipment removal report must contain all of the following items:

      i. A copy of the closure report submitted in accordance with 40 CFR 60.767(e). **(40 CFR 60.767(f)(1)(i))**

      ii. A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired, or information that demonstrates that the gas collection and control system will be unable to operate for 15 years due to declining gas flows. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the USEPA's Central Data Exchange (CDX). **(40 CFR 60.767(f)(1)(iii))**

      iii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 Mg or greater of NMOC per year. If the NMOC emission rate reports have been previously submitted to the USEPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the USEPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports. **(40 CFR 60.767(f)(1)(ii))**

   b. The Department may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.762(b)(2)(v) have been met. **(40 CFR 60 60.767(f)(2))**

6. The permittee must submit a closure report to the appropriate AQD District Office within 30 days of waste acceptance cessation. The Department 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. If a closure report has been submitted to the Department, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4). **(40 CFR 60.767(e))**

7. The permittee must submit reports electronically according to the following:

   a. Within 60 days after the date of completing each performance test (as defined in 40 CFR 60.8), the permittee must submit the results of each performance test. For data collected using test methods supported by the USEPA's Electronic Reporting Tool (ERT) as listed on the USEPA's ERT website (https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert), submit the results of the performance test to the USEPA via the Compliance and Emissions Data Reporting Interface (CEDRI). The CEDRI can be accessed through the USEPA's CDX (https://cdx.epa.gov/). Performance test data must be submitted in a file format generated through the use of the USEPA's ERT or an alternative file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT website, once the XML schema is available. **(40 CFR 60.767(i)(1)(i))**

   b. For data collected using test methods that are not supported by the USEPA's ERT as listed on the USEPA's ERT website at the time of the test, submit the results of the performance test to the USEPA at the appropriate address listed in 40 CFR 60.4. **(40 CFR 60.767(i)(1)(ii))**

   c. Each permittee must submit reports to the USEPA via CEDRI (CEDRI can be accessed through the USEPA's CDX). The permittee must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI website (https://www.epa.gov/chief). If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the permittee must submit the report to the USEPA at the appropriate address listed in 40 CFR 60.4. Once the form has been available in CEDRI for 90 calendar days, the permittee must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted. **(40 CFR 60.767(i)(2))**

8. The permittee must submit any performance test reports and all other reports required by 40 CFR Part 60, Subpart XXX to the appropriate AQD District Office, in a format approved by the AQD District Supervisor. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENTS

1. If the permittee that has already submitted a design plan under 40 CFR 60.767(c), the permittee must submit a revised design plan to the Department for approval as follows:

   a. At least 90 days before expanding operations to an area not covered by the previously approved design plan. **(40 CFR 60.767(d)(1))**

   b. Prior to installing or expanding the gas collection system in a way that is not consistent with the design plan that was submitted plan under 40 CFR 60.767(c). **(40 CFR 60.767(d)(2))**

2. The collection and control system may be capped or removed as provided in 40 CFR 60.762(b)(2)(v) if all the following conditions are met:

   a. The landfill is a closed landfill (as defined in 40 CFR 60.761). A closure report must be submitted to the appropriate AQD District Office as provided in 40 CFR 60.767(e). **(40 CFR 60.762(b)(2)(v)(A))**

   b. The collection and control system must have been in operation a minimum of 15 years, or the landfill owner or operator demonstrates that the GCCS will be unable to operate for 15 years due to declining gas flow. **(40 CFR 60.762(b)(2)(v)(B))**

   c. Following the procedures specified in 40 CFR 60.764(b), the calculated NMOC gas produced by the landfill must be less than 34 megagrams per year on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart. **(40 CFR 60.762(b)(2)(v)(C))**

3. The permittee must comply with all applicable provisions of the federal Standards of Performance for Municipal Solid Waste Landfills that commenced construction, reconstruction, or modification after July 17, 2014 as specified in 40 CFR Part 60, Subpart XXX The permittee has opted into Subpart AAAA as allowed in 40 CFR 60.762(b)(2)(iv), therefore, the permittee must comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961. Once the permittee begins to comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961, the permittee must continue to operate the collection and control device according to those provisions and cannot return to the provisions of 40 CFR 60.763, 40 CFR 62.60.765 and 40 CFR 60.766. **(40 CFR 60.762(b)(2)(iv), 40 CFR Part 60, Subparts A and XXX)**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FG-ACTIVECOLLECTION-XXX
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

This emission unit represents the active landfill gas collection system that uses gas mover equipment to draw landfill gas from the wells and moves the gas to the control equipment. This flexible group contains 40 CFR Part 60, Subpart XXX requirements.

Emission Unit: EU-ACTIVECOLLECTION

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee must install an active collection system that meets the following requirements:

   a. Designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or system equipment. **(40 CFR 60.762(b)(2)(ii)(C)(1))**

   b. Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been in place for a period of five years or more if active; or two years or more if closed at final grade. **(40 CFR 60.762(b)(2)(ii)(C)(2))**

   c. Collects gas at a sufficient extraction rate. **(40 CFR 60.762(b)(2)(ii)(C)(3))**

   d. Designed to minimize off-site migration of subsurface gas. **(40 CFR 60.762(b)(2)(ii)(C)(4))**

2. The permittee must route the collected gas to a treatment system that processes the collected gas for subsequent sale or beneficial use such as fuel for combustion, production of vehicle fuel, production of high-BTU gas for pipeline injection, or use as a raw material in a chemical manufacturing process. Venting of treated landfill gas to the ambient air is not allowed. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas must be controlled according to either 40 CFR 60.762(b)(2)(iii)(A) or (B). **(40 CFR 60.762(b)(2)(iii)(C)**

3. The permittee must site active gas collection devices as required in 40 CFR 60.769 and must control all gas producing areas, except as provided below.

   a. Any segregated area of asbestos or non-degradable material may be excluded from collection if documented as provided under 40 CFR 60.768(d). **(40 CFR 60.769(a)(3)(i))**

b. Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material must be documented. A separate NMOC emissions estimate must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section must be computed using the equation in Appendix 7. **(40 CFR 60.769(a)(3)(ii))**

See Appendix 7

V. TESTING/SAMPLING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee has opted into Subpart AAAA as allowed in 40 CFR 60.762(b)(2)(iv); therefore, the permittee must comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961. The permittee must keep records of the date upon which the permittee started complying with the provisions in 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961 and must keep records according to 40 CFR 63.1983(e)(1) through (5). **(40 CFR 60.768(e))**

2. The permittee must keep up-to-date, readily accessible records for the life of the control equipment of the data listed as follows:

   a. The maximum expected gas generation flow rate as calculated in 40 CFR 60.765(a)(1). The permittee may use another method to determine the maximum gas generation flow rate if the method has been approved by the appropriate AQD District Office. **(40 CFR 60.768(b)(1)(i))**

   b. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 40 CFR 60.769(a)(1). **(40 CFR 60.768(b)(1)(ii))**

3. The permittee must keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector and the following up-to-date, readily accessible records. **(40 CFR 60.768(d))**

   a. The installation date and location of all newly installed collectors as specified under 40 CFR 60.765(b). **(40 CFR 60.768(d)(1))**

   b. Documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in 40 CFR 60.769(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in 40 CFR 60.769(a)(3)(ii). **(40 CFR 60.768(d)(2))**

4. The permittee must maintain the following information:

   a. A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion. **(40 CFR 60.767(h)(1))**

   b. The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and gas mover equipment sizing are based. **(40 CFR 60.767(h)(2))**

   c. The documentation of the presence of asbestos or non-degradable material for each area from which collection wells have been excluded based on the presence of asbestos or non-degradable material. **(40 CFR 60.767(h)(3))**

d. The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non-productivity and the calculations of gas generation flow rate for each excluded area. **(40 CFR60.767(h)(4))**

e. The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill. **(40 CFR 60.767(h)(5))**

f. The provisions for the control of off-site migration. **(40 CFR 60.767(h)(6))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report must be postmarked or received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. Report must be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee has opted into Subpart AAAA as allowed in 40 CFR 60.762(b)(2)(iv); therefore, the permittee must comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961. The permittee must follow the semiannual reporting requirements in 40 CFR 63.1981(h) in lieu of 40 CFR 60.767(g). **(40 CFR 60.767(g))**

5. The permittee has opted into Subpart AAAA as allowed in 40 CFR 60.762(b)(2)(iv); therefore, the permittee must comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961. The permittee must follow the corrective action and the corresponding timeline reporting requirements in 40 CFR 63.1981(j) in lieu of 40 CFR 60.767(j). **(40 CFR 60.767(j))**

6. The permittee must submit reports electronically according to the following:

   a. Within 60 days after the date of completing each performance test (as defined in 40 CFR 60.8), the permittee must submit the results of each performance test. For data collected using test methods supported by the USEPA's Electronic Reporting Tool (ERT) as listed on the USEPA's ERT website (https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert), submit the results of the performance test to the USEPA via the Compliance and Emissions Data Reporting Interface (CEDRI). The CEDRI can be accessed through the USEPA's CDX (https://cdx.epa.gov/). Performance test data must be submitted in a file format generated through the use of the USEPA's ERT or an alternative file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT website, once the XML schema is available. **(40 CFR 60.767(i)(1)(i))**

   b. For data collected using test methods that are not supported by the USEPA's ERT as listed on the USEPA's ERT website at the time of the test, submit the results of the performance test to the USEPA at the appropriate address listed in 40 CFR 60.4. **(40 CFR 60.767(i)(1)(ii))**

   c. Each permittee must submit reports to the USEPA via CEDRI (CEDRI can be accessed through the USEPA's CDX). The permittee must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI website (https://www.epa.gov/chief). If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the permittee must submit the report to the USEPA at the appropriate address listed in 40 CFR 60.4. Once the form has been available in CEDRI for 90 calendar days, the permittee must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted. **(40 CFR 60.767(i)(2))**

7. The permittee must submit any performance test reports and all other reports required by 40 CFR Part 60, Subpart XXX to the appropriate AQD District Office, in a format approved by the AQD District Supervisor. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENTS

1. The permittee must comply with all applicable provisions of the federal Standards of Performance for Municipal Solid Waste Landfills that commenced construction, reconstruction, or modification after July 17, 2014, as specified in 40 CFR Part 60, Subpart XXX. The permittee has opted into Subpart AAAA as allowed in 40 CFR 60.762(b)(2)(iv); therefore, the permittee must comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961. Once the permittee begins to comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961, the permittee must continue to operate the collection and control device according to those provisions and cannot return to the provisions of 40 CFR 60.763, 40 CFR 62.60.765 and 40 CFR 60.766. **(40 CFR 60.762(b)(2)(iv), 40 CFR Part 60, Subparts A and XXX)**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FG-TREATMENTSYSTEM-XXX
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

A treatment system that filters, de-waters, and compresses landfill gas for subsequent sale or beneficial use. This flexible group contains 40 CFR Part 60, Subpart XXX requirements.

Emission Units: EU-TREATMENTSYSTEM1, EU-TREATMENTSYSTEM2

POLLUTION CONTROL EQUIPMENT

Any emissions from any atmospheric vents or stacks associated with the treatment system must be subject to 40 CFR 60.762(b)(2)(iii)(A) or (B).

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee must operate the treatment system so that any emissions from any atmospheric vents or stacks associated with the treatment system must be subject to 40 CFR 60.762(b)(2)(iii)(A) or (B). **(40 CFR 60.762(b)(2)(iii)(C) and (D)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee must keep monthly records of all treatment system operating parameters specified to be monitored according to 40 CFR 60.766(g). The records must include:

   a. Continuous records of the indication of flow and gas flow rate to the treatment system. **(40 CFR 60.768(c)(2))**

   b. The indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines. **(40 CFR 60.768(c)(2))**

   c. Maintenance and repair of the monitoring system. **(40 CFR 60.766(h))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report must be postmarked or received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. Report must be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee has opted into Subpart AAAA as allowed in 40 CFR 60.762(b)(2)(iv); therefore, the permittee must comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961. The permittee must follow the semiannual reporting requirements in 40 CFR 63.1981(h) in lieu of 40 CFR 60.767(g). **(40 CFR 60.767(g))**

5. The permittee must submit reports electronically according to the following:

   a. Within 60 days after the date of completing each performance test (as defined in 40 CFR 60.8), the permittee must submit the results of each performance test. For data collected using test methods supported by the USEPA's Electronic Reporting Tool (ERT) as listed on the USEPA's ERT website (https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert), submit the results of the performance test to the USEPA via the Compliance and Emissions Data Reporting Interface (CEDRI). The CEDRI can be accessed through the USEPA's CDX (https://cdx.epa.gov/). Performance test data must be submitted in a file format generated through the use of the USEPA's ERT or an alternative file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT website, once the XML schema is available. **(40 CFR 60.767(i)(1)(i))**

   b. For data collected using test methods that are not supported by the USEPA's ERT as listed on the USEPA's ERT website at the time of the test, submit the results of the performance test to the USEPA at the appropriate address listed in 40 CFR 60.4. **(40 CFR 60.767(i)(1)(ii))**

   c. Each permittee must submit reports to the USEPA via CEDRI (CEDRI can be accessed through the USEPA's CDX). The permittee must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI website (https://www.epa.gov/chief). If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the permittee must submit the report to the USEPA at the appropriate address listed in 40 CFR 60.4. Once the form has been available in CEDRI for 90 calendar days, the permittee must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted. **(40 CFR 60.767(i)(2))**

6. The permittee must submit any performance test reports and all other reports required by 40 CFR Part 60, Subpart XXX to the appropriate AQD District Office, in a format approved by the AQD District Supervisor. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee must comply with all applicable provisions of the federal Standards of Performance for Municipal Solid Waste Landfills that commenced construction, reconstruction, or modification after July 17, 2014 as specified in 40 CFR Part 60, Subpart XXX. The permittee has opted into Subpart AAAA as allowed in 40 CFR 60.762(b)(2)(iv); therefore, the permittee must comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961. Once the permittee begins to comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961, the permittee must continue to operate the collection and control device according to those provisions and cannot return to the provisions of 40 CFR 60.763, 40 CFR 62.60.765 and 40 CFR 60.766. **(40 CFR 60.762(b)(2)(iv), 40 CFR Part 60, Subparts A and XXX)**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FG-ENCLOSEDFLARES-XXX
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

An enclosed flare is an enclosed combustor which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. The enclosed flares serve as a control system for supplemental and back-up control of landfill gas in the event of a treatment system outage, or when landfill gas generation exceeds end user demand. This flexible group contains 40 CFR Part 60, Subpart XXX requirements.

Emission Units: EU-ENCLOSEDFLARE3, EU-ENCLOSEDFLARE4

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMITS

NA

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NMOC	NMOC by 98 weight-percent or reduce the outlet NMOC concentration to less than 20 ppm by volume, dry basis as hexane at 3 percent oxygen	Hourly	Each flare in FG-ENCLOSEDFLARES	SC V.1 SC VI.1.	**40 CFR 60.762(b)(2)(iii)(B)**
2. CO	24.3 pph[2]	Hourly	EU-ENCLOSEDFLARE3	SC V.2	**40 CFR 52.21(d), R 336.1205(3)**
3. CO	6.1 pph[2]	Hourly	EU-ENCLOSEDFLARE4	SC V.2	**40 CFR 52.21(d), R 336.1205(3)**
4. SO2	109 tpy[2]	12-month rolling time period as determined at the end of each calendar month	FG-ENCLOSEDFLARES	SC V.3 SC VI.5	**R 336.1205(3)**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee must not operate EU-ENCLOSEDFLARE3 or EU-ENCLOSEDFLARE4 unless a malfunction abatement plan (MAP) as described in Rule 911(2), for EU-ENCLOSEDFLARE3 and EU ENCLOSEDFLARE4, is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee must amend the MAP within 45 days after such an event occurs. The permittee must also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee must submit the MAP and any amendments to the MAP to

the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP must be considered approved. Until an amended plan is approved, the permittee must implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.[2] **(R 336.1910, R 336.1911)**

2. The permittee must operate the control system such that all collected gases are vented to a control system designed and operated in accordance 40 CFR 60.762(b)(2)(iii). **(40 CFR 60.762(b)(2)(iii)(B))**

3. The control device must be operated within the parameter ranges established during the initial or most recent performance test. **(40 CFR 60.762(b)(2)(iii)(B)(2))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. Within five years from the last test date, and then every five years thereafter, the permittee must verify the NMOC reduction efficiency or ppmv from EU-ENCLOSEDFLARE3 and EU-ENCLOSEDFLARE4, by testing at owner's expense, in accordance with Department requirements. Testing must be performed using an approved EPA method listed in 40 CFR 60, Appendix A. An alternate method, or a modification to the approved EPA method, may be specified in an AQD approved test protocol. No less than 30 days prior to testing, the permittee must submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.2001, R 336.2003, R 336.2004)**

2. Within five years from the last test date, and then every five years thereafter, the permittee must verify CO emission rates from each flare in FG-ENCLOSEDFLARES, by testing at owner's expense, in accordance with Department requirements. Testing must be performed using an approved EPA Method listed in the table below:

Pollutant	Test Method Reference
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee must submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.[2] **(R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

3. The permittee must verify the hydrogen sulfide (H_2S), or total reduced sulfur (TRS) content of the landfill gas burned in FG-ENCLOSEDFLARES, monthly by gas sampling (e.g., Draeger Tubes, Tedlar Sampling Bags, etc.) and semi-annually by gas sampling using an EPA approved method and laboratory analysis, at the owner's expense, in accordance with Department requirements. If at any time, the H_2S (TRS equivalent) concentration of the landfill gas sample exceeds 500 ppmv, the permittee must sample and record the H_2S (TRS equivalent) concentration of the landfill gas weekly and must review all operating and maintenance activities for the landfill gas collection and treatment system along with keeping records of corrective actions taken. Once the H_2S (TRS equivalent) concentration of the landfill gas (determined from 4 weekly) is maintained below 500 ppmv for one month after an exceedance, the permittee may resume monthly monitoring and recordkeeping. No less than 30 days prior to the initial test for each type of gas sampling, the permittee must submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to the first test for each type of gas sampling. Thereafter, the permittee must submit a test plan upon the request of the AQD District Supervisor or if any changes are made to the approved testing protocol. The permittee must keep all

records on file at the facility and make them available to the Department upon request.[2] **(R 336.1205(3), R 336.1225, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21 (c) & (d))**

4. The permittee must verify the Visible Emissions (per USEPA Method 9 certified visible emissions observation must be conducted for a minimum of 15 minutes to determine the actual opacity from the emission point) from EU-ENCLOSEDFLARE and at a minimum, every five years from the date of the last test, thereafter. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.2001, R 336.2003, R 336.2004)**

5. The permittee must notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

VI. MONITORING/RECORDKEEPING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee must keep up-to-date, readily accessible records for the life of the control equipment of the data as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of five years. Records of the control device vendor specifications must be maintained until removal. **(40 CFR 60.768(b))**

2. Where the permittee seeks to demonstrate compliance with 40 CFR 60.762(b)(2)(iii) through use of an enclosed combustion device: **(40 CFR 60.768(b)(2))**

   a. The average temperature measured at least every 15 minutes and averaged over the same time period of the performance test. **(40 CFR 60.768(b)(2)(i))**

   b. The percent reduction of NMOC determined as specified in 40 CFR 60.762(b)(2)(iii)(B) achieved by the control device. **(40 CFR 60.768(b)(2)(ii))**

3. The permittee shall calculate and record the monthly and 12-month rolling SO_2 emission rates from FG-ENCLOSEDFLARES using the equation in Appendix A. The calculations shall utilize, at a minimum, monthly gas sampling data collected SC V.3, the monthly gas usage, monthly hours of operation, and the ratio of total sulfur to sulfur as H_2S from the most recent laboratory test. All records shall be kept on file at the facility and make them available to the Department upon request.[2] **(R 336.1205(3), 40 CFR 52.21 (c) & (d))**

4. The permittee shall maintain records of all information necessary for all notifications and reports for FG-ENCLOSEDFLARES, as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to the following:

   a. Compliance tests and any testing required under the special conditions of this permit.
   b. Monitoring data for the hours of operation, volumetric flow rate and landfill gas usage.
   c. Calculated amount of landfill gas combusted in each flare on a monthly and 12-month rolling basis.
   d. Hours of operation on a monthly and 12-month rolling basis.
   e. Btu content of the landfill gas burned.
   f. Manufacturer's data, specifications, and operating and maintenance procedures.
   g. Maintenance activities conducted according to the PM/MAP.
   h. All calculations necessary to show compliance with the limits contained in this permit.

5. Each permittee that chooses to comply with the provisions in 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961, as allowed at 40 CFR 60.762(b)(2)(iv), must keep records of the date upon which the permittee started complying with the provisions in 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961. **(40 CFR 60.768(e)(6))**

6. The permittee must maintain records of all information necessary for all notifications and reports for FG-ENCLOSEDFLARES, as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information must include, but must not be limited to the following:

   a. Compliance tests and any testing required under the special conditions of this permit.
   b. Monitoring data for the hours of operation, volumetric flow rate and landfill gas usage.
   c. Calculated amount of landfill gas combusted in each flare on a monthly and 12-month rolling basis.
   d. Hours of operation on a monthly and 12-month rolling basis.
   e. Btu content of the landfill gas burned.
   f. Manufacturer's data, specifications, and operating and maintenance procedures.
   g. Maintenance activities conducted according to the PM/MAP.
   h. All calculations necessary to show compliance with the limits contained in this permit.

   All of the above information must be stored in a format acceptable to the AQD District Supervisor.[2] **(R 336.1205, R 336.1225, R 336.1301, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, R 336.1912, 40 CFR 52.21(c) & (d))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report must be postmarked or received by appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. Report must be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee has opted into Subpart AAAA as allowed in 40 CFR 60.762(b)(2)(iv); therefore, the permittee must comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961. The permittee must follow the semi-annual reporting requirements in 40 CFR 63.1981(h) in lieu of 40 CFR 60.767(g). **(40 CFR 60.767(g))**

5. The permittee must submit reports electronically according to the following:

   a. Within 60 days after the date of completing each performance test (as defined in 40 CFR 60.8), the permittee must submit the results of each performance test. For data collected using test methods supported by the USEPA's Electronic Reporting Tool (ERT) as listed on the USEPA's ERT website (https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert), submit the results of the performance test to the USEPA via the Compliance and Emissions Data Reporting Interface (CEDRI). The CEDRI can be accessed through the USEPA's CDX (https://cdx.epa.gov/). Performance test data must be submitted in a file format generated through the use of the USEPA's ERT or an alternative file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT website, once the XML schema is available. **(40 CFR 60.767(i)(1)(i))**

   b. For data collected using test methods that are not supported by the USEPA's ERT as listed on the USEPA's ERT website at the time of the test, submit the results of the performance test to the Administrator at the appropriate address listed in 40 CFR 60.4. **(40 CFR 60.767(i)(1)(ii))**

   c. Each permittee must submit reports to the USEPA via CEDRI (CEDRI can be accessed through the USEPA's CDX). The permittee must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI website (https://www.epa.gov/chief). If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the permittee must submit the report to the Administrator at the appropriate address listed in 40 CFR 60.4. Once the form has been available in CEDRI for 90 calendar days, the permittee must

begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted. **(40 CFR 60.767(i)(2))**

6. The permittee must submit any performance test reports and all other reports required by 40 CFR Part 60, Subpart XXX to the appropriate AQD District Office, in a format approved by the AQD District Supervisor. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENTS

1. The permittee must comply with all applicable provisions of the federal Standards of Performance for Municipal Solid Waste Landfills that commenced construction, reconstruction, or modification after July 17, 2014, as specified in 40 CFR Part 60, Subpart XXX. The permittee has opted into Subpart AAAA as allowed in 40 CFR 60.762(b)(2)(iv); therefore, the permittee must comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961. Once the permittee begins to comply with the provisions of 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961, the permittee must continue to operate the collection and control device according to those provisions and cannot return to the provisions of 40 CFR 60.763, 40 CFR 62.60.765 and 40 CFR 60.766. **(40 CFR 60.762(b)(2)(iv), 40 CFR Part 60, Subparts A and XXX)**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FG-ICENGINES
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two (2) Spark ignition, lean burn, reciprocating internal combustion engines (Caterpillar G3520C, 2,233 bhp at 100% load) for combusting treated landfill gas to produce electricity (1.6 megawatt gross electrical output). The engines will drive an associated generator set to produce electricity.

Emission Units: EU-ICENGINE1, EU-ICENGINE2

POLLUTION CONTROL EQUIPMENT

Air-to-fuel ratio controller on each engine.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. CO	5.0 g/hp-hr[2] or 610 ppmvd at 15% O_2	Hourly	Each Engine in FG-ICENGINES	SC V.1 SC VI.5 SC VI.6	**40 CFR 60.4233(e) Table 1 to Subpart JJJJ of Part 60**
2. CO	4.13 g/bhp-hr[2]	Hourly	Each Engine in FG-ICENGINES	SC V.2 SC VI.5 SC VI.6	**40 CFR 52.21(d)**
3. NOx	2.0 g/hp-hr[2] or 150 ppmvd at 15% O_2	Hourly	Each Engine in FG-ICENGINES	SC V.1 SC VI.5 SC VI.6	**40 CFR 60.4233(e) Table 1 to Subpart JJJJ of Part 60**
4. NOx	0.9 g/bhp-hr[2]	Hourly	Each Engine in FG-ICENGINES	SC V.2 SC VI.5 SC VI.6	**40 CFR 52.21 (c) and (d)**
5. VOC*	1.0 g/bhp-hr[2] or 80 ppmvd at 15% O_2	Hourly	Each Engine in FG-ICENGINES	SC V.1 SC V.2 SC VI.5 SC VI.6	**R 336.1702(b) 40 CFR Part 60, Subpart JJJJ**
6. SO_2	2.92 pph[2]	Hourly	Each Engine in FG-ICENGINES	SC V.2 SC V.3 SC VI.5 SC VI.6	**40 CFR 52.21 (c) & (d)**
7. SO_2	25.6 tpy[2]	12-month rolling time period as determined at end of each calendar month	Each Engine in FG-ICENGINES	SC V.3 SC VI.3 SC VI.4 SC VI.5 SC VI.6	**R 336.1205(3)**
8. Formaldehyde	2.07 pph[2]	Hourly	Each Engine in FG-ICENGINES	SC V.4 SC VI.5 SC VI.6	**R 336.1225(2)**

*Per the NSPS, formaldehyde is not included.

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee must only burn landfill gas in FG-ICENGINES that has been treated.[2] **(R 336.1225, 40 CFR 63.6590(c))**

2. The permittee must not operate any engine in FG-ICENGINES unless the malfunction abatement/preventative maintenance plan, or an alternate plan approved by the AQD District Supervisor, is implemented and maintained. The plan must incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. At a minimum the plan must include:

   a. Identification of the equipment and, if applicable, air-cleaning device, and the supervisory personnel responsible for overseeing the inspection, maintenance, and repair.
   b. Description of the items or conditions to be inspected and frequency of the inspections or repairs.
   c. Identification of the equipment and, if applicable, air-cleaning device, operating parameters that must be monitored to detect a malfunction or failure, the normal operating range of these parameters and a description of the method of monitoring or surveillance procedures.
   d. Identification of the major replacement parts that must be maintained in inventory for quick replacement.
   e. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

   If the plan fails to address or inadequately addresses an event that meets the characteristics of malfunction at the time the plan is initially developed, the owner or operator must revise the plan within 45 days after such an event occurs and submit the revised plan for approval to the AQD District Supervisor. Should the AQD determine the malfunction abatement/preventative maintenance plan to be inadequate, the AQD District Supervisor may request modification of the plan to address those inadequacies.[2] **(R 336.1702, R 336.1910, R 336.1911, R 336.1912, 40 CFR 52.21(c) & (d))**

3. Based on the engine's kilowatt output, the permittee must adjust the engine's air/fuel ratio, as needed, to ensure that the engines in FG-ICENGINES operate at their maximum design output based on the fuel available to burn.[2] **(R 336.1702, R 336.1910, 40 CFR 52.21(c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee must not operate any engine in FG-ICENGINES unless the engines air/fuel ratio controller is installed, maintained and operated in a satisfactory manner.[2] **(R 336.1702, R 336.1910)**

2. The permittee must equip each engine in FG-ICENGINES with devices to monitor and record the monthly hours of operation.[2] **(40 CFR Part 60, Subpart JJJJ)**

3. The design capacity of each engine of FG-ICENGINES must not exceed 2,233 hp, as specified by the equipment manufacturer.[2] **(R 336.1205(1)(a), R 336.1225, R 336.1702, 40 CFR 52.21(c) & (d))**

V. TESTING/SAMPLING

Records must be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall conduct an initial performance test, except as provided in 40 CFR 60.4243(b), for each engine in FG-ICENGINES within one year after startup of the engine and every 8760 hours of operation (as determined through the use of a non-resettable hour meter) or three years, whichever occurs first, to demonstrate compliance with the emission limits in 40 CFR 60.4233(e) and the hourly emission rates shall be determined by the average of acceptable test runs. If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4244. No less than 30 days prior to any testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(40 CFR 60.8, 40 CFR 60.4243, 40 CFR 60.4244, 40 CFR 60.4245, 40 CFR Part 60 Subpart JJJJ)**

2. Within five years from the last test date and then every five years thereafter, the permittee shall verify NOx, CO, VOC, and SO_2 emission rates from each engine in FG-ICENGINES, by testing at owner's expense, in accordance with Department requirements. The hourly emission rates shall be determined by the average of the acceptable test runs per the applicable test method requirements. Testing shall be performed using an approved EPA Method listed in the table below:

Pollutant	Test Method Reference
NOx	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A
VOC	40 CFR Part 60, Appendix A
SO_2	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.[2] **(R 336.1205, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

3. The permittee shall verify the hydrogen sulfide (H_2S) or total reduced sulfur (TRS) content of the landfill gas burned in FG-ICENGINES, monthly by gas sampling (e.g. Draeger Tubes, Tedlar Sampling Bags, etc.) and semi-annually by gas sampling using an EPA approved method and laboratory analysis, at the owner's expense, in accordance with Department requirements. If at any time, the H_2S (TRS equivalent) concentration of the landfill gas sample exceeds 500 ppmv, the permittee shall sample and record the H_2S (TRS equivalent) concentration of the landfill gas weekly and shall review all operating and maintenance activities for the landfill gas collection and treatment system along with keeping records of corrective actions taken. Once the H_2S (TRS equivalent) concentration of the landfill gas (determined from four weekly) is maintained below 500 ppmv for one month after an exceedance, the permittee may resume monthly monitoring and recordkeeping. No less than 30 days prior to the initial test for each type of gas sampling, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to the first test for each type of gas sampling. Thereafter, the permittee shall submit a test plan upon the request of the AQD District Supervisor or if any changes are made to the approved testing protocol. The permittee shall keep all records on file at the facility and make them available to the Department upon request.[2] **(R 336.1205(3), R 336.1225, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21 (c) & (d))**

4. Within five years from the last test date, and then every five years thereafter, the permittee shall verify formaldehyde emission rates from each engine in FG-ICENGINES, by testing at owner's expense, in accordance with Department requirements. The hourly emission rates shall be determined by the average of the acceptable test runs per the applicable test method requirements. Testing shall be performed using an approved EPA Method listed in the table below:

Pollutant	Test Method Reference
Formaldehyde	40 CFR Part 60, Appendix A; or Method 320 of Appendix A of 40 CFR Part 63

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.[2] **(R 336.1225, R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.[2] **(R 336.1205, 40 CFR 52.21(c) & (d))**

2. The permittee must maintain a log of all maintenance activities conducted according to the malfunction abatement/preventative maintenance plan (pursuant to SC III.2) for each engine in FGICENGINES and must to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions. The permittee must keep this log on file at the facility for a period of at least five years and make it available to the Department upon request.[2] **(R 336.1702, R 336.1911, R 336.1912, 40 CFR 52.21(c) & (d), 40 CFR 60.4243(b))**

3. The permittee shall calculate and record the monthly and 12-month rolling SO_2 emission rates from FG-ICENGINES using the equation in Appendix A. The calculations shall utilize, at a minimum, monthly gas sampling data collected SC V.3, the monthly gas usage, monthly hours of operation, and the ratio of total sulfur to sulfur as H_2S from the most recent laboratory test. All records shall be kept on file at the facility and make them available to the Department upon request.[2] **(R 336.1205(3), 40 CFR 52.21 (c) & (d))**

4. The permittee shall continuously monitor, in a satisfactory manner, the hours of operation for each engine in FG-ICENGINES.[2] **(R 336.1205(1)(a) & (3))**

5. The permittee shall maintain the following record for FG-ICENGINES. The following information shall be recorded and kept on file at the facility:

   a. Engine manufacturer.
   b. Date engine was manufactured.
   c. Engine model number.
   d. Engine horsepower.
   e. Engine serial number.
   f. Engine specification sheet.
   g. Date of initial startup of the engine.
   h. Date engine was removed from service at this stationary source.

   All of the above information must be stored in a format acceptable to the AQD District Supervisor.[2] **(R 336.1205, R 336.1225, R 336.1702, R 336.1910, R 336.1911, R 336.1912, 40 CFR 52.21(c) & (d))**

6. The permittee shall maintain records of all information necessary for all notifications and reports for FG-ICENGINES, as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to the following:

   a. Compliance tests and any testing required under the special conditions of this permit.
   b. Monitoring data for the hours of operation, volumetric flow rate and landfill gas usage.
   c. Calculated amount of landfill gas combusted in each engine on a monthly and 12-month rolling basis.
   d. Hours of operation on a monthly and 12-month rolling basis.
   e. Btu content of the landfill gas burned.
   f. Manufacturer's data, specifications, and operating and maintenance procedures.
   g. Maintenance activities conducted according to the PM/MAP.
   h. All calculations necessary to show compliance with the limits contained in this permit.

   All of the above information shall be stored in a format acceptable to the AQD District Supervisor.[2] **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910, R 336.1911, R 336.1912, 40 CFR 52.21(c) & (d))**

7. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213(3), 40 CFR 52.21(c) & (d))**

VII. REPORTING

1. The permittee must notify the AQD district office within 10 days of when the frequency of the gas sampling changes for any reason. **(R 336.1201(3))**

2. The permittee must notify the AQD District Supervisor of an engine change-out and submit a description of the engine and acceptable emissions data to show that the alternate engine is equivalent-emitting or lower-emitting. The data must be submitted within 30-days of the engine change out. **(R 336.1201)**

3. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

4. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

5. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

6. The permittee must submit a complete report of the stack test results to the AQD District Supervisor in an acceptable format within 60 days after the performance test has been completed.[2] **(R 336.1205, R 336.1225, R 336.1702, R 336.1910, R 336.1911, R 336.1912, 40 CFR 52.21(c) & (d))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below must be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVICENGINE1	14[2]	45[2]	**R 336.1225** **40 CFR 52.21(c) and (d)**
2. SVICENGINE2	14[2]	45[2]	**R 336.1225** **40 CFR 52.21(c) and (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee must comply with all applicable provisions of the New Source Performance Standards as specified in 40 CFR Part 60, Subpart A and Subpart JJJJ, as they apply to FG-ICENGINES.[2] **(40 CFR Part 60 Subpart A and JJJJ)**

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FG-RICEMACT
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

New and reconstructed non-emergency engines greater than 500 hp fueled with landfill/digester gas, located at a major source of HAPs. Construction or reconstruction commenced on or after December 19, 2002.

Emission Units: EU-ICENGINE1, EU-ICENGINE2

POLLUTION CONTROL EQUIPMENT

Air-to-fuel ratio controller on each engine.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Each engine in FG-RICEMACT must operate in a manner which reasonably minimizes HAP emissions. **(40 CFR 63.6625(c))**

2. Each engine in FG-RICEMACT must operate in a manner which minimizes time spent at idle during startup and minimize the startup time to a period needed for appropriate and safe loading of each engine, not to exceed 30 minutes. **(40 CFR 63.6625(h))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The engines in FG-RICEMACT must equip and maintain separate fuel meters to monitor and record the daily fuel usage and volumetric flow rate of each fuel used. **(40 CFR 63.6625(c))**

V. TESTING/SAMPLING

Records must be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The engines in FG-RICEMACT, which fire landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, must monitor and record the daily fuel usage with separate fuel meters to measure the volumetric flow rate of each fuel. **(40 CFR 63.6625(c))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee must submit an annual report in accordance with Table 7 of 40 CFR Part 63, Subpart ZZZZ to the appropriate AQD district office by no later than March 15. **(40 CFR 63.6650(g), 40 CFR 63.6650(b)(5))**. The following information must be included in this annual report:

   a. The fuel flow rate and the heating values that were used in the permittee's calculations. Also, the permittee must demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis. **(40 CFR 63.6650(g)(1))**

   b. The operating limits provided in the permittee's federally enforceable permit, and any deviations from these limits. **(40 CFR 63.6650(g)(2))**

   c. Any problems or errors suspected from the fuel flow rate meters. **(40 CFR 63.6650(g)(3))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee must comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, as they apply to each engine in FG-RICEMACT. **(40 CFR Part 63, Subparts A and ZZZZ)**

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

D. FLEXIBLE GROUP SPECIAL CONDITIONS

Part D outlines terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-LANDFILL-AAAA	This flexible group represents the general MSW landfill with a required collection and control system. This flexible group contains 40 CFR Part 63, Subpart AAAA requirements.	EU-LANDFILL EU-ACTIVECOLLECTION EU-TREATMENTSYSTEM1 EU-TREATMENTSYSTEM2 EU-ENCLOSEDFLARE3 EU-ENCLOSEDFLARE4
FG-ACTIVECOLLTION-AAAA	This flexible group represents the active landfill gas collection system that uses gas mover equipment to draw landfill gas from the wells and moves the gas to the control equipment. This flexible group contains 40 CFR Part 63, Subpart AAAA requirements.	EU-ACTIVECOLLECTION
FG-TREATMENTSYSTEM-AAAA	A treatment system that filters, de-waters, and compresses landfill gas for subsequent sale or beneficial use. This flexible group contains 40 CFR Part 63, Subpart AAAA requirements.	EU-TREATMENTSYSTEM1 EU-TREATMENTSYSTEM2
FG-ENCLOSEDFLARE-AAAA	An enclosed flare (enclosed combustor) is an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. This flexible group contains 40 CFR Part 63, Subpart AAAA requirements.	EU-ENCLOSEDFLARE3 EU-ENCLOSEDFLARE4

FG-LANDFILL-AAAA
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

This flexible group represents the general MSW landfill with a required collection and control system. This flexible group contains 40 CFR Part 63, Subpart AAAA requirements.

Emission Units: EU-LANDFILL, EU-ACTIVECOLLECTION, EU-TREATMENTSYSTEM1, EU-TREATMENTSYSTEM2, EU-ENCLOSEDFLARE3, EU-ENCLOSEDFLARE4

POLLUTION CONTROL EQUIPMENT

Enclosed flare and landfill gas treatment system.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Methane	Less than 500 ppm above background level	Calendar quarter	Surface of Landfill	SC V.1 SC VI.1	**40 CFR 63.1958(d)(1)**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(40 CFR 63.1955(c))**

2. During periods of startup, shutdown, and malfunction (SSM), the permittee must comply with the work practices specified in 40 CFR 63.1958(e)(1). **(40 CFR 63.1960(e)(2))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee must install a collection and control system that captures the landfill gas generated within the landfill according to the requirements in 40 CFR 63.1959(b)(2)(ii) and 40 CFR 63.1959(b)(2)(iii). **(40 CFR 63.1959(b)(2))**

2. The permittee must route all the collected landfill gas to at least one of the following:

   a. A non-enclosed flare designed in accordance with 40 CFR 63.11(b) except as noted in 40 CFR 63.1959(e). **(40 CFR 63.1959(b)(2)(iii)(A))**

   b. A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight-percent or reduce the outlet NMOC concentration to less than 20 ppmv on dry basis, as hexane at 3% oxygen. **(40 CFR 63.1959(b)(2)(iii)(B))**

c. A treatment system that processes the collected gas for subsequent sale or beneficial use. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas must be controlled according to either 40 CFR 63.1959(b)(2)(iii)(A) or (B). **(40 CFR 63.1959(b)(2)(iii)(C))**

V. TESTING/SAMPLING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. Quarterly, the permittee must conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. A surface monitoring design plan must be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. **(40 CFR 63.1958(d)(1))**

   a. The permittee must conduct testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 63.1960(d). **(40 CFR 63.1958(d)(2)(i))**

   b. The permittee must conduct surface testing at all cover penetrations and monitor any cover penetrations that are within an area of the landfill where waste has been placed and a gas collection system is required. **(40 CFR 63.1958(d)(2)(ii))**

   c. The permittee must determine the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places. **(40 CFR 63.1958(d)(2)(iii))**

   d. The background concentration must be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. **(40 CFR 63.1960(c)(2))**

   e. Surface emission monitoring must be performed in accordance with 40 CFR Part 60, Appendix A-7, Method 21, Section 8.3.1, except that the probe inlet must be placed within 5 to 10 centimeters of the ground. Monitoring must be performed during typical meteorological conditions. **(40 CFR 63.1960(c)(3))**

2. The permittee shall use the procedures in 40 CFR 63.1960(c) for compliance with the surface methane operational standard in 40 CFR 63.1958(d). **(40 CFR 63.1960(c))**

3. The permittee must document any reading of 500 ppm or more above background at any location as a monitored exceedance. As long as the following specified actions are taken, the exceedance is not a violation of the operational requirements of 40 CFR 63.1958(d). **(40 CFR 63.1960(c)(4))**

   a. The location of each monitored exceedance must be marked, and the location recorded using an instrument with an accuracy of four meters with coordinates in decimal degrees and five decimal places. **(40 CFR 63.1960(c)(4)(i))**

   b. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance must be made and the location must be re-monitored within 10 calendar days of detecting the exceedance. **(40 CFR 63.1960(c)(4)(ii))**

   c. If the re-monitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in SC V.3.e must be taken, and no further monitoring of that location is required until the action specified in SC V.3.e has been taken. **(40 CFR 63.1960(c)(4)(iii))**

   d. Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in 40 CFR 63.1960(c)(4)(ii) or (iii) must be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 ppm above backgrounds, no further monitoring of that location is required until the next quarterly

monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in SC V.3.c or SC V.3.e must be taken. **(40 CFR 63.1960(c)(4)(iv))**

e. For any location where monitored methane concentration equals or exceeds 500 ppm above backgrounds three times within a quarterly period, a new well or other collection device must be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval. **(40 CFR 63.1960(c)(4)(v))**

4. The permittee must comply with instrumentation specifications and procedures in 40 CFR 63.1960(d) for surface emission monitoring devices: **(40 CFR 63.1960(d))**

   a. The portable analyzer must meet the instrument specifications provided in Section 6 of Method 21 of Appendix A-7 of 40 CFR 60, except that "methane" must replace all references to VOC. **(40 CFR 63.1960(d)(1))**

   b. The calibration gas must be methane, diluted to a nominal concentration of 500 ppm in air. **(40 CFR 63.1960(d)(2))**

   c. To meet the performance evaluation requirements in section 8.1 of EPA Method 21 of Appendix A of 40 CFR Part 60, the instrument evaluation procedures of section 8.1 of EPA Method 21 of Appendix A of 40 CFR Part 60, must be used. **(40 CFR 63.1960(d)(3))**

   d. The calibration procedures provided in section 8.1 of EPA Method 21 of Appendix A of 40 CFR Part 60, must be followed immediately before commencing a surface monitoring survey. **(40 CFR 63.1960(d)(4))**

5. Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring. **(40 CFR 63.1961(f))**

VI. MONITORING/RECORDKEEPING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee must keep records of the surface methane monitoring including the following information at a minimum:

   a. The route traversed including any areas not monitored because of unsafe conditions (i.e., truck traffic, construction, active face, dangerous areas, etc.) and areas included where visual observations indicate elevated levels of landfill gas. **(40 CFR 63.1958(d))**

   b. The location(s) and concentrations of the methane readings and noting any reading above 500 ppm above background. **(40 CFR 63.1960(c)(4))**

   c. The meteorological conditions the day of the testing including wind speed, wind direction, and temperature. **(R 336.1213(3))**

   The permittee must keep all records on file in a format acceptable to the AQD District Supervisor and make them available upon request. **(R 336.1213(3), 40 CFR 63.1958(d))**

2. The permittee must implement a program to monitor on a monthly basis for cover integrity and implement cover repairs as necessary. Records of the cover integrity and any cover repairs must be kept on file in a format acceptable to the AQD District Supervisor and made available upon request. **(40 CFR 63.1960(c)(5))**

3. The permittee must keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report that triggered 40 CFR 63.1959(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable. The permittee must keep all records on file in a format acceptable to the AQD District Supervisor and make them available upon request. **(40 CFR 63.1983(a))**

4. Landfill owners or operators who convert design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of "design capacity", must keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable. **(40 CFR 60.1983(f))**

5. If adding liquids other than leachate in a controlled fashion to the waste mass and do not comply with the bioreactor requirements in 40 CFR 63.1947, 40 CFR 63.1955(b), and 40 CFR 63.1982(a) and (b), the permittee must keep records of calculations showing that the percent moisture by weight expected in the waste mass to which liquid is added is less than 40 percent. The calculation must consider the waste mass, moisture content of the incoming waste, mass of water added to the waste including leachate recirculation and other liquids addition and precipitation, and the mass of water removed through leachate or other water losses. Moisture level sampling or mass balances calculations can be used. The permittee must document the calculations and the basis of any assumptions. Keep the record of the calculations until the permittee ceases liquids addition. **(40 CFR 63.1982(c))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee must submit reports which must be postmarked or received by the appropriate AQD District Office by March 15 for reporting period January 1 to December 31. The report must include the location of each exceedance of the 500 ppm methane concentrations as provided in 40 CFR 63.1958(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month. For location, you record the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The report must also include information on all deviations that occurred during the 6-month reporting period. **(40 CFR 63.1981(h)(5))**

5. The permittee of a controlled landfill must submit an equipment removal report to the Administrator 30 days prior to removal or cessation of operation of the control equipment. **(40 CFR 63.1981(g))**

   a. The equipment removal report must contain all of the following items:

      i. A copy of the closure report submitted in accordance with 40 CFR 63.1981(f). **(40 CFR 63.1981(g)(1)(i)**

      ii. A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired, or information that demonstrates that the gas collection and control system will be unable to operate for 15 years due to declining gas flows. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's Central Data Exchange (CDX). **(40 CFR 63.1981(g)(1)(ii))**

      iii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 Mg or greater of NMOC per year. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports. **(40 CFR 63.1981(g)(1)(iii))**

   b. The Department may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 63.1957(b) have been met. **(40 CFR 63.1981(g)(2))**

6. The permittee of a controlled landfill must submit a closure report to the Department within 30 days of waste acceptance cessation. The Administrator 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. If a closure report has been submitted to the Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 63.9(b). **(40 CFR 63.1981(f))**

7. The permittee must submit reports electronically according to the following:

   a. Within 60 days after the date of completing each performance test required by 40 CFR 63 Subpart AAAA, submit the results of the performance test with data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (*https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*). Submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's CDX (https://cdx.epa.gov/). The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website. **(40 CFR 63.1981(l)(1)(i)**

   b. For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website, the results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI. **(40 CFR 63.1981(l)(1)(ii)**

   c. Each permittee must submit reports to the EPA via CEDRI. CEDRI can be accessed through the EPA's CDX. The permittee must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI website (https://www.epa.gov/chief)). Once the spreadsheet template upload/forms for the reports have been available in CEDRI for 90 days, the permittee must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted. If the reporting forms specific to this subpart are not available in CEDRI at the time that the reports are due, the permittee must submit the reports to the USEPA at the appropriate address listed in 40 CFR 63.13. **(40 CFR 63.1981(l)(2))**

8. The permittee shall submit any performance test reports and all other reports required by 40 CFR 63, Subpart AAAA to the AQD District Office, in a format approved by the AQD District Supervisor. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENTS

1. If the permittee has submitted a design plan under 40 CFR 63.1981(d), the permittee must submit a revised design plan to the Administrator for approval as follows:

   a. At least 90 days before expanding operations to an area not covered by the previously approved design plan. **(40 CFR 63.1981(e)(1))**

   b. Prior to installing or expanding the gas collection system in a way that is not consistent with the design plan that was submitted plan under 40 CFR 63.1981(d). **(40 CFR 63.1981(e)(2))**

2. The collection and control system may be capped, removed, or decommissioned if the following criteria are met:

   a. The landfill is a closed landfill (as defined in 40 CFR 63.1990). A closure report must be submitted to the Administrator as provided in 40 CFR 63.1981(f). **(40 CFR 63.1957(b)(1))**

b. The gas collection and control system has been in operation a minimum of 15 years or the permittee demonstrates that the gas collection and control system will be unable to operate for 15 years due to declining gas flow. **(40 CFR 63.1957(b)(2))**

c. Following the procedures specified in 40 CFR 63.1959(c), the calculated NMOC gas produced by the landfill must be less than 50 Mg/yr on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart. **(40 CFR 63.1957(b)(3))**

3. The permittee must comply with all applicable provisions of the National Emissions Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as specified in 40 CFR Part 63, Subparts A and AAAA. **(40 CFR Part 63, Subparts A and AAAA)**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FG-ACTIVECOLLECTION-AAAA
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

This flexible group represents the active landfill gas collection system that uses gas mover equipment to draw landfill gas from the wells and moves the gas to the control equipment. This flexible group contains 40 CFR Part 63, Subpart AAAA requirements.

Emission Unit: EU-ACTIVECOLLECTION

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee must operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:
   a. Five years or more if active; or **(40 CFR 63.1958(a)(1))**
   b. Two years or more if closed or at final grade. **(40 CFR 63.1958(a)(2))**

2. The permittee must operate the collection system with negative pressure at each wellhead except under the following conditions:
   a. A fire or increased well temperature. **(40 CFR 63.1958(b)(1))**
   b. Use of a geo-membrane or synthetic cover. The permittee must develop acceptable pressure limits in the design plan. **(40 CFR 63.1958(b)(2))**
   c. A decommissioned well. A well may experience a static positive pressure after shut-down to accommodate for declining flows. **(40 CFR 63.1958(b)(3))**

3. The permittee must operate each interior wellhead in the collection system under the following conditions:
   a. Operate each interior wellhead in the collection system with a landfill gas temperature less than 62.8°C (145°F). **(40 CFR 63.1958(c)(1))**
   b. A higher operating temperature value may be established at a particular well. A higher operating value demonstration must be submitted to the Department for approval and must include supporting data that the elevated parameter does not cause fires nor significantly inhibit anaerobic decomposition by killing methanogens. **(40 CFR 63.1958(c)(2))**

4. The permittee must operate the system in accordance to 40 CFR 63.1955(c) such that all collected gases are vented to a control system designed and operated in compliance with 40 CFR 63.1959(b)(2)(iii). **(40 CFR 63.1958(e)(1))**

5. In the event the collection system is not operating, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within one hour of the collection or control system not operating. **(40 CFR 63.1958(e)(1)(i))**

6. In the event the collection system is not operating, efforts by the permittee to repair the collection or control system must be initiated and completed in a manner such that downtime is kept to a minimum, and the collection and control system must be returned to operation. **(40 CFR 63.1958(e)(1)(ii))**

7. If monitoring demonstrates that the operational requirements in paragraph 40 CFR 63.1958(b), (c), or (d) are not met, corrective action must be taken as specified in 40 CFR 63.1960(a)(3) and (5) or 40 CFR 63.1960(c). If corrective actions are taken as specified in 40 CFR 63.1960, the monitored exceedance is not a deviation of the operational requirements in 40 CFR 63.1958. **(40 CFR 63.1958(g))**

8. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(40 CFR 63.1955(c))**

9. During periods of startup, shutdown, and malfunction (SSM), the permittee must comply with the work practices specified in 40 CFR 63.1958(e)(1). **(40 CFR 63.1960(e)(2))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee must install an active collection system that meets the following requirements:

   a. Designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment. **(40 CFR 63.1959(b)(2)(ii)(B)(1))**

   b. Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been in place for a period of five years or more if active; or two years or more if closed at final grade. **(40 CFR 63.1959(b)(2)(ii)(B)(2)**

   c. Each well must be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of five years or more if active; or two years or more if closed at final grade. **(40 CFR 63.1960(b)**

   d. Collects gas at a sufficient extraction rate. **(40 CFR 63.1959(b)(2)(ii)(B)(3))**

   e. Designed to minimize off-site migration of subsurface gas. **(40 CFR 63.1959(b)(2)(ii)(B)(4))**

2. The permittee must route the collected gas to a treatment system that processes the collected gas for subsequent sale or beneficial use such as fuel for combustion, production of vehicle fuel, production of high-Btu gas for pipeline injection, or use as a raw material in a chemical manufacturing process. Venting of treated landfill gas to the ambient air is not allowed. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas must be controlled according to either 40 CFR 63.1959(b)(2)(iii)(A) or (B). **(40 CFR 63.1959(b)(iii)(C)**

3. The permittee must site active gas collection devices as required in 40 CFR 63.1962 and must control all gas producing areas, except as provided below.

   a. Any segregated area of asbestos or non-degradable material may be excluded from collection if documented as provided under 40 CFR 63.1983(d). **(40 CFR 63.1962(a)(3)(i))**

   b. Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material must be documented. A separate NMOC emissions estimate

must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section must be computed using the equation in Appendix 7. **(40 CFR 63.1962(a)(3)(ii))**

4. The permittee must install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead. **(40 CFR 63.1961(a))**

5. The permittee must demonstrate compliance with the operational standard for temperature in 40 CFR 63.1958(c)(1) by monitoring the temperature of the landfill gas on a monthly basis as provided in 40 CFR 63.1960(a)(4). The temperature measuring device must be calibrated annually using the procedure in Section 10.3 of USEPA Method 2 of Appendix A-1 to Part 60 of this chapter. **(40 CFR 63.1961(a)(4))**

See Appendix 7

V. TESTING/SAMPLING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with 40 CFR 63.1959(b)(2)(ii)(B)(3), the permittee must measure, on a monthly basis, the gauge pressure in the gas collection header at each individual well as provided in 40 CFR 63.1960(a)(3) and 40 CFR 63.1961(a)(1). Any attempted corrective measure must not cause exceedances of other operational or performance standards:

   a. If positive pressure exists, action must be initiated to correct the exceedance within five calendar days. **(40 CFR 63.1960(a)(3)(i))**

   b. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement of positive pressure, the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after positive pressure was first measured. The permittee must keep records according to 40 CFR 63.1983(e)(3). **(40 CFR 63.1960(a)(3)(i)(A))**

   c. If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement. The permittee must keep records according to 40 CFR 63.1983(e)(4). **(40 CFR 63.1960(a)(3)(i)(B))**

   d. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to 40 CFR 63.1981(j). The permittee must keep records according to 40 CFR 63.1983(e)(5). **(40 CFR 63.1960(a)(3)(i)(C))**

2. The permittee must monitor each well monthly for temperature as provided in 40 CFR 63.1958(c)(1) and 40 CFR 63.1961(a)(4). If a well exceeds the operating parameter for temperature, the following corrective actions must be taken:

   a. Action must be initiated to correct the exceedance within five calendar days. Any attempted corrective measure must not cause exceedances of other operational or performance standards. **(40 CFR 63.1960(a)(4)(i))**

   b. If a landfill gas temperature less than 62.8°C (145°F) cannot be achieved within 15 calendar days of the first measurement of landfill gas temperature greater than 62.8°C (145°F), the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill

gas temperature greater than 62.8°C (145°F) was first measured. The permittee must keep records according to 40 CFR 63.1983(e)(3). **(40 CFR 63.1960(a)(4)(i)(A))**

c. If corrective actions cannot be fully implemented within 60 days following the temperature measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 62.8°C (145°F). The permittee must keep records according to 40 CFR 63.1983(e)(4). **(40 CFR 63.1960(a)(4)(i)(B))**

d. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator, according to 40 CFR 63.1981(h)(7) and 40 CFR 63.1981(j). The permittee must keep records according to 40 CFR 63.1983(e)(5). **(40 CFR 63.1960(a)(4)(i)(C))**

e. If a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7°C (170°F) and the carbon monoxide concentration measured according to the procedures in 40 CFR 63.1961(a)(5)(vi) is greater than or equal to 1,000 ppmv, the corrective action(s) for the wellhead temperature standard 62.8°C (145°F) must be completed within 15 days. (**40 CFR 63.1960(a)(4)(i)(D))**

3. The permittee must monitor, on a monthly basis, the nitrogen or oxygen concentration in the landfill gas using the procedures in 40 CFR 63.1961(a)(2)(i) or (ii). **(40 CFR 63.1961(a)(2))**

4. Unless a higher operating temperature value has been approved by the Department under 40 CFR Part 63, Subpart AAAA; 40 CFR Part 60, Subpart XXX; or a federal plan or EPA-approved and effective state plan that implements either 40 CFR Part 60, Subpart Cc or 40 CFR Part 60, Subpart Cf, the permittee must initiate enhanced monitoring at each well with a landfill gas temperature greater than 62.8°C (145°F) as follows:

   a. Visual observations for subsurface oxidation events (smoke, smoldering ash, damage to well) within the radius of influence of the well. **(40 CFR 63.1961(a)(5)(i))**

   b. Monitor the oxygen concentration as provided in SC VI.3. **(40 CFR 63.1961(a)(5)(ii))**

   c. Monitor the temperature of the landfill gas at the wellhead as provided in SC VI.2. **(40 CFR 63.1961(a)(5)(iii))**

   d. Monitor the landfill gas every 10 vertical feet of the well as provided in SC VI.5. **(40 CFR 63.1961(a)(5)(iv))**

   e. Monitor the methane concentration with a methane meter using EPA Method 3C of appendix A-6 to 40 CFR part 60, EPA Method 18 of appendix A-6 to part 60 of 40 CFR part 60, or a portable gas composition analyzer to monitor the methane levels provided that the analyzer is calibrated and the analyzer meets all quality assurance and quality control requirements for EPA Method 3C or EPA Method 18. **(40 CFR 63.1961(a)(5)(v))**

   f. Monitor the carbon monoxide concentrations as follows:

      i. Collect the sample from the wellhead sampling port in a passivated canister or multi-layer foil gas sampling bag (such as the Cali-5-Bond Bag) and analyze that sample using EPA Method listed in part 60 of 40 CFR 60, Appendix A-4, or an equivalent method with a detection limit of at least 100 ppmv of carbon monoxide in high concentrations of methane. **(40 CFR 63.1961(a)(5)(vi)(A))**

      ii. Collect and analyze the sample from the wellhead using an approved EPA Method listed in part 60 of 40 CFR 60, Appendix A-4, to measure carbon monoxide concentrations. **(40 CFR 63.1961(a)(5)(vi)(B))**

      iii. When sampling directly from the wellhead, sample for five minutes plus twice the response time of the analyzer. These values must be recorded. The five, one-minute averages are then averaged to give you the carbon monoxide reading at the wellhead. **(40 CFR 63.1961(a)(5)(vi)(C))**

      iv. When collecting samples in a passivated canister or multi-layer foil sampling bag, sample for the period of time needed to assure that enough sample is collected to provide five (5) consecutive, one-minute samples during the analysis of the canister or bag contents, but no less than five minutes plus twice the response time of the analyzer. The five (5) consecutive, one-minute averages are then averaged together to give a carbon monoxide value from the wellhead. **(40 CFR 63.1961(a)(5)(vi)(D))**

g. The enhanced monitoring specified in SC VI.4 must begin seven days after the first measurement of landfill gas temperature greater than 62.8°C (145°F). **(40 CFR 63.1961(a)(5)(vii))**

h. The enhanced monitoring must be conducted on a weekly basis. If four consecutive weekly carbon monoxide readings are under 100 ppmv, then enhanced monitoring may be decreased to monthly. However, if carbon monoxide readings exceed 100 ppmv again, the landfill must return to weekly monitoring. **(40 CFR 63.1961(a)(5)(viii))**

i. The enhanced monitoring specified in SC VI.4 can be stopped once a higher operating value is approved, at which time the monitoring provisions issued with the higher operating value should be followed, or once the measurement of landfill gas temperature at the wellhead is less than or equal to 62.8°C (145°F). **(40 CFR 63.1961(a)(5)(ix))**

5. For each wellhead with a measurement of landfill gas temperature greater than or equal to 73.9°C (165°F), the permittee shall annually monitor temperature of the landfill gas every 10 vertical feet of the well. This temperature can be monitored either with a removable thermometer or using temporary or permanent thermocouples installed in the well. **(40 CFR 63.1961(a)(6))**

6. The permittee must keep, on a monthly basis, readily accessible records of the following:

a. All collection and control system exceedances of the operational standards in 40 CFR 63.1958, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. **(40 CFR 63.1983(e)(1))**

b. All records of each wellhead temperature monitoring value of 62.8°C (145°F) or above. **(40 CFR 63.1983(e)(2)(i))**

c. Each permittee required to conduct the enhanced monitoring provisions in 40 CFR 63.1961(a)(5), must also keep records of all enhanced monitoring activities. **(40 CFR 63.1983(e)(2)(ii))**

d. The permittee must also keep a record of the email transmission when required to submit the 24-hour high temperature report in 40 CFR 63.1981(k). **(40 CFR 63.1983(e)(2)(iii))**

e. For any root cause analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i)(A) or (a)(4)(i)(A), keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed. **(40 CFR 63.1983(e)(3))**

f. For any root cause analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i)(B) or (a)(4)(i)(B), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates. **(40 CFR 63.1983(e)(4))**

g. For any root cause analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i)(C) or (a)(4)(i)(C), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the Administrator. **(40 CFR 63.1983(e)(5))**

7. The permittee must keep up-to-date, readily accessible records for the life of the control equipment of the data where the permittee seeks to demonstrate compliance with 40 CFR 63.1959(b)(2)(ii) listed as follows:

a. The maximum expected gas generation flow rate as calculated in 40 CFR 63.1960(a)(1). **(40 CFR 63.1983(b)(1)(i))**

b. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 40 CFR 63.1962(a)(1) and (2). **(40 CFR 63.1983(b)(1)(ii))**

8. The permittee must record the date, time, and duration of each startup and/or shutdown periods when the affected source was subject to the standard applicable to startup and shutdown. **(40 CFR 63.1983(c)(6))**

9. Where the permittee seeks to demonstrate compliance with the operational standard in 40 CFR 63.1958(e)(1), in the event that an affected unit fails to meet an applicable standard, the permittee shall record the following information:

   a. The date, time, and duration of each failure and the cause of the events (including unknown cause, if applicable). **(40 CFR 63.1983(c)(7)(i))**

   b. For each failure to meet an applicable standard; record and retain a list of the affected sources or equipment. **(40 CFR 63.1983(c)(7)(ii))**

   c. Record actions taken to minimize emissions in accordance with the general duty of 40 CFR 63.1955(c) and any corrective actions taken to return the affected unit to its normal or usual manner of operation. **(40 CFR 63.1983(c)(7)(iii))**

10. The permittee must keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector and the following up-to-date, readily accessible records. **(40 CFR 63.1983(d))**

    a. The installation date and location of all newly installed collectors as specified under 40 CFR 63.1960(b). **(40 CFR 63.1983(d)(1))**

    b. Documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in 40 CFR 63.1962(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in 40 CFR 63.1962(a)(3)(ii). **(40 CFR 63.1983(d)(2))**

11. The permittee must maintain the following information:

    a. A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion. **(40 CFR 63.1981(i)(1))**

    b. The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and gas mover equipment sizing are based. **(40 CFR 63.1981(i)(2))**

    c. The documentation of the presence of asbestos or non-degradable material for each area from which collection wells have been excluded based on the presence of asbestos or non-degradable material. **(40 CFR 63.1981(i)(3))**

    d. The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non-productivity and the calculations of gas generation flow rate for each excluded area. **(40 CFR 63.1981(i)(4))**

    e. The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill. **(40 CFR 63.1981(i)(5))**

    f. The provisions for the control of off-site migration. **(40 CFR 63.1981(i)(6))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee using an active collection system designed in accordance with 40 CFR 63.1959(b)(2)(ii) must submit to the Department semi-annual reports. The semi-annual reports must include the following information:

   a. Number of times the applicable parameters monitored under 40 CFR 63.1958(b), (c) and (d) were exceeded and when the gas collection system was not operating under 40 CFR 63.1958(e), including periods of SSM. For each instance, report the date, time, and duration of each exceedance. **(40 CFR 63.1981(h)(1))**

   b. Where the permittee seeks to demonstrate compliance with the temperature and nitrogen or oxygen operational standards in introductory paragraph 40 CFR 63.1958(c), provide a statement of the wellhead operational standard for temperature and oxygen for the period covered by the report. Indicate the number of times each of those parameters monitored under 40 CFR 63.1961(a)(3) were exceeded. For each instance, report the date, time, and duration of each exceedance. **(40 CFR 63.1981(h)(1)(i))**

   c. Where the permittee seeks to demonstrate compliance with the operational standard for temperature in 40 CFR 63.1958(c)(1), provide a statement of the wellhead operational standard for temperature and oxygen for the period covered by the report. Indicate the number of times each of those parameters monitored under 40 CFR 63.1961(a)(4) were exceeded. For each instance, report the date, time, and duration of each exceedance. **(40 CFR 63.1981(h)(1)(ii))**

   d. All periods when the collection system was not operating. **(40 CFR 63.1981(h)(4)**

   e. The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 63.1960(a)(3)and 40 CFR 63.1960(a)(4), 40 CFR 63.1960(b), and 40 CFR 63.1960(c)(4). **(40 CFR 63.1981(h)(6))**

   f. The permittee must record instances when a positive pressure occurs in efforts to avoid fire. **(40 CFR 63.1958(b)(1))**

5. Include any corrective action analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i) or (a)(5) and that take more than 60 days to correct the exceedance. The report shall include the following information:

   a. The root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or high temperature reading. **(40 CFR 63.1981(h)(7))**

   b. For action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates. **(40 CFR 63.1981(h)(7))**

6. Each permittee required to conduct enhanced monitoring in 40 CFR 63.1961(a)(5) and (6) must include the results of all monitoring activities conducted during the period; **(40 CFR 63.1981(h)(8)**

   a. For each monitoring point, report the date, time, and well identifier along with the value and units of measure for oxygen, temperature (wellhead and downwell), methane, and carbon monoxide. **(40 CFR 63.1981(h)(8)(i))**

   b. Include a summary trend analysis for each well subject to the enhanced monitoring requirements to chart the weekly readings over time for oxygen, wellhead temperature, methane, and weekly or monthly readings over time, as applicable for carbon monoxide. **(40 CFR 63.1981(h)(8)(ii))**

   c. Include the date, time, staff person name, and description of findings for each visual observation for subsurface oxidation event. **(40 CFR 63.1981(h)(8)(iii))**

7. The permittee must submit to the Administrator reports for any corrective action and the corresponding timeline as follows:

   a. For corrective action that is required according to 40 CFR 63.1960(a)(3) or (a)(4) and is not completed within 60 days after the initial exceedance, submit a notification to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance. **(40 CFR 63.1981(j)(1))**

b. For corrective action that is required according to 40 CFR 63.1960(a)(3) or (4) and is expected to take longer than 120 days after the initial exceedance to complete, submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 62.8°C (145°F) or above. The Administrator must approve the plan for corrective action and the corresponding timeline. **(40 CFR 63.1981(j)(2))**

8. Where the permittee seeks to demonstrate compliance with the operational standard for temperature in 40 CFR 63.1958(c)(1) and a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7ºC (170ºF) and the carbon monoxide concentration measured is greater than or equal to 1,000 ppmv, report the date, time, well identifier, temperature and carbon monoxide reading via email to the Department within 24 hours of the measurement unless a higher operating temperature value has been approved by the Department for the well under 40 CFR Part 63, Subpart AAAA; 40 CFR Part 60, Subpart XXX; or a Federal plan or EPA approved and effective state plan that implements either 40 CFR Part 60, Subpart Cc or 40 CFR Part 60, Subpart Cf. **(40 CFR 63.1981(k))**

9. The permittee must submit reports electronically according to the following:

   a. Within 60 days after the date of completing each performance test required by 40 CFR Part 63 Subpart AAAA, submit the results of the performance test with data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (*https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*). Submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's CDX (https://cdx.epa.gov/). The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website. **(40 CFR 63.1981(l)(1)(i)**

   b. For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website, the results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI. **(40 CFR 63.1981(l)(1)(ii)**

   c. Each permittee must submit reports to the EPA via CEDRI. CEDRI can be accessed through the EPA's CDX. The permittee must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI website (https://www.epa.gov/chief)). Once the spreadsheet template upload/forms for the reports have been available in CEDRI for 90 days, the permittee must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted. If the reporting forms specific to this subpart are not available in CEDRI at the time that the reports are due, the permittee must submit the reports to the USEPA at the appropriate address listed in 40 CFR 63.13. **(40 CFR 63.1981(l)(2))**

10. The permittee shall submit all monitoring activities and all other reports required by 40 CFR 63, Subpart AAAA to the AQD District Office, in a format approved by the AQD District Supervisor. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENTS

1. The permittee must comply with all applicable provisions of the National Emissions Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as specified in 40 CFR Part 63, Subparts A and AAAA. **(40 CFR Part 63, Subparts A and AAAA)**

2. Each permittee seeking to demonstrate compliance with 40 CFR 63.1959(b)(2)(ii)(B)(4) through the use of a collection system not conforming to the specifications provided in 40 CFR 63.1962 must provide information satisfactory to the Department as specified in 40 CFR 63.1981(c)(3) demonstrating that off-site migration is being controlled. **(40 CFR 63.1960(a)(5))**

3. Each permittee seeking to install a collection system that does not meet the specifications in 40 CFR 63.1962 or is seeking to monitor alternative parameters to those required by 40 CFR 63.1958 through 40 CFR 63.1961 must provide information satisfactory to the Department as provided in 40 CFR 63.1981(d)(2) and (3) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Department may specify additional appropriate monitoring procedures. **(40 CFR 63.1961(e))**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FG-TREATMENTSYSTEM-AAAA
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

A treatment system that filters, de-waters, and compresses landfill gas for subsequent sale or beneficial use. This flexible group contains 40 CFR Part 63, Subpart AAAA requirements.

Emission Units: EU-TREATMENTSYSTEM1, EU-TREATMENTSYSTEM2

POLLUTION CONTROL EQUIPMENT

Any emissions from any atmospheric vents or stacks associated with the treatment system subject to 40 CFR 63.1959(b)(2)(iii)(A) or (B).

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee must operate the treatment system so that any emissions from any atmospheric vents or stacks associated with the treatment system must comply with 40 CFR 63.1959(b)(2)(iii)(A) or (B). **(40 CFR 63.1959(b)(2)(iii)(C) and (D))**

2. The permittee must operate the treatment system at all times when the collected gas is routed to the treatment system. **(40 CFR 63.1958(f))**

3. The permittee must develop a site-specific treatment system monitoring plan as required in 40 CFR 63.1983(b)(5)(ii). The plan must at a minimum contain the following: **(40 CFR 63.1961(g))**

   a. Monitoring of filtration, de-watering, and compression parameters that ensure the treatment system is operating properly for each intended end use of the treated landfill gas. **(40 CFR 63.1983(b)(5)(ii)(A))**

   b. Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas. **(40 CFR 63.1983(b)(5)(ii)(B))**

   c. Documentation of the monitoring methods and ranges, along with justification for their use. **(40 CFR 63.1983(b)(5)(ii)(C))**

   d. List of responsible staff (by job title) for data collection. **(40 CFR 63.1983(b)(5)(ii)(D))**

   e. Processes and methods used to collect the necessary data. **(40 CFR 63.1983(b)(5)(ii)(E))**

   f. Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems (CMS). **(40 CFR 63.1983(b)(5)(ii)(F))**

4. The monitoring requirements apply at all times the treatment system is operating except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. The permittee must complete monitoring system repairs in

response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable. **(40 CFR 63.1961(h))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee must install and properly operate a treatment system in accordance with 40 CFR 63.1981(d)(2). **(40 CFR 63.1961(d))**

2. The permittee must calibrate, maintain, and operate according to the manufacturer's specifications, a device that records flow to the treatment system and bypass of the treatment system (if applicable) as follows: **(40 CFR 63.1961(g))**

   a. Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the treatment system at least every 15 minutes. **(40 CFR 63.1961(g)(1))**

   b. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. (**40 CFR 63.1961(g)(2)**

V. TESTING/SAMPLING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

VI. MONITORING/RECORDKEEPING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee must keep monthly records of all treatment system operating parameters specified to be monitored according to 40 CFR 63.1961. The records must include:

   a. Records of flow of landfill gas to the treatment system and bypass of the treatment system. **(40 CFR 63.1983(b)(5)(i))**

   b. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line. **(40 CFR 63.1961(g)(2))**

   c. Maintenance and repair of the monitoring system. **(40 CFR 63.1961(h))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee must submit to the appropriate AQD District Office semiannual reports for the landfill gas treatment system. The report must be received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. The report must include the following:

   a. The number of times the parameters for the treatment system under 40 CFR 63.1961(g) were exceeded. **(40 CFR 63.1981(h)(1)(iii)**

b. Description and duration of all periods when the gas stream is diverted from the treatment system through a bypass line or the indication of bypass flow. **(40 CFR 63.1981(h)(2))**

c. Description and duration of all periods when the treatment system was not operating and length of time the treatment system was not operating. **(40 CFR 63.1981(h)(3))**

5. The permittee must submit reports electronically according to the following:

a. Within 60 days after the date of completing each performance test required by 40 CFR 63 Subpart AAAA, submit the results of the performance test with data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (*https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*). Submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's CDX (https://cdx.epa.gov/). The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website. **(40 CFR 63.1981(l)(1)(i)**

b. For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website, the results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI. **(40 CFR 63.1981(l)(1)(ii)**

c. Each permittee must submit reports to the EPA via CEDRI. CEDRI can be accessed through the EPA's CDX. The permittee must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI website (https://www.epa.gov/chief)). Once the spreadsheet template upload/forms for the reports have been available in CEDRI for 90 days, the permittee must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted. If the reporting forms specific to this subpart are not available in CEDRI at the time that the reports are due, the permittee must submit the reports to the EPA at the appropriate address listed in 40 CFR 63.13. **(40 CFR 63.1981(l)(2))**

6. The permittee shall submit any performance test reports and all other reports required by 40 CFR 63, Subpart AAAA to the AQD District Office, in a format approved by the AQD District Supervisor. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee must comply with all applicable provisions of the National Emissions Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as specified in 40 CFR Part 63, Subparts A and AAAA. **(40 CFR Part 63, Subparts A and AAAA)**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FG-ENCLOSEDFLARE-AAAA
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

An enclosed flare (enclosed combustor) is an enclosed firebox which maintains a relatively constant limited peak temperature generally using a limited supply of combustion air. This flexible group contains 40 CFR Part 63, Subpart AAAA requirements.

Emission Units: EU-ENCLOSEDFLARE3, EU-ENCLOSEDFLARE4

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NMOC	20 ppmv dry as hexane at 3% oxygen -OR- 98% by weight reduction or more	Hourly	Enclosed Flare	SC V.1 SC V.2	**40 CFR 63.1959(b)(2)(iii)(B)**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee must operate EU-ENCLOSEDFLARE at all times when the collected gas is routed to it. **(40 CFR 63.1958(f))**

2. The permittee must operate the control system designed and operated in accordance 40 CFR 63.1959(b)(2)(iii). **(40 CFR 63.1959(b)(2)(iii)(B))**

3. The control device must be operated within the parameter ranges established during the most recent performance test in compliance with 40 CFR 63.1959(d). The operating parameters to be monitored are specified in 40 CFR 63.1961(b) through 40 CFR 60.1961(e). **(40 CFR 63.1959(b)(2)(iii)(B)(2))**

4. In the event the control system is inoperable, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within one hour. **(40 CFR 63.1958(e)(1)(i))**

5. In the event the control system is inoperable, efforts to repair the control system must be initiated and completed in a manner such that downtime is kept to a minimum, and the collection and control system must be returned to operation. (**40 CFR 63.1958(e)(1)(ii))**

6. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(40 CFR 63.1955(c))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Each permittee that chooses to comply with 40 CFR 63.1959(b)(2)(iii) using an enclosed combustor must install, calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment:

   a. A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 degrees Celsius, whichever is greater. **(40 CFR 63.1961(b)(1))**

2. A device that records flow to the control device and bypass of the control device (if applicable). **(40 CFR 63.1961(b)(2))**

   a. Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the control device at least every 15 minutes. **(40 CFR 63.1961(b)(2)(i))**

   b. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. **(40 CFR 63.1961(b)(2)(ii))**

V. TESTING/SAMPLING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee must verify the NMOC reduction efficiency or ppmv from EU-ENCLOSEDFLARE, by testing at owner's expense, in accordance with Department requirements. Testing must be performed using an approved USEPA method listed in 40 CFR Part 63.1959(d). No less than 30 days prior to testing, the permittee must submit a complete test plan to the AQD Technical Programs Unit and the appropriate District Office. The AQD must approve the final plan prior to testing, including any modifications to the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and the appropriate District Office within 60 days following the last date of the test. **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 63.1959(b)(2)(iii)(B), 40 CFR 63.1959(d))**

2. The permittee must verify the NMOC weight-percent efficiency or ppmv outlet concentration level from EUENCLOSEDFLARE and at a minimum, every five years from the date of the last test, thereafter. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

3. The permittee must verify the Visible Emissions (per USEPA Method 9 certified visible emissions observation must be conducted for a minimum of 15 minutes to determine the actual opacity from the emission point) from EUENCLOSEDFLARE and at a minimum, every five years from the date of the last test, thereafter. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

4. The permittee must notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days before testing of the time and place performance tests will be conducted. **(R 336.1213(3))**

VI. MONITORING/RECORDKEEPING

Records must be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee must keep up-to-date, readily accessible records for the life of the control equipment of the data as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of five years. Records of the control device vendor specifications must be maintained until removal **(40 CFR 63.1983(b))**

2. Where the permittee seeks to demonstrate compliance with 40 CFR 63.1959(b)(2)(ii) through use of an enclosed combustion: **(40 CFR 63.1983(b)(2))**

a. The average temperature measured at least every 15 minutes and averaged over the same time period of the performance test. **(40 CFR 63.1983(b)(2)(i))**

b. The percent reduction of NMOC determined as specified in 40 CFR 63.1959(b)(2)(iii)(B) achieved by the control device. **(40 CFR 63.1983(c)(1)(i))**

3. The permittee must keep for five years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in 40 CFR 63.1961 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. **(40 CFR 63.1983(c))**

a. All three-hour periods of operation during which the average temperature was more than 28°C (82°F) below the average combustion temperature during the most recent performance test at which compliance with 40 CFR 63.1959(b)(2)(iii) was determined. **(40 CFR 63.1983(c)(1)(i))**

b. Continuous records of the indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under 40 CFR 63.1961(b)(2)(ii), 40 CFR 63.1961(c)(2)(ii), and 40 CFR 63.1961(g)(2). **(40 CFR 63.1961(b)(2))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report must be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee must submit to the appropriate AQD District Office semiannual reports for the control system. The reports must be received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. For enclosed combustion devices, reportable exceedances are defined under 40 CFR 63.1961(b). The report must include the following:

a. 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. **(40 CFR 63.1981(h)(2))**

b. Description and duration of all periods when the control device was not operating and length of time the control device was not operating. **(40 CFR 63.1981(h)(3))**

5. The permittee must submit reports electronically according to the following:

a. Within 60 days after the date of completing each performance test required by 40 CFR 63 Subpart AAAA, the permittee must submit the results of the performance test with data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (*https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*). Submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's CDX (https://cdx.epa.gov/). The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website. **(40 CFR 63.1981(l)(1)(i)**

b. For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website, the results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI. **(40 CFR 63.1981(l)(1)(ii)**

c. Each permittee must submit reports to the EPA via CEDRI. CEDRI can be accessed through the EPA's CDX. The permittee must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI website (https://www.epa.gov/chief)). Once the spreadsheet template upload/forms for the reports have been available in CEDRI for 90 days, the permittee must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted. The semi-annual reports should be electronically reported as a spreadsheet template upload/form to CEDRI. If the reporting forms specific to this subpart are not available in CEDRI at the time that the reports are due, the permittee must submit the reports to the EPA at the appropriate address listed in 40 CFR 63.13. **(40 CFR 63.1981(l)(2))**

6. The permittee shall submit any performance test reports and all other reports required by 40 CFR 63, Subpart AAAA to the AQD District Office, in a format approved by the AQD District Supervisor. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENTS

1. The permittee must comply with all applicable provisions of the National Emissions Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as specified in 40 CFR Part 63, Subparts A and AAAA. **(40 CFR Part 63, Subparts A and AAAA)**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

E. NON-APPLICABLE REQUIREMENTS

At the time of the ROP issuance, the AQD has determined that no non-applicable requirements have been identified for incorporation into the permit shield provision set forth in the General Conditions in Part A pursuant to Rule 213(6)(a)(ii).

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APPENDICES

Appendix 1. Acronyms and Abbreviations

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO_2e	Carbon Dioxide Equivalent
CEMS	Continuous Emission Monitoring System	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
Department/ department	Michigan Department of Environment, Great Lakes, and Energy	gr	Grains
		HAP	Hazardous Air Pollutant
EGLE	Michigan Department of Environment, Great Lakes, and Energy	Hg	Mercury
		hr	Hour
EU	Emission Unit	HP	Horsepower
FG	Flexible Group	H_2S	Hydrogen Sulfide
GACS	Gallons of Applied Coating Solids	kW	Kilowatt
GC	General Condition	lb	Pound
GHGs	Greenhouse Gases	m	Meter
HVLP	High Volume Low Pressure*	mg	Milligram
ID	Identification	mm	Millimeter
IRSL	Initial Risk Screening Level	MM	Million
ITSL	Initial Threshold Screening Level	MW	Megawatts
LAER	Lowest Achievable Emission Rate	NMOC	Non-methane Organic Compounds
MACT	Maximum Achievable Control Technology	NO_x	Oxides of Nitrogen
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	PM	Particulate Matter
MSDS	Material Safety Data Sheet	PM10	Particulate Matter equal to or less than 10 microns in diameter
NA	Not Applicable		
NAAQS	National Ambient Air Quality Standards	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	pph	Pounds per hour
		ppm	Parts per million
NSPS	New Source Performance Standards	ppmv	Parts per million by volume
NSR	New Source Review	ppmw	Parts per million by weight
PS	Performance Specification	%	Percent
PSD	Prevention of Significant Deterioration	psia	Pounds per square inch absolute
PTE	Permanent Total Enclosure	psig	Pounds per square inch gauge
PTI	Permit to Install	scf	Standard cubic feet
RACT	Reasonable Available Control Technology	sec	Seconds
ROP	Renewable Operating Permit	SO_2	Sulfur Dioxide
SC	Special Condition	TAC	Toxic Air Contaminant
SCR	Selective Catalytic Reduction	Temp	Temperature
SDS	Safety Data Sheet	THC	Total Hydrocarbons
SNCR	Selective Non-Catalytic Reduction	tpy	Tons per year
SRN	State Registration Number	µg	Microgram
TEQ	Toxicity Equivalence Quotient	µm	Micrometer or Micron
USEPA/EPA	United States Environmental Protection Agency	VOC	Volatile Organic Compounds
		yr	Year
VE	Visible Emissions		

*For HVLP applicators, the pressure measured at the gun air cap must not exceed 10 psig.

Appendix 2. Schedule of Compliance

The permittee certified in the ROP application that this stationary source is in compliance with all applicable requirements and the permittee must continue to comply with all terms and conditions of this ROP. A Schedule of Compliance is not required. **(R 336.1213(4)(a), R 336.1119(a)(ii))**

Appendix 3. Monitoring Requirements

Specific monitoring requirement procedures, methods or specifications are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 4. Recordkeeping

Specific recordkeeping requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 5. Testing Procedures

Specific testing requirement plans, procedures, and averaging times are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 6. Permits to Install

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-N3845-2015. Those ROP revision applications that are being issued concurrently with this ROP renewal are identified by an asterisk (*). Those revision applications not listed with an asterisk were processed prior to this renewal.

Permit to Install Number	ROP Revision Application Number/ Issuance Date	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
91-20*	APP-2020-0173	Addresses SO_2 and formaldehyde emission rates for both the landfill flares and gas engines.	EU-ENCLOSEDFLARE3 EU-ENCLOSEDFLARE4 EU-ICENGINE1 EU-ICEENGINE2
91-20A*	APP-2021-0239	Addressed an increase in the TRS concentration and the corresponding SO_2 emission limit thus replacing PTI 91-20.	EU-ENCLOSEDFLARE3 EU-ENCLOSEDFLARE4 EU-ICENGINE1 EU-ICEENGINE2

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Appendix 7. Emission Calculations

The permittee must use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in FG-ACTIVECOLLECTION and FG-ENCLOSEDFLARES.

Calculation used to determine NMOC emissions from any nonproductive area

The following must be used to determine if any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than one percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material must be documented and provided to the District Supervisor upon request.

A separate NMOC emissions estimate must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section must be computed using the following equation: **(40 CFR 60.759(a)(3)(ii), 40 CFR 60.769(a)(3)(iii), 40 CFR 63.1955(a))**

$Q_i = 2\ k\ Lo\ Mi\ (e^{-kt\,i})\ (C_{NMOC})\ (3.6 \times 10^{-9})$ where,

Q_i = NMOC emission rate from the ith section, megagrams per year

k = methane generation rate constant, $year^{-1}$

L_o = methane generation potential, cubic meters per megagram solid waste
M_i = mass of the degradable solid waste in the ith section, megagram

t_i = age of the solid waste in the ith section, years

C_{NMOC} = concentration of non-methane organic compounds, parts per million by volume

3.6×10^{-9} = conversion factor

The values for k and C_{NMOC} determined in field testing must be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (this distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, L_O and C_{NMOC} provided in 40 CFR 60.754(a)(1) and 40 CFR 60.764(a)(1) or the alternative values from 40 CFR 60.754(a)(5) and 40 CFR 60.764(a)(5) must be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in 40 CFR 60.759(a)(3)(i) and 40 CFR 60.769(a)(3)(i). **(40 CFR 60.759(a)(3)(iii), 40 CFR 60.769(a)(3)(iii), 40 CFR 63.1955(a))**

Net Heating Value of the gas being combusted in the flare:

The net heating value of the gas being combusted in the flare must be calculated and recorded using the equation provided in 40 CFR 60.18(f)(3). **(40 CFR 60.18(f)(3))**

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

WHERE:

HT=Net heating value of the sample,

MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

$K = \text{Constant}, 1.740 \times 10^{-7} \left(\frac{1}{ppm}\right) \left(\frac{g\ mole}{scm}\right) \left(\frac{MJ}{kcal}\right)$

where the standard temperature for $\left(\frac{g\ mole}{scm}\right)$ is 20°C;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946–77 or 90 (Reapproved 1994) (Incorporated by reference as specified in 40 CFR 60.17); and

H_i = Net heat of combustion of sample component i, kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 (incorporated by reference as specified in 40 CFR 60.17) if published values are not available or cannot be calculated.

Calculation for V_{max} steam-assisted and non-assisted flares

The maximum permitted velocity, Vmax, for flares complying with 40 CFR 60.18(c)(4)(iii) must be calculated and recorded using the equation provided in 40 CFR 60.18(f)(5). **(40 CFR 60.18(f)(5))**

$Log_{10}(V_{max})=(H_T+28.8)/31.7$

V_{max} = Maximum permitted velocity, M/sec

28.8 = Constant

31.7 = Constant

H_T = The net heating value as determined in 60.18(f)(3).

Calculation for Vmax for air-assisted flares

The maximum permitted velocity, V_{max}, for air-assisted flares must be calculated and recorded using the equation provided in 40 CFR 60.18(f)(6). **(40 CFR 60.18(f)(6))**

$V_{max} = 8.706+0.7084 (H_T)$

V_{max} =Maximum permitted velocity, m/sec

8.706 = Constant

0.7084 = Constant

H_T = The net heating value as determined in 60.18(f)(3).

Appendix 8. Reporting

A. Annual, Semiannual, and Deviation Certification Reporting

The permittee must use EGLE, AQD, Report Certification form (EQP 5736) and EGLE, AQD, Deviation Report form (EQP 5737) for the annual, semiannual and deviation certification reporting referenced in the Reporting Section of the Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Alternative formats must meet the provisions of Rule 213(4)(c) and Rule 213(3)(c)(i), respectively, and be approved by the AQD District Supervisor.

B. Other Reporting

Specific reporting requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, Part B of this appendix is not applicable.

APPENDIX A
Procedures for Calculating Emissions

The permittee must demonstrate compliance with the emission limits in this permit by vendor data, stack testing, and/or gas testing.

Calculation for Monthly SO_2 Emissions using gas sampling:
The following calculation for SO_2 emissions must utilize the monthly average of the weekly (or daily, if required) H_2S concentration measurements from test data collected, the monthly gas usage, monthly hours of operation, and the ratio of total sulfur to sulfur as H_2S from the most recent laboratory test. **Note**: The TRS to H_2S ratio must be used in the calculation when a Draeger Tube or other sampling method does not measure the total sulfur in the gas.

$$SO2\ Emissions\ (tons\ per\ month) = \frac{(\boldsymbol{X}\ scf\ \ H_2S)}{MMcf\ LFG} \times \frac{1.1733\ mols\ S}{1\ ft^3\ H_2S} \times \frac{34.08\ grams\ H_2S}{1\ mol\ S} \times \frac{1\ lb}{453.59\ grams} \times \frac{1\ ton}{2{,}000\ lbs} \times \frac{1.88\ SO_2}{H_2S} MW \times LFG\ \ \times Ratio\ \frac{TRS}{H_2S}$$

Where:
X = ppm sulfur content, as H_2S
S = Sulfur
MW = Molecular Weight of SO_2 to H_2S
LFG = Actual Landfill Gas Usage per month (ft^3/month)
Ratio TRS to H_2S = Determined from most recent laboratory test