



Michigan Department of Environmental Quality
Air Quality Division

EFFECTIVE DATE: October 2, 2009

ISSUED TO

Pitsch Sanitary Landfill

State Registration Number (SRN): N5619

LOCATED AT

7905 Johnson Road, Belding, Michigan 48809

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-N5619-2009

Expiration Date: October 2, 2014

Administratively Complete ROP Renewal Application
Due Between April 2, 2013 and April 2, 2014

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 Michigan Air Pollution Control Rule 210(1), 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.

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-N5619-2009

This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(5) of Act 451. Pursuant to Michigan Air Pollution Control Rule 214a, the terms and conditions herein, identified by the underlying applicable requirement citation of Rule 201(1)(a), constitute a federally enforceable PTI. The PTI terms and conditions do not expire and remain in effect unless the criteria of Rule 201(6) are met. Operation of all emission units identified in the PTI is subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

Michigan Department of Environmental Quality

Heidi Hollenbach, Grand Rapids 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 Environmental Quality (MDEQ) or his or her designee.

The permittee shall 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 applicable 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 will be identified for each ROP term or condition. All terms and conditions that are included in a PTI, are streamlined or subsumed, 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), R336.1214a(5))**
- Those conditions that are hereby incorporated in federally enforceable Source-Wide PTI No. MI-PTI-N5619-2009 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 shall 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 shall 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 shall 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 shall 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 shall 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 §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 shall 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 shall 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 shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall 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). **(R 336.1370)**
10. Any air cleaning device shall 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. Except as provided in Subrules 2, 3, and 4 of Rule 301, states in part; “a person shall 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 Rule 301(1)(a) or (b) unless otherwise specified in this ROP.” The grading of visible emissions shall be determined in accordance with Rule 303. **(R 336.1301(1) in pertinent part):**
 - a. A 6-minute average of 20 percent opacity, except for one 6-minute average per hour of not more than 27 percent opacity.
 - b. A limit specified by an applicable federal new source performance standard.
12. The permittee shall 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). **(R 336.2001)**
14. Any required performance testing shall 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 shall 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(4))**

Monitoring/Recordkeeping

16. Records of any periodic emission or parametric monitoring required in this ROP shall 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, shall 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 shall contain an original certification by a responsible official which states 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 shall 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 shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall 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. **(R 336.1213(4)(c))**
20. The certification of compliance shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall 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 shall submit certified reports of any required monitoring to the appropriate AQD District Office. All instances of deviations from ROP requirements during the reporting period shall be clearly identified in the reports. **(R 336.1213(3)(c)(i))**
24. On an annual basis, the permittee shall 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 shall 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 shall be provided not later than two business days after the start-up, shutdown, or discovery of the abnormal conditions or malfunction. Notice shall 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 shall include all of the information required in Rule 912(5) and shall be certified by a responsible official in a manner consistent with the CAA. **(R 336.1912)**

Permit Shield

26. Compliance with the conditions of the ROP shall 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 shall 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 shall 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 shall 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 shall be made pursuant to Rule 216(1). **(R 336.1219(2))**
32. For revisions to this ROP, an administratively complete application shall be considered timely if it is received by the department in accordance with the time frames specified in Rule 216. **(R 336.1210(9))**
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 shall 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 shall 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 shall 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(7))**

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 reclaiming, appliance owner or a manufacturer of appliances or recycling and recovery equipment, the permittee shall 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 shall 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, Part 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 shall comply with the requirements of 40 CFR, Part 68, no later than the latest of the following dates as provided in 40 CFR, Part 68.10(a):
- June 21, 1999,
 - Three years after the date on which a regulated substance is first listed under 40 CFR, Part 68.130, or
 - 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 shall 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 shall 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 shall 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 shall 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 shall be sent to the appropriate AQD District Supervisor, MDEQ. 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, or has been interrupted for 18 months, the applicable terms and conditions from that PTI shall become void unless otherwise authorized by the department. Furthermore, the person to whom that PTI was issued, or the designated authorized agent, shall notify the department via the Supervisor, Permit Section, MDEQ, 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:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

²This 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 shall 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 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 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 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/ Modification Date	Flexible Group ID
EULANDFILL>50	This emission unit represents the general Municipal Solid Waste (MSW) Landfill which includes the closed Act 87 area and active area Phases I-VIII.	Act 87 Area Installed in 1975, closed in 1992 Phases I-VIII installed in November 1985	NA
EUPASSIVECOLL	This emission unit represents the passive landfill gas collection system at the landfill that uses pressure gradient to move landfill gas through passive wells and to the control equipment.	See Schedule of Compliance in Appendix 2	NA
EUACTIVECOLL	This emission unit 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.	See Schedule of Compliance in Appendix 2	NA
EUOPENFLARE	Open flare is an open combustor without enclosure or shroud.	See Schedule of Compliance in Appendix 2	NA

**EULANDFILL>50
 EMISSION UNIT CONDITIONS**

DESCRIPTION

This emission unit represents the general Municipal Solid Waste (MSW) Landfill which includes the closed Act 87 area and active area Phases I-VIII.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

EUOPENFLARE

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Methane concentration	500 ppm above background level	Calendar quarter	Surface of Landfill	SC V.1 & V.2	40 CFR 60.753(d), 40 CFR 60.755(c), 40 CFR 63.1955(a)(1)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTIONS

- The permittee shall comply with the requirements in 40 CFR 63.1955(b) and 40 CFR 63.1960 through §63.1980. **(40 CFR 63.1945(d))**

IV. DESIGN/EQUIPMENT PARAMETERS

- The permittee shall have installed a collection and control system that captures the landfill gas generated within the landfill as required by 40 CFR 60.752(b)(2)(i)(C), 40 CFR 60.752(b)(2)(ii), and 40 CFR 60.752(b)(2)(iii). **(40 CFR 60.752(b)(2)(i)(C), 40 CFR 60.752(b)(2)(ii), 40 CFR 60.752(b)(2)(iii), 40 CFR 63.1955(a)(1))**
- The permittee shall route all the collected landfill gas to at least one of the following:
 - A flare designed in accordance with §60.18, except as noted in 40 CFR 60.754(e) **(40 CFR 60.752(b)(2)(iii)(A), 40 CFR 63.1955(a)(1))**
 - A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. The reduction efficiency or parts per million by volume shall be established by an initial performance test to

be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in §60.754(d). **(40 CFR 60.752(b)(2)(iii)(B), 40 CFR 63.1955(a)(1))**

- c. A treatment system that processes the collected gas for subsequent sale or use. The treatment system shall be designed so that all emissions from any atmospheric vent(s) shall be subject to 40 CFR 60.752(b)(2)(iii)(A) or (B). **(40 CFR 60.752(b)(2)(iii)(C), 40 CFR 63.1955(a)(1))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of 5 years. **(R 336.1213(3)(b)(ii))**

1. To determine if the 500 ppm above background methane concentration limit at the surface of the landfill is exceeded, the permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. **(40 CFR 60.753(d), 40 CFR 63.1955(a)(1))**
2. The permittee shall use the following procedures for compliance with the surface methane operational standard as provided in §60.753(d).
 - a. The permittee shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing approved by the AQD) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in §60.755(d). **(40 CFR 60.755(c)(1), 40 CFR 63.1955(a)(1))**
 - b. The background concentration shall 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 60.755(c)(2), 40 CFR 63.1955(a)(1))**
 - c. Surface emission monitoring shall be performed in accordance with Section 4.3.1 of Method 21 of Appendix A of 40 CFR Part 60, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. **(40 CFR 60.755(c)(3), 40 CFR 63.1955(a)(1))**
 - d. Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified below shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of §60.753(d). **(40 CFR 60.755(c)(4), 40 CFR 63.1955(a)(1))**
 - i. The location of each monitored exceedance shall be marked and the location recorded. **(40 CFR 60.755(c)(4)(i), 40 CFR 63.1955(a)(1))**
 - ii. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance. **(40 CFR 60.755(c)(4)(ii), 40 CFR 63.1955(a)(1))**
 - iii. If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall 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 §60.755(c)(4)(v) (below in condition **V.2.d.v**) shall be taken, and no further monitoring of that location is required until the action specified in §60.755(c)(4)(v) (below in condition **V.2.d.v**) has been taken. **(40 CFR 60.755(c)(4)(iii), 40 CFR 63.1955(a)(1))**
 - iv. 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 60.755(c)(4) (ii) or (iii) (above in conditions **V.2.d.ii** or **iii**) shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million 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 §60.755(c)(4)(iii) (above in condition **V.2.d.iii**) or in §60.755(c)(4)(v) (below in condition **V.2.d.v**) shall be taken. **(40 CFR 60.755(c)(4)(iv), 40 CFR 63.1955(a)(1))**
 - v. For any location where monitored methane concentration equals or exceeds 500 parts per million above backgrounds three times within a quarterly period, a new well or other collection device shall 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 AQD for approval. **(40 CFR 60.755(c)(4)(v), 40 CFR 63.1955(a)(1))**

3. The permittee shall comply with the provisions in §60.755(c) with the following instrumentation specifications and procedures for surface emission monitoring devices: **(40 CFR 60.755(d), 40 CFR 63.1955(a)(1))**
 - a. The portable analyzer shall meet the instrument specifications provided in Section 3 of Method 21 of Appendix A of 40 CFR Part 60, except that "methane" shall replace all references to VOC. **(40 CFR 60.755(d)(1), 40 CFR 63.1955(a)(1))**
 - b. The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air. **(40 CFR 60.755(d)(2), 40 CFR 63.1955(a)(1))**
 - c. To meet the performance evaluation requirements in Section 3.1.3 of Method 21 of Appendix A of 40 CFR Part 60, the instrument evaluation procedures of Section 4.4 of Method 21 of Appendix A of 40 CFR Part 60 shall be used. **(40 CFR 60.755(d)(3), 40 CFR 63.1955(a)(1))**
 - d. The calibration procedures provided in Section 4.2 of Method 21 of Appendix A of 40 CFR Part 60 shall be followed immediately before commencing a surface monitoring survey. **(40 CFR 60.755(d)(4), 40 CFR 63.1955(a)(1))**
4. The permittee shall keep the following written records pertaining to surface methane monitoring: **(R 336.1213(3))**
 - 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, **(R 336.1213(3))**
 - b. The location(s) and concentrations of any reading above 500 ppm above background, **(40 CFR 60.755(c)(4)(i), R 336.1213(3))**
 - c. The meteorological conditions the day of the testing including wind speed, wind direction, temperature, and cloud cover. **(R 336.1213(3))**
5. The permittee shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in §60.755(d). 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 60.756(f), 40 CFR 63.1955(a)(1))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of 5 years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall implement a program to monitor on a monthly basis for cover integrity and implement cover repairs as necessary. **(40 CFR 60.755(c)(5), 40 CFR 63.1955(a)(1))**
2. Except as provided in §60.752(b)(2)(i)(B), the permittee shall maintain up-to-date, readily accessible, on-site records of the design capacity report which triggered §60.752(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 (4) hours. Either paper copy or electronic formats are acceptable. **(40 CFR 60.758(a), 40 CFR 63.1955(a)(1))**
3. 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", shall keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within four (4) hours. Either paper copy or electronic formats are acceptable. **(40 CFR 60.758(f), 40 CFR 63.1955(a)(1))**
4. The permittee shall calculate and record the NMOC emission rate for purposes of determining when the system can be removed as provided in 40 CFR 60.752(b)(2)(v), using the equation presented in 40 CFR 60.754(b). **(40 CFR 60.754(b))**

5. If the permittee adds any liquids other than leachate in a controlled fashion to the waste mass and does not comply with the bioreactor requirements in 40 CFR 63.1947, §63.1955(c), and §63.1980(c) through (f), the permittee shall keep a record of calculations showing that the percent moisture by weight expected in 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 the 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 shall document the calculations and the basis of the assumptions. **(40 CFR 63.1980(g))**

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 shall 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 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 shall 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 60.757(e), 40 CFR 63.1955(a)(1))**
 - a. The equipment removal report shall contain all of the following items:
 - i. A copy of the closure report submitted in accordance with §60.757(d) **(40 CFR 60.757(e)(1)(i), 40 CFR 63.1955(a)(1))**
 - ii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year **(40 CFR 60.757(e)(1)(iii), 40 CFR 63.1955(a)(1))**
 - iii. A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired. **(40 CFR 60.757(e)(1)(ii), 40 CFR 63.1955(a)(1))**
 - b. The AQD may request such additional information as may be necessary to verify that all of the conditions for removal in §60.752(b)(2)(v) have been met. **(40 CFR 60.757(e)(2), 40 CFR 63.1955(a)(1))**
5. The permittee shall submit reports which shall 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. The report shall include the location of each exceedance of the 500 parts per million methane concentrations as provided in §60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month. The report shall also contain information on all deviations that occurred during the 6-month reporting period. **(40 CFR 60.757(f)(5), 40 CFR 63.1955(a)(1), 40 CFR 63.1955(c), 40 CFR 63.1980(a))**
6. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(40 CFR 63.10(a)(5), 40 CFR 63.10(d)(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall 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
NA	NA	NA	NA

IX. OTHER REQUIREMENTS

1. The collection and control system may be capped or removed provided that all the following conditions are met:
 - a. The landfill shall be a closed landfill as defined in §60.751. A closure report shall be submitted to the appropriate AQD District Office as provided in §60.757(d) **(40 CFR 60.752(b)(2)(v)(A), 40 CFR 63.1955(a)(1))**
 - b. The collection and control system shall have been in operation a minimum of 15 years; and **(40 CFR 60.752(b)(2)(v)(B), 40 CFR 63.1955(a)(1))**
 - c. Following the procedures specified in §60.754(b), the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart. **(40 CFR 60.752(b)(2)(v)(C), 40 CFR 63.1955(a)(1))**
2. The permittee shall submit a closure report to the appropriate AQD District Office within 30 days of waste acceptance cessation. The AQD may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR Part 258.60. If a closure report has been submitted to the AQD, no additional wastes may be placed into the landfill without filing a notification of modification as described under §60.7(a)(4). **(40 CFR 60.757(d), 40 CFR 63.1955(a)(1))**
3. If monitoring demonstrates that the operational requirements above in §60.753(b), (c), or (d) are not met, corrective action shall be taken as specified in §60.755(a)(3) through (5) or §60.755(c). If corrective actions are taken as specified in condition §60.755, the monitored exceedance is not a violation of the operational requirements in this section. **(40 CFR 60.753(g), 40 CFR 63.1955(a)(1))**
4. For the approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, the permittee shall follow the procedures in 40 CFR 60.752(b)(2). **(40 CFR 63.1955(c))**
5. The permittee shall comply with the requirements of 40 CFR Part 60, Subpart WWW. **(40 CFR 63.1955(a)(1))**
6. The permittee shall comply with the requirements of 40 CFR Part 63, Subpart AAAA, including the general provisions specified in Table 1 and the SSM requirements in 40 CFR Part 63.6. **(40 CFR 63.1955, 40 CFR 63.6)**
7. The permittee is no longer required to comply with the requirements of Subpart AAAA of Part 63 when it is no longer required to apply controls as specified in 40 CFR 60.752(b)(2)(v) of Subpart WWW. **(40 CFR 63.1950)**

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

EUPASSIVECOLL
EMISSION UNIT CONDITIONS

DESCRIPTION

This emission unit represents the passive landfill gas collection system at the landfill that uses pressure gradient to move landfill gas through passive wells and to the control equipment.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

EUOPENFLARE

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The system shall be operated such that all collected gases are vented to a control system designed and operated in compliance with §60.752(b)(2)(iii). **(40 CFR 60.753(e), 40 CFR 63.1955(a))**
2. The permittee shall 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. 5 years or more if active; or **(40 CFR 60.753(a)(1), 40 CFR 63.1955(a))**
 - b. 2 years or more if closed or at final grade **(40 CFR 60.753(a)(2), 40 CFR 63.1955(a))**
3. The permittee shall operate the collection system in accordance with the approved gas collection and control system design plan **(40 CFR 60.752(b), 40 CFR 63.1955(a))**
4. The permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 °C and with an oxygen level less than 5 percent. The owner or operator may establish a higher operating temperature or oxygen value at a particular well. A higher operating value demonstration shall be submitted to the appropriate AQD District Office for approval and it shall include supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens. **(40 CFR 60.753(c), 40 CFR 60.756(e), 40 CFR 63.1955(a))**
5. The permittee shall operate the installed collection system to comply with and in accordance with the provisions in §60.753, §60.755, and §60.756. **(40 CFR 60.752(b)(2)(iv), 40 CFR 63.1955(a))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. A passive collection system shall: **(40 CFR 60.752(b)(2)(ii)(B))**
 - a. Be 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 system. **(40 CFR 60.752(b)(2)(ii)(A)(1))**
 - b. The permittee shall place each well or design component in the collection system as specified in the approved design plan as provided in §60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of 5 years or more if active; or 2 years or more if closed at final grade. **(40 CFR 60.755(b), 40 CFR 60.752(b)(2)(ii)(A)(2), 40 CFR 63.1955(a))**
 - c. Be designed to minimize off-site migration of subsurface gas. **(40 CFR 60.752(b)(2)(ii)(A)(4))**
 - d. Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners shall be installed as required under 40 CFR Part 258 Subpart D (§258.40). **(40 CFR 60.752(b)(2)(ii)(B)(2))**
 - e. Comply with the provisions specified in 40 CFR 60.752(b)(2)(ii) and 40 CFR 60.752(b)(2)(ii)(A)(1), (2), and (4). **(40 CFR 60.752(b)(2)(ii)(B)(1))**
2. The permittee shall design the collection system so that all collected gases are vented to a control system designed and operated in compliance with §60.752(b)(2)(iii). **(40 CFR 60.753(e), 40 CFR 63.1955(a))**
3. When adding gas collectors to the gas collection system, a sufficient density of gas collectors shall be installed in compliance with §60.752(b)(2)(ii)(A)(2) (as specified above in condition **IV.1**). The permittee shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the appropriate AQD District Office, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards in NSPS WWW. **(40 CFR 60.755(a)(2), 40 CFR 63.1955(a))**
 - a. If the permittee is seeking to demonstrate compliance through the use of a collection system not conforming to the specifications provided in §60.759, then the permittee shall provide information that satisfies the AQD District Supervisor as specified in §60.752(b)(2)(i)(C), demonstrating that off site migration is being controlled. **(40 CFR 60.755(a)(6), 40 CFR 63.1955(a))**
4. The permittee shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead. **(40 CFR 60.756(a), 40 CFR 63.1955(a))**
5. The permittee shall site collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the appropriate AQD District Supervisor as provided in §60.752(b)(2)(i)(C) and (D):
 - a. The collection devices within the interior and along the perimeter areas shall be certified, by a professional engineer, to achieve comprehensive control of surface gas emissions. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat. **(40 CFR 60.759(a)(1), 40 CFR 63.1955(a))**
 - b. The sufficient density of gas collection devices determined in §60.759(a)(1) (above in condition **IV.5.a.**) shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior. **(40 CFR 60.759(a)(2), 40 CFR 63.1955(a))**
 - c. The placement of gas collection devices determined in §60.759(a)(1) (above in condition **IV.5.a.**) shall control all gas producing areas, except as provided in §60.759(a)(3) (i) and (ii) (below in conditions **IV.5.c.i** and **ii**). **(40 CFR 60.759(a)(3), 40 CFR 63.1955(a))**
 - i. Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under §60.758(d). The documentation shall provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and shall be provided to the AQD District Supervisor upon request. **(40 CFR 60.759(a)(3)(i), 40 CFR 63.1955(a))**
 - ii. 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 shall be documented and provided to

the AQD District Supervisor upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the equation in Appendix 7. **(40 CFR 60.759(a)(3)(ii), 40 CFR 63.1955(a))**

6. The permittee shall construct the gas collection devices using the following equipment or procedures:
 - a. The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration. **(40 CFR 60.759(b)(1), 40 CFR 63.1955(a))**
 - b. Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations. **(40 CFR 60.759(b)(2), 40 CFR 63.1955(a))**

See Appendix 7

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of 5 years. **(R 336.1213(3)(b)(ii))**

1. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee shall monitor each well monthly for temperature and oxygen as provided in §60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the AQD for approval. **(40 CFR 60.755(a)(5), 40 CFR 60.756(a)(2), 40 CFR 60.756(a)(3), 40 CFR 63.1955(a))**
 - a. If monitoring demonstrates that the temperature and oxygen levels are not being met, then corrective action shall be taken as noted above and specified in §60.755(a)(5). If corrective actions are taken as specified in §60.755, the monitored exceedance is not a violation of the operational requirements. **(40 CFR 60.753(g), 40 CFR 63.1955(a))**
 - b. Unless an alternative test method is established as allowed by §60.752(b)(2)(i), the oxygen shall be determined by an oxygen meter using Method 3A or 3C except that:
 - i. The span shall be set so that the regulatory limit is between 20 and 50 percent of the span **(40 CFR 60.753(c)(i), 40 CFR 63.1955(a))**
 - ii. A data recorder is not required **(40 CFR 60.753(c)(ii), 40 CFR 63.1955(a))**
 - iii. Only two calibration gases are required, a zero and span, and ambient air may be used as the span **(40 CFR 60.753(c)(iii), 40 CFR 63.1955(a))**
 - iv. A calibration error check is not required **(40 CFR 60.753(c)(iv), 40 CFR 63.1955(a))**
 - v. The allowable sample bias, zero drift, and calibration drift are ± 10 percent. **(40 CFR 60.753(c)(v), 40 CFR 63.1955(a))**

2. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in §60.758(b)(1) through (b)(4) (below in conditions **VI.2.a-b**) as measured during the compliance determination. Records of the control device vendor specifications shall be maintained until removal. **(40 CFR 60.758(b), 40 CFR 63.1955(a))**
 - a. The maximum expected gas generation flow rate as calculated in §60.755(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 60.758(b)(1)(i), 40 CFR 63.1955(a))**
 - b. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in §60.759(a)(1). **(40 CFR 60.758(b)(1)(ii), 40 CFR 63.1955(a))**
3. Except as provided in §60.752(b)(2)(i)(B), the permittee shall 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 installation date and location of all newly installed collectors as specified under §60.755(b) (above in condition **IV.1.b**). **(40 CFR 60.758(d), 40 CFR 60.758(d)(1), 40 CFR 63.1955(a))**
4. The permittee shall keep readily accessible records of all collection and control system exceedances of the applicable operational standards in §60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. **(40 CFR 60.758(e), 40 CFR 63.1955(a))**
5. The permittee shall 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 60.757(g)(1), 40 CFR 63.1955(a))**
 - b. The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based. **(40 CFR 60.757(g)(2), 40 CFR 63.1955(a))**
 - c. The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material. **(40 CFR 60.757(g)(3), 40 CFR 63.1955(a))**
 - 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 60.757(g)(4), 40 CFR 63.1955(a))**
 - e. The provisions for the control of off-site migration. **(40 CFR 60.757(g)(6), 40 CFR 63.1955(a))**
 - f. The permittee shall maintain the dates of the landfill gas well installations, the age of the waste in which the landfill gas wells were installed, and the age of the in place waste for each portion of the landfill. **(R 336.1213(3))**
6. On a monthly basis, the permittee shall monitor and record the static pressure and methane content of the gas for each gas vent under EUPASSIVECOLL in accordance with 60.756(e). **(40 CFR 60.756(e), 40 CFR 63.1955(a))**
7. The permittee shall maintain records of inspections required to determine proper operation of EUPASSIVECOLL. Each inspection record shall identify the vent inspected, the date, approximate time of inspection, and a brief description of the working condition of the device during the inspection. The permittee shall also record any actions taken to correct any deficiencies found during the inspection. **(40 CFR 60.756(e), 40 CFR 63.1955(a))**

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 shall 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 shall 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 shall submit to the appropriate AQD District Office semiannual reports for the gas collection system. Reports shall 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. For enclosed combustion devices and flares, reportable exceedances are defined under §60.758(c). The semi-annual reports for the gas collection system shall include the following information: **(40 CFR 60.757(f), 40 CFR 63.1980(a), 40 CFR 63.1955(a), 40 CFR 63.1965)**
 - a. Value and length of time for exceedance of applicable parameters monitored under §60.756(a), (above in condition VI.1). **(40 CFR 60.757(f)(1))**
 - b. All periods when the collection system was not operating in excess of 5 days. **(40 CFR 60.757(f)(4))**
 - c. The date of installation and the location of each well or collection system expansion added pursuant to §60.755(b), and §60.755(c)(4) conditions IV.1.b, and VI.1. **(40 CFR 60.757(f)(6))**
 - d. Any deviations as listed in 40 CFR 63.1965. **(40 CFR 63.1965)**
5. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(40 CFR 63.10(a)(5), 40 CFR 63.10(d)(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall 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
NA	NA	NA	NA

IX. OTHER REQUIREMENTS

1. If monitoring demonstrates that the operational requirements in §60.753 (c), or (d) (above in condition III.4) are not met, corrective action shall be taken as specified above in §60.755(5) or §60.755(c) (condition VI.1). If corrective actions are taken as specified in §60.755 (above in conditions VI.1), the monitored exceedance is not a violation of the operational requirements in §60.753 (condition III.4). **(40 CFR 60.753(g), 40 CFR 63.1955(a))**
2. The provisions of 40 CFR Part 60, Subpart WWW apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems. **(40 CFR 60.755(e), 40 CFR 63.1955(a))**

3. If the permittee is seeking to install a collection system that does not meet the specifications in §60.759 (above in conditions **IV.5 and IV.6**) or is seeking to monitor alternative parameters to those required by §60.753 through §60.756, they shall provide information satisfactory to the appropriate AQD District Office as provided in §60.752(b)(2)(i)(B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The AQD may specify additional appropriate monitoring procedures. **(40 CFR 60.756(e), 40 CFR 63.1955(a))**
4. The permittee shall have developed and implemented a written SSM plan according to the provision in 40 CFR 63.6(e)(3) for EUPASSIVECOLL. A copy of the SSM plan shall be maintained on site. **(40 CFR 63.1960)**

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

EUACTIVECOLL
EMISSION UNIT CONDITIONS

DESCRIPTION

This emission unit 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.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

EUOPENFLARE

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour. **(40 CFR 60.753(e), 40 CFR 63.1955(a))**
2. The permittee shall 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. 5 years or more if active; or **(40 CFR 60.753(a)(1), 40 CFR 63.1955(a))**
 - b. 2 years or more if closed or at final grade. **(40 CFR 60.753(a)(2), 40 CFR 63.1955(a))**
3. The permittee shall operate the collection system with negative pressure at each wellhead except under the following conditions: **(40 CFR 60.753(b), 40 CFR 63.1955(a))**
 - a. A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the semiannual reports as provided in §60.757(f)(1). **(40 CFR 60.753(b)(1), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
 - b. Use of a geo-membrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan. **(40 CFR 60.753(b)(2), 40 CFR 63.1955(a))**
 - c. A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the AQD. **(40 CFR 60.753(b)(3), 40 CFR 63.1955(a))**

4. The permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 °C and with an oxygen level less than 5 percent. The owner or operator may establish a higher operating temperature or oxygen value at a particular well. A higher operating value demonstration shall be submitted to the appropriate AQD District Office for approval and it shall include supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens. **(40 CFR 60.753(c), 40 CFR 60.756(e), 40 CFR 63.1955(a))**
5. The permittee shall operate the installed collection system to comply with and in accordance with the provisions in §60.753, §60.755, and §60.756. **(40 CFR 60.752(b)(2)(iv), 40 CFR 63.1955(a))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. An active collection system shall:
 - a. Be 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 60.752(b)(2)(ii)(A)(1), 40 CFR 63.1955(a))**
 - b. The permittee shall place each well or design component in the collection system as specified in the approved design plan as provided in §60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of 5 years or more if active; or 2 years or more if closed at final grade. **(40 CFR 60.755(b), 40 CFR 60.752(b)(2)(ii)(A)(2), 40 CFR 63.1955(a))**
 - c. Collect gas at a sufficient extraction rate. **(40 CFR 60.752(b)(2)(ii)(A)(3), 40 CFR 63.1955(a))**
 - d. Be designed to minimize off-site migration of subsurface gas. **(40 CFR 60.752(b)(2)(ii)(A)(4), 40 CFR 63.1955(a))**
2. The permittee shall design the collection system so that all collected gases are vented to a control system designed and operated in compliance with §60.752(b)(2)(iii). **(40 CFR 60.753(e), 40 CFR 63.1955(a))**
3. When adding gas collectors to the active gas collection system, a sufficient density of gas collectors shall be installed in compliance with §60.752(b)(2)(ii)(A)(2) (as specified above in condition IV.1). The permittee shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the appropriate AQD District Office, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards in NSPS WWW. **(40 CFR 60.755(a)(2), 40 CFR 63.1955(a))**
 - a. If the permittee is seeking to demonstrate compliance through the use of a collection system not conforming to the specifications provided in §60.759, then the permittee shall provide information that satisfies the AQD District Supervisor as specified in §60.752(b)(2)(i)(C), demonstrating that off site migration is being controlled. **(40 CFR 60.755(a)(6), 40 CFR 63.1955(a))**
4. The permittee shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead. **(40 CFR 60.756(a), 40 CFR 63.1955(a))**
5. The permittee shall site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the appropriate AQD District Supervisor as provided in §60.752(b)(2)(i)(C) and (D):
 - a. The collection devices within the interior and along the perimeter areas shall be certified, by a professional engineer, to achieve comprehensive control of surface gas emissions. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat. **(40 CFR 60.759(a)(1), 40 CFR 63.1955(a))**
 - b. The sufficient density of gas collection devices determined in §60.759(a)(1) (above in condition IV.5.a) shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior. **(40 CFR 60.759(a)(2), 40 CFR 63.1955(a))**

- c. The placement of gas collection devices determined in §60.759(a)(1) (above in condition **IV.5.a**) shall control all gas producing areas, except as provided in §60.759(a)(3) (i) and (ii) (below in conditions **IV.5.c.i** and **ii**). **(40 CFR 60.759(a)(3), 40 CFR 63.1955(a))**
 - i. Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under §60.758(d). The documentation shall provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and shall be provided to the AQD District Supervisor upon request. **(40 CFR 60.759(a)(3)(i), 40 CFR 63.1955(a))**
 - ii. 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 shall be documented and provided to the AQD District Supervisor upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the equation in Appendix 7. **(40 CFR 60.759(a)(3)(ii), 40 CFR 63.1955(a)) See Appendix 7**
6. The permittee shall construct the gas collection devices using the following equipment or procedures:
 - a. The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration. **(40 CFR 60.759(b)(1), 40 CFR 63.1955(a))**
 - b. Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations. **(40 CFR 60.759(b)(2), 40 CFR 63.1955(a))**
 - c. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings, and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness. **(40 CFR 60.759(b)(3), 40 CFR 63.1955(a))**
7. The active gas collection system shall be designed to convey the landfill gas to a control system in compliance with §60.752(b)(2)(iii) through the collection header pipe(s). The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures: **(40 CFR 60.759(c), 40 CFR 63.1955(a))**
 - a. For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in §60.759(c)(2) shall be used. **(40 CFR 60.759(c)(1), 40 CFR 63.1955(a))**
 - b. For new collection systems, the maximum flow rate shall be in accordance with §60.755(a)(1). **(40 CFR 60.759(c)(2), 40 CFR 63.1955(a))**

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of 5 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 §60.752(b)(2)(ii)(A)(3), the permittee shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under §60.753(b) (above in conditions **III.3.a-c**). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the AQD for approval. **(40 CFR 60.755(a)(3), 40 CFR 60.756(a)(1), 40 CFR 63.1955(a))**
 - a. If monitoring demonstrates that the negative pressure is not being met, then corrective action shall be taken as noted in §60.755(a)(3) (above in condition **VI.1**). If corrective actions are taken as specified in §60.755, the monitored exceedance is not a violation of the operational requirements. **(40 CFR 60.753(g), 40 CFR 63.1955(a))**
2. The permittee is not required to expand the gas collection system as required in §60.755(a)(3) (above in condition **VI.1**) during the first 180 days after gas collection system startup. **(40 CFR 60.755(a)(4), 40 CFR 63.1955(a))**
3. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee shall monitor each well monthly for temperature and oxygen as provided in §60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the AQD for approval. **(40 CFR 60.755(a)(5), 40 CFR 60.756(a)(2), 40 CFR 60.756(a)(3), 40 CFR 63.1955(a))**
 - a. If monitoring demonstrates that the temperature and oxygen levels are not being met, then corrective action shall be taken as noted above and specified in §60.755(a)(5). If corrective actions are taken as specified in §60.755, the monitored exceedance is not a violation of the operational requirements. **(40 CFR 60.753(g), 40 CFR 63.1955(a))**
 - b. Unless an alternative test method is established as allowed by §60.752(b)(2)(i), the oxygen shall be determined by an oxygen meter using Method 3A or 3C except that:
 - i. The span shall be set so that the regulatory limit is between 20 and 50 percent of the span. **(40 CFR 60.753(c)(i), 40 CFR 63.1955(a))**
 - ii. A data recorder is not required. **(40 CFR 60.753(c)(ii), 40 CFR 63.1955(a))**
 - iii. Only two calibration gases are required, a zero and span, and ambient air may be used as the span. **(40 CFR 60.753(c)(iii), 40 CFR 63.1955(a))**
 - iv. A calibration error check is not required. **(40 CFR 60.753(c)(iv), 40 CFR 63.1955(a))**
 - v. The allowable sample bias, zero drift, and calibration drift are ± 10 percent. **(40 CFR 60.753(c)(v), 40 CFR 63.1955(a))**
4. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in §60.758(b)(1) through (b)(4) (below in conditions **VI.4.a-b**) as measured during the compliance determination. Records of the control device vendor specifications shall be maintained until removal. **(40 CFR 60.758(b), 40 CFR 63.1955(a))**
 - a. The maximum expected gas generation flow rate as calculated in §60.755(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 60.758(b)(1)(i), 40 CFR 63.1955(a))**
 - b. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in §60.759(a)(1). **(40 CFR 60.758(b)(1)(ii), 40 CFR 63.1955(a))**

5. Except as provided in §60.752(b)(2)(i)(B), the permittee shall 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 installation date and location of all newly installed collectors as specified under §60.755(b) (above in condition IV.1.b). **(40 CFR 60.758(d), 40 CFR 60.758(d)(1), 40 CFR 63.1955(a))**
6. The permittee shall keep readily accessible records of all collection and control system exceedances of the operational standards in §60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. **(40 CFR 60.758(e), 40 CFR 63.1955(a))**
7. The permittee shall 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 60.757(g)(1), 40 CFR 63.1955(a))**
 - b. The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based. **(40 CFR 60.757(g)(2), 40 CFR 63.1955(a))**
 - c. The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material. **(40 CFR 60.757(g)(3), 40 CFR 63.1955(a))**
 - 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 60.757(g)(4), 40 CFR 63.1955(a))**
 - 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 60.757(g)(5), 40 CFR 63.1955(a))**
 - f. The provisions for the control of off-site migration. **(40 CFR 60.757(g)(6), 40 CFR 63.1955(a))**
 - g. The permittee shall maintain the dates of the landfill gas well installations, the age of the waste in which the landfill gas wells were installed, and the age of the in place waste for each portion of the landfill. **(R 336.1213(3))**

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 shall 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 shall 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 shall submit to the appropriate AQD District Office semiannual reports for the gas collection system. Reports shall 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. For enclosed combustion devices and flares, reportable exceedances are defined under §60.758(c). The semi-annual reports for the gas collection system shall include the following information: **(40 CFR 60.757(f), 40 CFR 63.1980(a), 40 CFR 63.1955(a), 40 CFR 63.1965)**
 - a. Value and length of time for exceedance of applicable parameters monitored under §60.756(a), (above in conditions VI.1 and VI.3). **(40 CFR 60.757(f)(1))**
 - b. All periods when the collection system was not operating in excess of 5 days. **(40 CFR 60.757(f)(4))**
 - c. The date of installation and the location of each well or collection system expansion added pursuant to §60.755(a)(3), §60.755(b), and §60.755(c)(4) conditions IV.1.b, VI.1 and VI.3. **(40 CFR 60.757(f)(6))**
 - d. Any deviations as listed in 40 CFR 63.1965. **(40 CFR 63.1965)**

e. The permittee shall record instances when a positive pressure occurs in efforts to avoid fire. **(40 CFR 60.753(b)(1))**

5. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(40 CFR 63.10(a)(5), 40 CFR 63.10(d)(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall 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
NA	NA	NA	NA

IX. OTHER REQUIREMENTS

1. If monitoring demonstrates that the operational requirements in §60.753(b), (c), or (d) (above in conditions **III.3 and III.4**) are not met, corrective action shall be taken as specified above in §60.755(a)(3) through (5) or §60.755(c) (conditions **VI.1 and VI.3**). If corrective actions are taken as specified in §60.755 (above in conditions **VI.1 and VI.3**), the monitored exceedance is not a violation of the operational requirements in §60.753 (conditions **III.3 and III.4**). **(40 CFR 60.753(g), 40 CFR 63.1955(a))**
2. The provisions of 40 CFR Part 60, Subpart WWW apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems. **(40 CFR 60.755(e), 40 CFR 63.1955(a))**
3. If the permittee is seeking to install a collection system that does not meet the specifications in §60.759 (above in conditions **IV.5, IV.6, and IV.7**) or is seeking to monitor alternative parameters to those required by §60.753 through §60.756, they shall provide information satisfactory to the appropriate AQD District Office as provided in §60.752(b)(2)(i)(B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The AQD may specify additional appropriate monitoring procedures. **(40 CFR 60.756(e), 40 CFR 63.1955(a))**
4. The permittee shall have developed and implemented a written SSM plan according to the provision in 40 CFR 63.6(e)(3) for EUACTIVECOLL. A copy of the SSM plan shall be maintained on site. **(40 CFR 63.1960)**

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

**EUOPENFLARE
 EMISSION UNIT CONDITIONS**

DESCRIPTION

An open flare is an open combustor without enclosure or shroud. This emission unit table is for each open flare located at EULANDFILL>50.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate each flare in accordance with §60.18 except as noted in 40 CFR 60.754(e). **(40 CFR 60.752(b)(2)(iii)(A), 40 CFR 63.1955(a), 40 CFR 63.1955(a))**
2. The permittee shall operate each flare at all times when the collected gas is routed to it. **(40 CFR 60.753(f), 40 CFR 63.1955(a))**
3. Each flare shall be operated with no visible emissions, as determined by the methods specified in 40 CFR 60.18(f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. **(40 CFR 60.18(c)(1))**
4. Each flare shall be operated with a flame present at all times, as determined by the methods specified in 40 CFR 60.18(f). **(40 CFR 60.18(c)(2))**
5. Each flare shall be used only with the net heating value of the gas being combusted of 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f). **(40 CFR 60.18(c)(3))**
6. Non-assisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4), less than 18.3 m/sec (60 ft/sec), except as provided in 40 CFR 60.18(c)(4)(ii) and (iii). **(40 CFR 60.18(c)(4)(i))**

- a. Non-assisted flares designed for and operated with an exit velocity, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf). **(40 CFR 60.18(c)(4)(ii))**
- b. Non-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in §60.18(f)(4) less than the velocity, V_{max} , as determined by the method specified in §60.18(f)(5), and less than 122 m/sec (400 ft/sec) are allowed. **(40 CFR 60.18(c)(4)(iii))**
7. The permittee shall operate each control system such that all collected gases are vented to a control system designed and operated in accordance with §60.752(b)(2)(iii). **(40 CFR 60.753(e), 40 CFR 63.1955(a))**
8. Flares used to comply with provisions of 40 CFR Part 60, Subpart A shall be operated at all times when emissions may be vented to them. **(40 CFR 60.18(e), 40 CFR 60.752(b)(2)(iii)(A))**
9. The permittee shall operate and maintain each flare in accordance with the manufacturer's recommendations, including, but not limited to, conducting periodic relight testing. **(R 336.1213(3), 40 CFR 63.6(e))**

See Appendix 5

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Flares shall be designed and operated in accordance with 40 CFR 60.18. **(40 CFR 60.752(b)(2)(iii)(A), 40 CFR 60.752(b)(2)(i), 40 CFR 63.1955(c))**
2. The permittee shall install, calibrate, maintain, and operate the following equipment, associated with each flare, according to the manufacturer's specifications: **(40 CFR 60.756(c), 40 CFR 63.1955(a))**
 - a. A battery and charging system, to provide spark to reignite the flare as long as landfill gas of sufficient quality and quantity is present to sustain combustion. **(40 CFR 60.756(c), 40 CFR 63.1955(a))**
 - b. A pilot flame kit. **(40 CFR 60.752(b)(2)(iii)(A), 40 CFR 63.1955(a))**
 - c. A thermocouple which indicates the presence of a flame. **(40 CFR 60.756(c), 40 CFR 63.1955(a))**
 - d. A data logger to record temperatures of the thermocouple. The data logger should be on if a positive pressure greater than 0.5 inches of w.c. is measured. **(40 CFR 60.756(c), 40 CFR 63.1955(a))**
3. Each flare must be designed to meet the requirements of 40 CFR 60.18 with respect to exit velocities and visible emissions. The flare will be able to ignite and stay lit with a minimum of 30% methane. **(40 CFR 60.752(b)(2)(i), 40 CFR 63.1955(c))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of 5 years. **(R 336.1213(3)(b)(ii))**

1. No later than 180 days after the initial start-up of the approved control system, the permittee shall conduct an initial performance test of each open flare, as specified in 40 CFR 60.18, using Federal Reference Test Method 22. The observation period is 30 minutes per flare as approved by the U.S. EPA on March 13, 2008 and shall be used according to Federal Reference Test Method 22. **(40 CFR 60.8(a); 40 CFR 60.18(f)(1))**
2. The permittee shall submit a complete test protocol to the AQD District Supervisor at least 30 days prior to the anticipated test date. **(R 336.1213(3))**
3. The permittee shall notify the AQD District Supervisor or the AQD Technical Programs Unit no less than 7 days prior to the anticipated test date. **(R 336.2001(3))**
4. The permittee shall submit a complete test report of the test results to the AQD District Supervisor within 60 days following the last date of the test. **(R 336.2001(4))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of 5 years. **(R 336.1213(3)(b)(ii))**

1. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep up-to-date, readily accessible records for the life of each open flare of the data listed in §60.758(b)(4) (below in condition **VI.3**) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the open flare vendor specifications shall be maintained until removal. **(40 CFR 60.758(b), 40 CFR 63.1955(a))**
2. The permittee shall maintain records regarding the flare type (i.e., steam-assisted, air-assisted, or non-assisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in §60.18; continuous records of the open flare pilot flame or open flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent. **(40 CFR 60.758(b)(4), 40 CFR 63.1955(a))**
3. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep readily accessible continuous records of the equipment operating parameters specified to be monitored in §60.756 (above in condition **VI.1**), 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 60.758(c))**
4. The permittee shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under §60.756(c) (condition **VI.1.a**), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent. **(40 CFR 60.758(c)(4), 40 CFR 63.1955(a))**
5. The permittee shall perform the following monitoring on a monthly basis:
 - a. Download the data collected by the data logger. **(40 CFR 60.752(b)(2)(i), 40 CFR 63.1955(c))**
 - b. Visual inspection of each flare to verify that components of the flare have not become damaged by weather conditions or vandalism. **(40 CFR 60.752(b)(2)(i), 40 CFR 63.1955(c))**
 - c. Inspect the data logger for proper operation.
6. The following records for each flare shall be maintained onsite:
 - a. Records indicating presence of flare pilot flame. **(40 CFR 60.18(f)(2))**
 - b. The net heating value of the gas being combusted in the flare shall be calculated and recorded using the equation provided in Appendix 7. **(40 CFR 60.18(f)(3))**
 - c. The actual exit velocity of the flare shall be calculated and recorded by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Federal Reference Test Methods 2, 2A, 2C, or 2D as appropriate, by the unobstructed (free) cross sectional area of the flare tip. **(40 CFR 60.18(f)(4))**
 - d. The maximum permitted velocity, V_{max} , for flares complying with 40 CFR 60.18(c)(4)(iii) shall be calculated and recorded using the equation provided in Appendix 7. **(40 CFR 60.18(f)(5))**
7. The permittee shall maintain records of inspections required to determine proper operation of EUOPENFLARE. Each inspection record shall identify the vent flare inspected, the date, approximate time of inspection, and a brief description of the working condition of the device during the inspection. The permittee shall also record any actions taken to correct any deficiencies found during the inspection. **(40 CFR 60.756(e), 40 CFR 63.1955(a))**
8. Weekly inspections of spark plug performance of the non-assisted flares shall be completed and records shall be kept onsite. In the event of a spark plug failure, the permittee has 5 days to correct the malfunction. If the malfunction cannot be corrected within 5 days, a deviation will be reported during semiannual SSM report. **(40 CFR 60.752(b)(2)(i), 40 CFR 63.1955(c))**
9. The maximum permitted velocity, V_{max} , for flares complying with 40 CFR 60.18(c)(4)(iii) shall be determined and recorded using the equation provided in 40 CFR 60.18(f)(5). **(R 336.1213(3), 40 CFR 60.18(f)(5), 40 CFR 60.752(b)(2)(iii)(A))**

10. The permittee shall monitor each flare to ensure that it is operated and maintained in conformance with its design and the provisions of 40 CFR Part 60 Subpart A and 40 CFR Part 60 Subpart WWW. **(40 CFR 60.18(d), 40 CFR 60.752(b)(2)(iii)(A))**

See Appendix 7

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 shall 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 shall 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 shall submit to the appropriate AQD District Office semiannual reports for the gas collection system. Reports shall be 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. For enclosed combustion devices and flares, reportable exceedances are defined under §60.758(c). **(40 CFR 60.757(f), 40 CFR 63.1980(a), 40 CFR 63.1955(a))** The semiannual report shall contain:
 - a. Value and length of time for exceedance of applicable parameters monitored under §60.756(b). **(40 CFR 60.757(f)(1), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
 - b. Description and duration of all periods when the gas stream is diverted from each control device through a bypass line or the indication of bypass flow as specified under §60.756. **(40 CFR 60.757(f)(2), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
 - c. Description and duration of all periods when each control device was not operating for a period exceeding one (1) hour and the length of time each control device was not operating. **(40 CFR 60.757(f)(3), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
5. The permittee shall submit an equipment removal report to the AQD 30 days prior to removal or cessation of operation of each open flare. **(40 CFR 60.757(e))**
 - a. The equipment removal report shall contain all of the following items:
 - i. A copy of the closure report submitted in accordance with §60.757 **(40 CFR 60.757(e)(1)(i), 40 CFR 63.1955(a))**
 - ii. A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired **(40 CFR 60.757(e)(1)(ii), 40 CFR 63.1955(a))**
 - iii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year. **(40 CFR 60.757(e)(1)(iii), 40 CFR 63.1955(a))**
 - iv. Additional information may be requested as may be necessary to verify that all of the conditions for removal in §60.752(b)(2)(v) have been met. **(40 CFR 60.757(e)(2), 40 CFR 63.1955(a))**
6. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(40 CFR 63.10(a)(5), 40 CFR 63.10(d)(5))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall 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
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The duration of start-up, shutdown, or malfunction for each open flare shall not exceed one (1) hour. **(40 CFR 60.755(e), 40 CFR 63.1955(a))**
2. Compliance of 40 CFR Part 63, Subpart AAAA is determined in the same way it is determined for 40 CFR Part 60, Subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data collected in §60.756(c)(1) (above in condition VI.1) are used to demonstrate compliance with the operating conditions for each open flare. The permittee shall have developed and implemented a written SSM for EUOPENFLARE. A copy of the SSM plan shall be maintained on site. **(40 CFR 63.1960)**

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

D. FLEXIBLE GROUP 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 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.

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).

APPENDICES

Appendix 1. Abbreviations and Acronyms

The following is an alphabetical listing of abbreviations/acronyms that may be used in this permit.

AQD	Air Quality Division	MM	Million
acfm	Actual cubic feet per minute	MSDS	Material Safety Data Sheet
BACT	Best Available Control Technology	MW	Megawatts
BTU	British Thermal Unit	NA	Not Applicable
°C	Degrees Celsius	NAAQS	National Ambient Air Quality Standards
CAA	Federal Clean Air Act	NESHAP	National Emission Standard for Hazardous Air Pollutants
CAM	Compliance Assurance Monitoring	NMOC	Non-methane Organic Compounds
CEM	Continuous Emission Monitoring	NOx	Oxides of Nitrogen
CFR	Code of Federal Regulations	NSPS	New Source Performance Standards
CO	Carbon Monoxide	NSR	New Source Review
COM	Continuous Opacity Monitoring	PM	Particulate Matter
department	Michigan Department of Environmental Quality	PM-10	Particulate Matter less than 10 microns in diameter
dscf	Dry standard cubic foot	pph	Pound per hour
dscm	Dry standard cubic meter	ppm	Parts per million
EPA	United States Environmental Protection Agency	ppmv	Parts per million by volume
EU	Emission Unit	ppmw	Parts per million by weight
°F	Degrees Fahrenheit	PS	Performance Specification
FG	Flexible Group	PSD	Prevention of Significant Deterioration
GACS	Gallon of Applied Coating Solids	psia	Pounds per square inch absolute
gr	Grains	psig	Pounds per square inch gauge
HAP	Hazardous Air Pollutant	PeTE	Permanent Total Enclosure
Hg	Mercury	PTI	Permit to Install
hr	Hour	RACT	Reasonable Available Control Technology
HP	Horsepower	ROP	Renewable Operating Permit
H ₂ S	Hydrogen Sulfide	SC	Special Condition
HVLP	High Volume Low Pressure *	scf	Standard cubic feet
ID	Identification (Number)	sec	Seconds
IRSL	Initial Risk Screening Level	SCR	Selective Catalytic Reduction
ITSL	Initial Threshold Screening Level	SO ₂	Sulfur Dioxide
LAER	Lowest Achievable Emission Rate	SRN	State Registration Number
lb	Pound	TAC	Toxic Air Contaminant
m	Meter	Temp	Temperature
MACT	Maximum Achievable Control Technology	THC	Total Hydrocarbons
MAERS	Michigan Air Emissions Reporting System	tpy	Tons per year
MAP	Malfunction Abatement Plan	µg	Microgram
MDEQ	Michigan Department of Environmental Quality	VE	Visible Emissions
mg	Milligram	VOC	Volatile Organic Compounds
mm	Millimeter	yr	Year

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 pounds per square inch gauge (psig).

Appendix 2. Schedule of Compliance

The permittee certified in this ROP application that this stationary source is in compliance with all applicable requirements of this ROP except for the following: EULANDFILL>50, EUPASSIVECOLL, EUACTIVECOLL, and EUOPENFLARE. As a result, the permittee was required to submit a Schedule of Compliance as defined in Rule 119(a), pursuant to Rule 210(2) and Rule 213(4).

A Schedule of Compliance for any applicable requirements that the permittee is not in compliance with at the time of the ROP issuance is supplemental to, and shall not sanction non-compliance with, the underlying applicable requirements on which it is based.

The permittee shall adhere to this schedule of compliance and submit the required certified progress reports accordingly.

Compliance Plan

The permittee outlined the details of achieving compliance in a narrative compliance plan. The details of the compliance plan are outlined below.

Pitsch Sanitary Landfill is required to install and operate a landfill gas collection and control system in accordance with 40 CFR Part 60, Subpart WWW. The company is also required to conduct all required monitoring and recordkeeping of the gas collection and control system. The company has not installed the required collectors and flare controls.

Schedule of Compliance

The following schedule of compliance conforms with the provisions of Rule 119(a) and Rule 213(4).

Emission Unit/ Flexible Group ID and Condition No.	Remedial Measure	Applicable Requirement	Required Action	Milestone Date	Progress Reports
EULANDFILL>50, EUPASSIVECOLL, EUACTIVECOLL, EUOPENFLARE	Install and operate a landfill gas collection and control system.	40 CFR Part 60, Subpart WWW	The permittee shall begin installation of the landfill gas collection and control system.	3/2/2009	At the end of each calendar month, the company shall notify the AQD District Office of well and flare installations.
		40 CFR 60.753(d)	The permittee shall begin quarterly surface monitoring.	3/2/2009	
		40 CFR 60.752(b)(2)(ii) & (iii)	The permittee shall complete installation, begin start-up and complete trial operation of the landfill gas collection and control system.	8/29/2009	Also the company shall meet all semiannual reporting requirements found in ROP No. MI-ROP-N5614- 2009. The semiannual report shall also include an update of well installations and monitoring results.

Emission Unit/ Flexible Group ID and Condition No.	Remedial Measure	Applicable Requirement	Required Action	Milestone Date	Progress Reports
		40 CFR 60.753, 40 CFR 60.755(a)	Within one month of well installation or October 1, 2009 which ever occurs first, the permittee shall begin monthly monitoring of the landfill gas collection and control system.	10/1/2009	
		40 CFR 60.8(a), 40 CFR 60.18(f)(1)	The permittee shall conduct an initial performance test of each open flare, as specified in 40 CFR 60.18.	2/19/2010	
		Rule 336.1213(3)	The permittee shall submit a complete test protocol to the AQD District Supervisor at least 30 days prior to the anticipated open flare test date.	1/11/2010	
		Rule 336.2001(3)	The permittee shall notify the AQD District Supervisor or AQD Technical Programs Unit at least 7 days prior to the anticipated test date.	2/12/2010	
		Rule 336.2001(4)	The permittee shall submit a complete test report of the test results to the AQD District Supervisor within 60 days following the last date of the test.	4/20/2010	
		40 CFR 60.757(f)	The permittee shall submit an initial annual report 180 days after the updated performance test.	9/15/2010	

Progress Reports

The permittee shall submit Certified Progress Reports to the appropriate AQD District Supervisor using the MDEQ Report Certification form (EQP 5736). 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. **(R 336.1213(4)(b))**

Progress reports shall contain the following information:

The projected dates for achieving scheduled activities, milestones or compliance as required in the schedule of compliance. **(R 336.1213(4)(b)(i))**

The actual dates that the activities, milestones, or compliance are achieved. **(R 336.1213(4)(b)(i))**

An explanation of why any dates in the schedule of compliance were not or will not be met. **(R 336.1213(4)(b)(ii))**

A description of any preventative or corrective measures adopted in order to ensure that the schedule of compliance is met. **(R 336.1213(4)(b)(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

The permittee shall use the following approved procedures, to measure the pollutant emissions for the applicable requirements referenced in EUOPENFLARE.

Performance test

For the performance test required in §60.752(b)(2)(iii)(A), the net heating value of the combusted landfill gas as determined in §60.18(f)(3) is calculated from the concentration of methane in the landfill gas as measured by Method 3C. An approval for a minimum of one 30-minute test supplemented by two methane readings from a hand-held combustible gas meter has been approved by the U.S. EPA on March 13, 2008. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under §60.18(f)(4).

Appendix 6. Permits to Install

The following table lists any Permit to Install and/or Operate, that relate to the identified emission units or flexible groups as of the effective date of this ROP. This includes all Permits to Install and/or Operate that are hereby incorporated into Source-Wide PTI No. MI-PTI-N5619-2009. PTIs issued after the effective date of this ROP, including amendments or modifications, will be identified in Appendix 6 upon renewal.

Permit to Install Number	Description of Equipment	Corresponding Emission Unit(s) or Flexible Group(s)
NA	NA	NA

Appendix 7. Emission Calculations

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in EUPASSIVECOLL, EUACTIVECOLL and EUOPENFLARE.

Calculation used to determine NMOC emissions from any nonproductive area

The following shall 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 (1) percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the AQD District Supervisor upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the following equation: **(40 CFR 60.759(a)(3)(ii), 40 CFR 63.1955(a))**

$$Q_i = 2 k L_o M_i (e^{-kt} - i) (\text{CNMOC}) (3.6 \times 10^{-9}) \text{ where,}$$

Q_i = NMOC emission rate from the i th 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 i th section, megagram

t_i = age of the solid waste in the i th section, years

CNMOC = concentration of non-methane organic compounds, parts per million by volume

3.6×10^{-9} = conversion factor

The values for k and CNMOC determined in field testing shall 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 CNMOC provided in §60.754(a)(1) or the alternative values from §60.754(a)(5) shall 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 §60.759(a)(3)(i). **(40 CFR 60.759(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 shall 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:

H_T = 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;

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

where the standard temperature for $\left(\frac{\text{g mole}}{\text{scm}} \right)$ 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 §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 §60.17) if published values are not available or cannot be calculated.

Calculation for Vmax steam-assisted and non-assisted flares

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

$$\text{Log}_{10} (V_{\text{max}}) = (HT + 28.8) / 31.7$$

Vmax=Maximum permitted velocity, M/sec 28.8=Constant 31.7=Constant HT=The net heating value as determined above.

Calculation for Vmax for air-assisted flares

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

$$V_{\text{max}} = 8.706 + 0.7084 (HT)$$

Vmax=Maximum permitted velocity, m/sec 8.706=Constant 0.7084=Constant HT=The net heating value as determined above.

Appendix 8. Reporting

A. Annual, Semiannual, and Deviation Certification Reporting

The permittee shall use the MDEQ Report Certification form (EQP 5736) and MDEQ 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.