LANE REGIONAL AIR PROTECTION AGENCY
TITLE V OPERATING PERMIT

1010 Main St.
Springfield, OR 97477
Telephone (541) 736-1056

Issued in accordance with the provisions of ORS 468A.040
and based on the land use compatibility findings included in the permit record.

ISSUED TO:

Lane County Public Works –
Waste Management Division
3100 East 17th Avenue
Eugene, Oregon 97403

INFORMATION RELIED UPON:

Application Number: 71712
Received: 5/6/2025

FACILITY LOCATION:
Short Mountain Landfill
84777 Dillard Access Road
Eugene, Oregon 97405

LAND USE COMPATIBILITY STATEMENT:

Issued by: Lane County
Dated: August 7, 1998

ISSUED BY LANE REGIONAL AIR PROTECTION AGENCY

Travis Knudsen, Executive Director

10/29/25
Effective Date

Nature of Business:	SIC	NAICS
Refuse System	4953	562212

RESPONSIBLE OFFICIAL:

Title: County Administrator
Phone: (541) 682-3811

FACILITY CONTACT PERSON:

Name: Jeff Orlandini
Title: Division Manager
Phone: (541) 682-3761

ADDENDUM NO.1
(Significant Permit Modification)

In accordance with OAR 340-218-0180(1)(b), OAR 340-239-0500(1), and LRAPA 35-0140(2), Title V Operating Permit No. 204740 is hereby amended to allow the use of Other Test Method (OTM) 51 – 'Unmanned Aerial System (UAS) Application of Method 21 for Surface Emission Monitoring of Landfills' as an alternative test method for determining compliance with the surface methane operational standard for landfills in lieu of the procedures set

forth in 40 CFR 60.34f(d), 40 CFR 60.36f(c)-(e), 40 CFR 63.1958(d), 40 CFR 63.1960(c)-(e), and OAR Chapter 340, Division 239. Language has been added to Conditions 140 and 142 to allow for the use of OTM-51 for quarterly surface emission monitoring. All new language is in **bold.**

Federal Monitoring

140. Surface methane operational standard: Quarterly surface concentration must be monitored according to Condition 48:

140.a. **The permittee may determine quarterly surface methane concentration in accordance with OTM-51, provided that all of the following conditions are met:**

140.a.i. **The monitoring is not for tier 4 surface emission monitoring provisions in the following Subparts and cited sections:**

140.a.i.A. 40 CFR 60, Subpart XXX, §60.764(a)(6)
140.a.i.B. 40 CFR 60, Subpart Cf, §60.35f(a)(6)
140.a.i.C. 40 CFR 62, Subpart OOO, §62.16718(a)(6)

140.a.ii. **The permittee must include a copy of EPA's Alternative Test Letter 150 with each quarterly report presenting SEM results using OTM-51.**

140.a.iii. **Once OTM-51 is used to perform SEM, the permittee must continue to use the alternative method until approval is received from LRAPA for use of a new alternative method.**

OAR 340 division 239 Landfill Gas Emission Monitoring:

142. Surface Emission Monitoring (SEM) according to Condition 92:

142.a. Monitored Quarterly:
142.a.i. Instantaneous Surface Monitoring: ≤ 500 ppmv; and
142.a.ii. Integrated Surface Monitoring: ≤ 25 ppmv.

142.b. **The permittee may conduct the quarterly SEM in accordance with OTM-51, provided that all of the following conditions are met:**

142.b.i. **Surface sampling patterns must meet the minimum spacing and intervals specified in Conditions 97.a.ii, 97.a.ii.A, and 97.a.ii.B.**

142.b.ii. **OTM-51 must not be performed when onsite average wind speed exceeds 4 miles per hour or 2 meters per second, or gusts exceeding 10 miles per hour.**

142.b.iii. **The ground level sampling system must be designed to maximize the time the distal end of the nozzle is within 5 cm of the ground level during flight.**

142.b.iv. **The speed of the sampling traverse may not exceed 7 miles per hour, or a speed such that the instrument-only response time multiplied by the forward flight speed does not exceed 4 meters, whichever is slower.**

142.b.v. **An increased meter reading means a single or series of meter reading(s) at or above 100 ppm of methane and must be verified via a ground-based survey according to Section 8.3.1.1 of OTM-51 and Condition 97.b.iii.**

142.b.vi. **The permittee must include a copy of EPA's Alternative Test Letter 150 with each quarterly report presenting SEM results using OTM-51.**

142.b.vii. **Once OTM-51 is used to perform SEM, the permittee must continue to use the alternative method until approval is received from LRAPA for use of a new**

alternative method.

142.b.viii. **Each quarterly SEM report must include a map or maps of the monitored area which detail the following:**

142.b.viii.A. **Areas of the landfill surface which have been excluded from the SEM according to OAR 340-239-0500, as approved by LRAPA;**

142.b.viii.B. **The 50,000 square foot grids established according to Condition 97.a.;**

142.b.viii.C. **The flight path of the UAS during the SEM event;**

142.b.viii.D. **All exceedances of 100 ppmv which were detected by the UAS;**

142.b.viii.E. **All exceedances of the following surface emission methane concentration limits:**

142.b.viii.E.1 **500 ppmv, as determined by instantaneous surface emissions monitoring.**

142.b.viii.E.2 **25 ppmv, as determined by integrated surface emission monitoring.**

AD 8/26/2025

LANE REGIONAL AIR PROTECTION AGENCY
TITLE V OPERATING PERMIT

1010 Main St.
Springfield, OR 97477
Telephone (541) 736-1056

Issued in accordance with the provisions of ORS 468A.040
and based on the land use compatibility findings included in the permit record.

ISSUED TO:

Lane County Public Works –
Waste Management Division
3100 East 17th Avenue
Eugene, Oregon 97403

INFORMATION RELIED UPON:

Renewal Application Number: 61852 & 68419
Received: 09/13/16 & 05/13/22

FACILITY LOCATION:
Short Mountain Landfill
84777 Dillard Access Road
Eugene, Oregon 97405

LAND USE COMPATIBILITY STATEMENT:

Issued by: Lane County
Dated: August 7, 1998

ISSUED BY LANE REGIONAL AIR PROTECTION AGENCY

Steven A Dietrich
Steven A. Dietrich, Director

11-18-22
Effective Date

Nature of Business:	SIC	NAICS
Refuse System	4953	562212

RESPONSIBLE OFFICIAL:

Title: County Administrator
Phone: (541) 682-3811

FACILITY CONTACT PERSON:

Name: Jeff Orlandini
Title: Division Manager
Phone: (541) 682-3761

TABLE OF CONTENTS

TABLE OF TABLES

LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS PERMIT

ACDP	Air Contaminant Discharge Permit
ACWM	Asbestos-containing waster material
AIE	Aggregate insignificant emissions
AQMA	Air Quality Management Area
ASTM	American Society of Testing and Materials
°C	Celsius
C-ACDP	Construction Air Contaminant Discharge Permit
CAM	Compliance Assurance Monitoring
CDX	Central Data Exchange
CEMS	Continuous Emission Monitoring Systems
CFR	Code of Federal Regulations
CH_4	Methane
CIA	Categorical insignificant activity
CI ICE	Compression ignition internal combustion engine
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CPMS	Continuous Parameter Monitoring System
DEQ	Oregon Department of Environmental Quality
dscf	Dry standard cubic foot
EF	Emission Factors
EPA	US Environmental Protection Agency
EPUD	Emerald People's Utility District
ERT	Electronic Reporting Tool
EU	Emissions unit
°F	Fahrenheit
FCAA	Federal Clean Air Act
GCCS	Gas collection and control system
GHG	Greenhouse gas
gr/dscf	Grains per dry standard cubic foot
HAP	Hazardous Air Pollutant as defined by LRAPA title 44 Table 1
H_2S	Hydrogen sulfide
ID	Identification number
I&M	Inspection and Maintenance
kW	Kilowatt
lb/MMscf	Pounds per Million standard cubic feet
LFG	Landfill gas
LRAPA	Lane Regional Air Protection Agency
MACT	Maximum Achievable Control Technology
mg/l	Milligram per liters
MM	Million
MMcf	Million cubic feet
MSW	Municipal Solid Waste
NA	Not applicable
NESHAP	National Emission Standards for Hazardous Air Pollutants
NMOC	Non-Methane Organic Compounds
NO_X	Nitrogen oxides
NSPS	New Source Performance Standards
O_2	Oxygen
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
O&M	Operation and Maintenance
Pb	Lead
PCD	Pollution control device
PIR	Paved Industrial Roads
PM	Particulate matter
PM_{10}	Particulate matter less than 10 microns in size
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
ppm	Parts per million
PSEL	Plant Site Emission Limit
RMP	Risk management plans
scf	Standard cubic foot
scfm	Standard cubic foot per minute
SDS	Safety Data Sheet
SEM	Surface Emission Monitoring
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SSM	Startup, shutdown or malfunction
ST	Source test
TRS	Total reduced sulfur
UPR	Unpaved Roads
VE	Visible emissions
VHAP	Volatile Hazardous Air Pollutant
VMT	Vehicle mile traveled
VOC	Volatile organic compound
WIP	Waste-in-Place
XML	Extensible Markup Language

DEFINITION

Modified EPA Method 9 (EPA Method 203B): As used in this permit "Modified EPA Method 9" (EPA Method 203B) is defined as follows: Opacity must be measured in accordance with EPA Method 9 using the data reduction procedures in EPA Method 203B. For all standards, the minimum observation period must be six (6) minutes, though longer periods may be required by a specific rule or permit condition. Aggregate times (e.g., three (3) minutes in any one (1) hour) consist of the total duration of all readings during the observation period that are equal to or greater than the opacity percentage in the standard, whether or not the readings are consecutive. Each EPA Method 9 readings represents 15 seconds of time. See also the definition of "Opacity" in LRAPA title 12.

PERMITTED ACTIVITIES

1. Until such time as this permit expires or is modified or revoked, the permittee is allowed to discharge air contaminants from those processes and activities directly relates to or associated with air contaminant source(s) in accordance with the requirements, limitations, and conditions of this permit. [LRAPA 34-180 and OAR 340-218-0010, 340-218-0120(2)]
2. All conditions in this permit are federally enforceable except as noted below:
   2.a. Conditions 7, 9, 10, 14 through 30, 76 through 106, 166 , G5 and part of G9 (LRAPA title 43) are only enforceable by LRAPA. [OAR 340-218-0060]

EMISSIONS UNIT (EU) AND POLLUTION CONTROL DEVICE (PCD) DESCRIPTIONS

3. The emissions units regulated by this permit are the following: [OAR 340-218-0040(3)]

Table 1: Emission Units and Pollution Control Devices

Emission Unit Description	EU ID	Pollution Control Device (PCD) Description
Fugitive Landfill Gas	F-LFG	NA
Landfill Gas Collection and Control System	GCCS	Enclosed Flare and/or 4 CI Engines owed/operated by EPUD (ACDP #202536)
Paved Industrial Roads	PIR	Water Application, Sweeping (if applicable)
Unpaved Roads	UPR	Water Application, Chemical Suppressant (if applicable), and/or Gravel Application
Aggregate Insignificant Emissions • Landfill Cell Activities	AIE	Reasonable precaution to prevent particulate matter from becoming airborne
Categorical Insignificant Activity • 2 Diesel-fired Emergency Generators	CIA	NA

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING AND RECORDKEEPING REQUIREMENTS

The following tables and conditions contain the applicable requirements along with the testing, monitoring, and recordkeeping requirements for the emissions units to which those requirements apply.

Table 2: General Facility-Wide Requirements

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Monitoring/Recordkeeping Requirement	
				Method	Condition Number
48-015(1)	4	Fugitive Emissions	Minimize	Recordkeeping	5 & 6
49-010(1)	7	Nuisance	Prohibited	Recordkeeping	10
32-090(1)	8	Nuisance	Prohibited	Recordkeeping	10
32-055	9	PM >250 fallout	Prohibited	Recordkeeping	10
32-065(2)	11	Fuel oil sulfur content specifications	Percent by weight sulfur	Recordkeeping	12
40 CFR Part 68	13	Risk Management	Risk Management Plan	NA	13

4. Applicable Requirement(s): The permittee must not allow any materials to be handled, transported, or stored; or a building, its appurtenances; or a road to be used, constructed, altered, repaired or demolished; or any equipment to be operated, without taking reasonable precautions to prevent particulate matter from becoming

airborne. Such reasonable precautions must include, but not limited to the following: [LRAPA 48-015(1)]

4.a. use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

4.b. application of water or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces which can create airborne dusts;

4.c. full or partial enclosure of materials stockpiles in cases where applicable of oil, water, or chemicals are not sufficient to prevent particulate matter from becoming airborne;

4.d. installation and use of hoods, fans, and fabrics filters to enclose and vent the handling of dusty materials;

4.e. adequate containment during sandblasting or other similar operations;

4.f. covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne.

5. Monitoring Requirement(s): At least monthly, for a minimum period of 30 minutes, the permittee must visually survey the plant for any sources of excess fugitive emissions. For the purpose of this survey, excess fugitive emissions are considered to be any visible emissions that leave the plant site boundaries for more than 18 seconds in a six-minute period. The person conducting the observation must follow the procedures of EPA Method 22. If sources of visible emissions are identified, the permittee must: [LRAPA 48-015(2) & (3), LRAPA 34-016(1) and OAR 340-218-0050(3)(a)]

5.a. Immediately take corrective action to minimize the fugitive emissions, including but not limited to those actions identified in Condition 4; and

5.b. Develop a LRAPA approved fugitive emission control plan upon request by LRAPA if the above precautions are not adequate and implement the plan whenever fugitive emissions leave the property for more than 18 second in a six (6) minute period.

6. Recordkeeping Requirement(s): The permittee must maintain records of the fugitive emissions surveys and corrective actions, as applicable. The record must be maintained onsite for a period of a least five (5) years and must be provided to LRAPA personnel on request. [LRAPA 34-016(1) and OAR 340-218-0050(3)(b)]

Nuisance Conditions

7. Applicable Requirement(s): The permittee must not cause or allow air contaminants from any source subject to regulation by LRAPA to cause a nuisance. [LRAPA 49-010(1)] This condition is only enforceable by LRAPA.

8. Applicable Requirement(s): The permittee must not discharge from any source whatsoever such quantities of air contaminants which cause injury or damage to any persons, the public, business or property. Such determination is to be made by LRAPA. [LRAPA 32-090(1)]

9. Applicable Requirement(s): The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at such duration or quantity as to create an observable deposition upon the real property of another person. [LRAPA 32-055] This condition is enforceable only by LRAPA.

10. Monitoring and Recordkeeping Requirement(s): To demonstrate compliance with Condition 7 through 9, the permittee must maintain a log of all complaints received by the responsible official or designated employees (written, received via telephone or facsimile). The log must also record permittee's actions to investigate, make a determination as to the validity of the complaint, and resolve the problem within two (2) working days of receiving the complaint or within such longer time as is reasonably necessary, not to exceed five (5) working days. If more than five (5) days are needed to resolve the problem, the permittee must notify LRAPA immediately upon making that determination. [LRAPA 34-016(1), OAR 340-218-0050(3)(a), and OAR 340-218-0050(3)(b)]

Fuel Conditions

11. Applicable Requirement: The permittee must only burn fuel oils that meet the following specifications: [LRAPA 32-065]

11.a. Distillate fuel oil or on-specification used oil (as defined in 40 CFR 279.11) must not contain more than:

11.a.i. 0.3% sulfur by weight for ASTM Grade 1 fuel oil. [LRAPA 32-065(2)(a)]

11.a.ii. 0.5% sulfur by weight for ASTM Grade 2 fuel oil. [LRAPA 32-065(2)(b)]

12. Recordkeeping Requirement: The permittee must monitor the sulfur content of each shipment of fuel oil

(ASTM Grade 1 or Grade 2) that will be used in auxiliary equipment other that exempt equipment such as forklifts or motor vehicles by: [LRAPA 34-016(1) and OAR 340-218-0050(3)(b)]

12.a. Obtaining a certification of sulfur content from each vendor for each shipment of fuel received; or

12.b. Securing a SDS from the fuel supplier and a certification stating the supplier will provide only fuel oil that meets the specifications in Condition 11 for use in non-exempt or auxiliary equipment such as emergency generator motors.

Accidental Release Prevention

13. Applicable Requirement(s): Should this stationary source become subject to the accidental release prevention regulations in 40 CFR Part 68, then the permittee must submit a risk management plan (RMP) by the date specified in 40 CFR 68.10 and comply with the plan and all other applicable Part 68 requirements. [40 CFR Part 68]

FRIABLE AND NON-FRIABLE ASBESTOS DISPOSAL REQUIREMENTS

Table 3: LRAPA Title 43 Asbestos Requirements

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Monitoring Condition(s)	Testing Condition(s)	Recordkeeping & Reporting Condition(s)
LRAPA 43-015-19	14 - 22	Friable & Non-Friable asbestos disposal requirements	Work practices and procedures	23 -26	NA	27 - 30

Work practices and procedures for disposing of friable and non-friable asbestos-containing waste materials. [LRAPA 43-015-19 and 20] Enforceable by LRAPA Only

14. Applicable Requirement(s): The permittee of an active asbestos-containing waste disposal site must, for all asbestos-containing waste material received, meet the standards in Conditions 15 through 17, 23 through 25, 27 and 28. [LRAPA 43-015-19-J and LRAPA 43-015-20-J]

15. Applicable Requirement(s): As soon as possible and no more than thirty (30) days after receiving the asbestos-containing waste, the permittee must send a copy of the signed waste shipment record to the waste generator. [LRAPA 43-015-19(5) and LRAPA 43-015-20-K]

16. Applicable Requirement(s): The permittee must select the asbestos-containing waste burial site in an area of minimal work activity that is not subject to future excavation. [LRAPA 43-015-19-J(7) and LRAPA 43-015-20-K]

17. Applicable Requirement(s): The permittee must cover all asbestos-containing waste material deposited at the disposal site with at least twelve (12) inches of soil or six (6) inches of soil plus twelve (12) inches of other waste before running compacting equipment over it, but not later than the end of the operating day. [LRAPA 43-015-19-J(8) and LRAPA 43-015-20-K]

18. Applicable Requirement(s): The permittee must maintain, until site closure, record of the location, depth and area, and quantity in cubic yards of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area. [LRAPA 43-015-19-K]

19. Applicable Requirement(s): Excavation or disturbance of asbestos-containing waste material that has been deposited at the disposal site and is covered is considered an asbestos abatement project. The permittee must submit, as specified in LRAPA 43-015-10, notification for any such project, except as specified in Conditions 19.a through 19.d: [LRAPA 43-015-19-L]

19.a. Submit the project notification and project notification fee to LRAPA at least forty-five (45) days before beginning any excavation or disturbance of an asbestos-containing waste disposal site. [LRAPA 43-015-19-L(1)]

19.b. State the reason for disturbing the asbestos-containing waste. [LRAPA 43-015-19-L(2)]

19.c. Explain procedures for controlling emissions during the excavation, storage, transport and ultimate disposal of the excavated asbestos-containing waste material. LRAPA may require changes in the proposed emission control procedures. [LRAPA 43-015-19-L(3)]

19.d. State the location of any temporary storage site and the final disposal site. [LRAPA 43-015-19-L(4)]

20. Applicable Requirement(s): Within sixty (60) days of the site's becoming inactive, the permittee must request in writing that the Oregon Environmental Quality Commission issue an environmental hazard notice for the site. This environmental hazard notice will notify in perpetuity any potential purchaser of the property that: [LRAPA 43-015-19-N(5)]
    20.a. the land has been used for the disposal of asbestos-containing waste material; [LRAPA 43-015-19-N(5)(a)]
    20.b. the survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site, required for active asbestos disposal sites, have been filed with LRAPA; and [LRAPA 43-015-19-N(5)(b)]
    20.c. the site is subject to the provisions of LRAPA title 43. [LRAPA 43-015-19-N(5)(c)]
21. Applicable Requirement(s): Rather than meet these requirements, the permittee may use alternative packaging, storage, transport, or disposal methods after receiving approval by LRAPA in writing. [LRAPA 43-015-19-O and LRAPA 43-015-20-L]
    21.a. The permittee is permitted to use an alternative cover for the active asbestos-containing waste material (ACWM) disposal area at the end of each day that the new ACWM is disposed of with a tarp that is identical to, or the equivalent of, materials used to cover active areas of the general landfill. [LRAPA 32-007]
    21.b. The permittee is permitted cover the ACWM disposal area with a minimum of 12 inches of sand or soil as needed, but in no case may the time period between the alternative covering and the installation of the permanent covering exceed six (6) months. The permittee must maintain records of the type of alternate covering use and initial date of use. [LRAPA 32-007 and LRAPA 34-016(1)]
22. Applicable Requirement(s): The permittee must ensure that there are no visible emissions to the atmosphere during the collection, processing, packaging, transporting, or deposition of any asbestos-containing waste material that is generated by the permittee. [LRAPA 43-015-19-A and LRAPA 43-015-20-A]
23. Monitoring Requirement(s): The permittee must ensure that off-loading of asbestos-containing waste material is done under the direction and supervision of the landfill operator or authorized agent, and that it is accomplished in a manner that prevents the leak-tight transfer containers from rupturing and prevents the release of visible emissions to the air. [LRAPA 43-015-19-J(1) and LRAPA 43-015-20-K]
24. Monitoring Requirement(s): The permittee must ensure that off-loading of asbestos-containing waste material occurs at the immediate location where the asbestos-containing waste will be buried and restrict public access to the off-loading area until asbestos-containing waste is covered in accordance with Condition 17. [LRAPA 43-015-19-J(2) and LRAPA 43-015-20-K]
25. Monitoring Requirement(s): Upon discovering a discrepancy between the quantity of asbestos-containing waste designated on the waste shipment records and the quantity actually received, the permittee must attempt to reconcile the discrepancy with the waste generator. The permittee must report in writing to LRAPA any discrepancy between the quantity of asbestos-containing waste designated on the waste shipment records and the quantity actually received that cannot be reconciled between the waste generator and the waste disposal site within fifteen (15) days after receiving the waste. The permittee must describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report. The permittee must include the LRAPA assigned asbestos abatement project number in the discrepancy report. [LRAPA 43-015-19-J(6) and LRAPA 43-015-20-K]
26. Monitoring and Recordkeeping Requirement(s): The permittee must inspect the ACWM disposal area each day the asbestos-containing disposal area is in operation, document the monitoring in a daily inspection log and make the daily inspection log available to LRAPA upon request. The daily inspection log must include the following Conditions 26.a and 26.c: [LRAPA 32-007, LRAPA 34-016(1) and SFO 21-3830]
    26.a. Date and time of the inspection;
    26.b. Name of employee conducting the inspection; and
    26.c. Inspection results.
27. Recordkeeping Requirement(s): The permittee must maintain waste shipment records for at least two (2) years and ensure that all information requested on the LRAPA form regarding asbestos-containing waste disposal has been supplied. [LRAPA 43-015-19-J(3) and LRAPA 43-015-20-K]
28. Recordkeeping Requirement(s): The permittee must immediately notify LRAPA by telephone, followed by a

written report to LRAPA the following working day, of the presence of improperly enclosed or uncovered asbestos-containing waste. Submit a copy of the waste shipment record along with the report. [LRAPA 43-015-19-J(4) and LRAPA 43-015-20-K]

29. Recordkeeping Requirement(s): The permittee must maintain a log of visible observations taken during unloading; [LRAPA 43-015-18-J(1) and LRAPA 34-016(1) & (2)]

30. Reporting Requirement(s): The permittee must require all employees to review this permit and sign the Asbestos Disposal and Cover Review Form confirming the employee has read and understood the permit conditions. The Asbestos Disposal and Cover Review Form will be submitted according to Condition 165.b.iv. [LRAPA 32-007, LRAPA 34-016(1) & (2) and SFO 21-3830]

FEDERAL REQUIREMENTS

Table 4: Emission Limits and Standards for 40 CFR part 60, subpart Cf – NSPS: Municipal Solid Waste Landfills and 40 CFR part 63, subpart AAAA – NESHAP: Municipal Solid Waste Landfills

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Compliance & Monitoring Conditions	Testing Conditions	Recordkeeping & Reporting Conditions
40 CFR 60.33f(e) & 40 CFR 63.1959(b)	31	Design capacity ≥ 2.5 million megagrams and 2.5 million cubic meters	Installation of gas collection & control system (GCCS)	31.a	NA	NA
40 CFR 60.33f(e)(2), 40 CFR 63.1959(b)(2), & 40 CFR 63.1959(b)(2)(i)	31.a	NMOC ≥ 34 megagrams	Installation of GCCS requirements	31.a.i–31.a.iii	NA	NA
40 CFR 60.33f(b)(1) & 40 CFR 63.1959(b)(2)(ii)	31.a.i	NMOC ≥ 34 megagrams	Installation of collection system	39, 40, 41, 42, 45 & 47	NA	53, 56, 57, 58, 59, 60, 62, 64, 65, 66 & 67
40 CFR 60.33f(c)	31.a.ii	NMOC ≥ 34 megagrams	Installation of control system	39.a.ii, 43, 44, 46, 49 & 50	51 & 52	53, 54, 55, 56, 57, 60, 63, 67, 68 & 69
40 CFR 63.1959(b)(2)(iii)	31.a.iii	NMOC ≥ 34 megagrams	Installation of control system	39.a.ii, 43, 44, 46, 49 & 50	51 & 52	53, 54, 55, 56, 57, 60, 63, 67, 68 & 69
40 CFR 60.35f(b) & 40 CFR 63.1959(c)	32	Minimize NMOC	GCCS: Capping, removing, or decommissioning	32.a – 32.c	NA	58 & 66
40 CFR 60.33f(f) & 40 CFR 63.1957(b)	33	NMOC < 34 megagrams	GCCS removal criteria	33.a & 33.b	NA	66

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Compliance & Monitoring Conditions	Testing Conditions	Recordkeeping & Reporting Conditions
40 CFR 63.1955(c)	34	Minimize NMOC	Operation of GCCS	39 – 50	51 & 52	54–62, 67, 68 & 70–72
40 CFR 60.34f & 40 CFR 63.1958(a)	35	Minimize NMOC	Operation of GCCS	35.a – 35.h	51 & 52	54, 59 – 63, 67, 69 – 73 & 72
40 CFR 60.34f(a) & 40 CFR 63.1958(a)	35.a	Landfill gas (LFG) collection	Collection system: installation of wells	39 & 40	NA	53, 58, 64, 65 & 66
40 CFR 60.34f(b) & 40 CFR 63.1958(b)	35.b	Collection well air infiltration	Maintain negative pressure at each wellhead	39.b, 39.f, 40, 45 & 47	NA	54.a.ii, 58, 59, 60, & 64.b
40 CFR 60.34f(c) or 40 CFR 63.1958(c)	35.c & 35.d	Collection well air infiltration	55 °C (131 °F) or 62.8 °C (145 °F)	39.c.ii, 39.c.iii, 39.d–45.e & 47	NA	55.a, 59, 60, 61, 67.a.i, 67.a.ii, 70, 71.b, & 72
40 CFR 60.34f(c) or 40 CFR 63.1958(c)	35.c & 35.d	Collection well air infiltration	≤ 20% N_2 or ≤ 5% O_2, and ≤ 1000 ppm CO	39.e, 45.b, 45.c, & 47	NA	59, 60, 67.a.i 67.a.ii, & 72
40 CFR 60.34f(d), 40 CFR 63.1958(d)(1), and 40 CFR 63.1958(d)(1)(2)(i)	35.e	Uncollected LFG	500 ppm above background	41, 42, 47 & 49	NA	62 & 67.e
40 CFR 60.34f(e)(1), 40 CFR 63.1958(e)(1)	35.f	Landfill gas (LFG) collection	GCCS not operating	43, 47, 49 & 50	NA	56, 57 & 67.a
40 CFR 60.34f(f), 40 CFR 63.1958(f)	35.g	Enclosed Flare	Must operate at all times LFG is routed to the system	43, 44, 46, 49 & 50	51 & 52	67, 70 & 71
40 CFR 60.34f(f), 40 CFR 63.1958(f)	35.h	GCCS operation	Corrective action required	39.c, 39.d & 39.f	NA	59, 61, 62.a.iv, 67.g, 70 & 71
40 CFR 60.40f(a) & 40 CFR 63.1962(a)	36: 36.a–36.c	LFG collection system	Active collection wells, horizontal collectors, surface collectors, or other extraction devices at sufficient density	39.b	NA	54.a.ii, 58.b & 68.b

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Compliance & Monitoring Conditions	Testing Conditions	Recordkeeping & Reporting Conditions
40 CFR 60.40f(b) & 40 CFR 63.1962(b)	37: 37.a–37.c	LFG collection system	Construction of collection system components	NA	NA	53 & 64
40 CFR 60.40f(c) & 40 CFR 63.1962(c)	38: 38.a & 38.b	Enclosed Flare	Gas mover equipment must be sized to move maximum gas generation flow rate	46	51 & 52	53, 54.b, 55.a.i, 68 & 69

31. Applicable Requirement(s): The permittee of an MSW landfill having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, must either install a gas collection and control system (GCCS) as provided in Conditions 31.a.i through 31.a.iii or calculate an initial NMOC emission rate for the landfill using the procedures specified in 40 CFR 60.35f(a) and 40 CFR 63.1959(a). [40 CFR 60.33f(e), 40 CFR 63.1959(b), OAR 340-236-0500(5) and LRAPA 44-150(5)(iii)]

31.a. If the calculated NMOC emission rate is equal to or greater than 34 megagram per year using Tier 1, 2, or 3 procedures, the permittee must either: submit a collection and control system design plan prepared by a professional engineer to LRAPA and the Administrator with 1 year as specified in 40 CFR 60.38f(d) and 40 CFR 63.1981(d), except for exemptions allowed under 40 CFR 60.31(e)(3); calculate NMOC emission using a higher tier in 40 CFR 60.35f and 40 CFR 63.1959(a), or conduct a surface emission monitoring demonstration using the procedures specified in 40 CFR 60.35f(a)(6). The collection and control system must meet the requirements in Conditions 31.a.i and 31.a.iii. [40 CFR 60.33f(e)(2), 40 CFR 63.1959(b)(2), 40 CFR 63.1959(b)(2)(i), OAR 340-236-0500(5)(b) and LRAPA 44-150(5)(iii)]

31.a.i. **Collection system**: Install and start up a collection and control system that captures the gas generated within the landfill as required by Condition 31.a.i.B within 30 months after: [40 CFR 60.33f(b)(1), 40 CFR 63.1959(b)(2)(ii), OAR 340-236-0500(5)(b) and LRAPA 44-150(5)(iii)]

31.a.i.A. The most recent NMOC emission rate report in which the NMOC emission rate equals or exceeds 34 megagrams per year based on Tier 2, if the Tier 4 surface emission monitoring shows a surface methane emission concentration of 500 parts per million methane or greater as specified in 40 CFR 60.38f(d)(4)(iii). [40 CFR 60.33f(b)(1)(iii) and OAR 340-236-0500(5)(b)]

31.a.i.B. An active collection system must: [40 CFR 60.33f(b)(2), 40 CFR 63.1959(b)(2)(ii)(B), OAR 340-236-0500(9) and LRAPA 44-150(5)(iii)]

31.a.i.B.1 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 equipment; [40 CFR 60.33f(b)(2)(i), 40 CFR 63.1959(b)(2)(ii)(B)(1) and LRAPA 44-150(5)(iii)]

31.a.i.B.2 Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more in active; or 2 years or more if closed or at final grade; [40 CFR 60.33f(b)(2)(ii), 40 CFR 63.1959(b)(2)(ii)(B)(2) and LRAPA 44-150(5)(iii)]

31.a.i.B.3 Collect gas at a sufficient extraction rate; and [40 CFR 60.33f(b)(2)(iii), 40 CFR 63.1959(b)(2)(iii)(B)(3) and LRAPA 44-150(5)(iii)]

31.a.i.B.4 Be designed to minimize off-site migration of subsurface gas. [40 CFR 60.33f(b)(2)(iv), 40 CFR 63.1959(b)(2)(iv)(B)(4), and LRAPA 44-150(5)(iii)]

31.a.ii. **Control system**: For approval, a state plan must include provisions for the control of the gas collected from within the landfill through the use of control devices meeting the following requirements, except as provided in 40 CFR 60.24. [40 CFR 60.33f(c) and OAR 340-236-0500(7)]

31.a.iii. **Control system:** Route all the collected gas to a control system that complies with the requirements in Condition 31.a.iii.A. [40 CFR 63.1959(b)(2)(iii) and LRAPA 44-150(5)(iii)]

31.a.iii.A. A control system designed and operated to reduce NMOC by 98 weight percent; or when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen or less. The reduction efficiency or concentration in parts per million by volume must be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in 40 CFR 60.35f(e) and 40 CFR 63.1959(e). [40 CFR 60.33f(c)(2), 40 CFR 63.1959(b)(2)(iii)(B), OAR 340-236-0500(7), LRAPA 44-150(5)(iii) and ACDP 06/15/22 Condition 16.a]

31.a.iii.A.1 The control device must be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified Conditions 45 and 46. [40 CFR 60.33f(c)(2)(ii), 40 CFR 63.1959(b)(2)(iii)(B)(2), OAR 340-236-0500(7), LRAPA 44-150(5)(iii) and ACDP 06/15/22 Condition 16.a.i]

32. Applicable Requirement(s): After the installation and startup of a collection and control system in compliance with the 40 CFR part 60 subpart Cf and 40 CFR part 63, subpart AAAA, the permittee must calculate the NMOC emission rate for purposes of determining when the system can be capped, removed, or decommissioned as provided in Condition 33, using Equation 1: [40 CFR 60.35f(b), 40 CFR 63.1959(c), OAR 340-236-0500(6)(d) and LRAPA 44-150(5)(iii)]

Equation 1

$$M_{NMOC} = 1.89 \times 10^{-3} Q_{LFG} C_{NMOC}$$

Where:

M_{NMOC}	=	Mass emission rate of NMOC, megagrams per year
Q_{LFG}	=	Flow rate of landfill gas, cubic meters per minute.
C_{NMOC}	=	NMOC concentration, parts per million by volume as hexane.
1.89×10^{-3}	=	Conversion factor

32.a. The flow rate of landfill gas, Q_{LFG}, must be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control system using a gas flow measuring device calibrated according to the provisions of section 10 of EPA Method 2E of appendix A-1 of 40 CFR part 60. [40 CFR 60.35f(b)(1), 40 CFR 63.1959(c)(1) and LRAPA 44-150(5)(iii)]

32.b. The average NMOC concentration, C_{NMOC}, must be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in EPA Method 25 of Method 25C of appendix A-7 of 40 CFR part 60. The sample location on the common header pipe must be before any condensate removal or other gas refining units. The permittee must divide the NMOC concentration from EPA Method 25 or Method 25C of appendix A-7 to 40 CFR part 60 by six (6) to convert from C_{NMOC} as carbon to C_{NMOC} to hexane. [40 CFR 60.35f(b)(2), 40 CFR 63.1959(c)(2) and LRAPA 44-150(5)(iii)]

32.c. The permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by LRAPA and the Administrator. [40 CFR 60.35f(b)(3), 40 CFR

63.1959(c)(3) and LRAPA 44-150(5)(iii)]

32.c.i. Within 60 days after the date of calculating the NMOC emission rate for purposes of determining when the system can be capped and removed, the permittee must submit the results according to Condition 69.a. [40 CFR 60.35f(b)(3)(i)]

32.c.ii. Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.7), the permittee must submit the results of the performance test, including any associated fuel analyses, according to Condition 69.a. [40 CFR 63.1959(c)(3)(i) and LRAPA 44-150(5)(iii)]

33. Applicable Requirement(s): **Removal criteria**: The permittee may cap, remove, or decommission the collection and control system if the following criteria are met: [40 CFR 60.33f(f), 40 CFR 60.1957(b), and LRAPA 44-150(5)(iii)]

33.a. The collection and control system has been in operation a minimum of 15 years or the permittee demonstrates that the GCCS will be unable to operate for 15 years due to declining gas flow. [40 CFR 60.33f(f)(2), 40 CFR 60.1957(b)(2), and LRAPA 44-150(5)(iii)]

33.b. Following the procedures specified in Condition 32, the calculated NMOC emission rate at the landfill is less than 34 megagrams per year on three (3) successive test dates. The test dates must be no less than 90 days apart, and not more than 180 days apart. [40 CFR 60.33f(f)(3), 40 CFR 60.1957(b)(3), and LRAPA 44-150(5)(iii)]

34. Applicable Requirement(s): At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if the requirements of 40 CFR part 63, subpart AAAA have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the LRAPA and the Administrator which may include, but not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1955(c) and LRAPA 44-150(5)(iii)]

35. Applicable Requirement(s): The permittee of the MSW landfill with a gas collection and control system used to comply with the provisions of Conditions 31.a.i and 31.a.ii must follow Conditions 35.a through 35.h: [40 CFR 60.34f, 40 CFR 63.1958, OAR 340-236-0500(8) and LRAPA 44-150(5)(iii)]

35.a. The permittee must operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for: [40 CFR 60.34f(a), 40 CFR 63.1958(a) and LRAPA 44-150(5)(iii)]

35.a.i. Five (5) years or more if active; or [40 CFR 60.34f(a)(1), 40 CFR 63.1958(a)(1) and LRAPA 44-150(5)(iii)]

35.a.ii. Two (2) years or more if closed or at final grade. [40 CFR 60.34f(a)(2), 40 CFR 63.1958(a)(2) and LRAPA 44-150(5)(iii)]

35.b. The permittee must operate the collection system with negative pressure at each wellhead except under Conditions 35.b.i through 35.b.iii: [40 CFR 60.34f(b), 40 CFR 63.1958(b) and LRAPA 44-150(5)(iii)]

35.b.i. A fire or increased well temperature. The permittee must record instances when positive pressure occurs in efforts to avoid a fire. These records must be submitted with the annual reports and semi-annual as provided in Condition 67. [40 CFR 60.34f(b)(1), 40 CFR 63.1958(b)(1) and LRAPA 44-150(5)(iii)]

35.b.ii. Use of a geomembrane or synthetic cover. The permittee must develop acceptable pressure limits in the design plan. [40 CFR 60.34f(b)(2), 40 CFR 63.1958(b)(2) and LRAPA 44-150(5)(iii)]

35.b.iii. A decommissioned well. A well may experience a static positive pressure after shutdown to accommodate for declining flows. All design changes must be approved by LRAPA and the Administrator as specified in 40 CFR 60.38f(d) and 40 CFR 63.1981(d)(2). [40 CFR 60.34f(b)(3), 40 CFR 63.1958(b)(3) and LRAPA 44-150(5)(iii)]

35.c. The permittee must operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit). The permittee may establish a higher operating temperature value at a particular well. A higher operating value demonstration must

be submitted to LRAPA for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria in order to be approved. [40 CFR 60.34f(c)]

35.d. Operate each interior wellhead in the collection system as specified in 40 CFR 60.753(c), until the permittee elects to meet the operational standards for temperature in Condition 35.d.i. [40 CFR 63.1958(c) and LRAPA 44-150(5)(iii)]

35.d.i. Operate each interior wellhead in the collection system with a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit). [40 CFR 63.1958(c)(1) and LRAPA 44-150(5)(iii)]

35.d.ii. The permittee may establish a higher operating temperature value at a particular well. A higher operating value demonstration must be submitted to LRAPA and the Administrator for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria in order to be approved (i.e., neither causing fires nor killing methanogens is acceptable). [40 CFR 63.1958(c)(2) and LRAPA 44-150(5)(iii)]

35.e. The permittee must operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the permittee must conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in Condition 42. The permittee must conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover and all cover penetrations. Thus, the permittee must monitor any openings that are within an area of the landfill where waste has been placed and a gas collection system is required. The permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan must be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. [40 CFR 60.34f(d), 40 CFR 63.1958(d)(1), 40 CFR 63.1958(d)(2)(i) and LRAPA 44-150(5)(iii)]

35.e.i. Conduct surface testing at all cover penetrations. Thus, the permittee must monitor any cover penetrations that are within the area of the landfill where waste have been placed and a gas collection system is required. [40 CFR 63.1958(d)(2)(ii) and LRAPA 44-150(5)(iii)]

35.e.ii. Determine the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places. [40 CFR 63.1958(d)(2)(iii) and LRAPA 44-150(5)(iii)]

35.f. The permittee must operate the system in accordance to Condition 34 such that all collected gases are vented to a control system designed and operated in compliance with Conditions 31.a.ii and 31.a.iii. In the event the collection or control system in not operating, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within one (1) hour of the collection or control system not operating. [40 CFR 60.34f(e), 40 CFR 63.1958(e)(1), 40 CFR 63.1958(e)(1)(i), and LRAPA 44-150(5)(iii)]

35.f.i. Efforts to repair the collection or control system must be initiated and completed in a manner such that downtime is kept to a minimum, and collection and control system must be returned to operation. [40 CFR 1958(e)(1)(ii) and LRAPA 44-150(5)(iii)]

35.g. The permittee must operate the control system at all times when the collected gas is routed to the system. [40 CFR 60.34f(f), 40 CFR 63.1958(f) and LRAPA 44-150(5)(iii)]

35.h. If monitoring demonstrates that the operational requirements in Conditions 35.b, 35.c, 35.d or 35.e are not met, the permittee must take corrective action as specified in Condition 39.c, 39.d, and 39.f. If corrective actions are taken as specified in 40 CFR 60.36f and 40 CFR 63.1960, the monitored exceedance is not a violation of the operational requirements in 40 CFR 60.34f and 40 CFR 63.1958. [40 CFR 60.34f(g), 40 CFR 63.1958(g) and LRAPA 44-150(5)(iii)]

36. Applicable Requirement(s): Seeking to comply with Condition 31.a.i, the permittee must 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 LRAPA and the Administrator as provided in 40 CFR 63.1981(d)(2) and (3). [40 CFR 60.40f(a), 40 CFR 63.1962(a), OAR 340-236-0500(9)(a) and LRAPA 44-150(5)(iii)]

36.a. The collection devices within the interior must be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues must 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, resistance to the refuse decomposition heat, and ability to isolate individual components or sections for repair or troubleshooting without shutting down entire collection system. [40 CFR 60.40f(a)(1), 40 CFR 63.1962(a)(1) and LRAPA 44-150(5)(iii)]

36.b. The sufficient density of gas collection devices determined in Condition 36.a must 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 60.40f(a)(2), 40 CFR 63.1962(a)(2) and LRAPA 44-150(5)(iii)]

36.c. The placement of gas collection devices determined in Condition 36.a must control all gas producing areas, except as provided by Condition 36.c.i and 36.c.ii below. [40 CFR 60.40f(a)(3), 40 CFR 63.1962(a)(2) and LRAPA 44-150(5)(iii)]

36.c.i. Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under Condition 58. The documentation must provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area, and must be provided to LRAPA and the Administrator upon request. [40 CFR 60.40f(a)(3)(i), 40 CFR 63.1962(a)(2)(i) and LRAPA 44-150(5)(iii)]

36.c.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 must be documented and provided to LRAPA and the Administrator upon request. A separate NMOC emissions estimate must be made for each section proposed for exclusion, and the sum of all such section must be compared to the NMOC emission estimate for the entire landfill. [40 CFR 60.40f(a)(3)(ii), 40 CFR 63.1962(a)(2)(ii) and LRAPA 44-150(5)(iii)]

36.c.ii.A. The NMOC emissions from each section proposed for exclusion must be computed using Equation 2: [40 CFR 60.40f(a)(3)(ii)(A), 40 CFR 63.1962(a)(2)(ii)(A) and LRAPA 44-150(5)(iii)]

Equation 2

$$Q_i = 2kL_oM_i(e^{-kt_i})(C_{NMOC})(3.6 \times 10^{-9})$$

Where:

Q_i	=	NMOC emission rate from the i^{th} section, megagram 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, megagrams.
t_i	=	Age of the solid waste in the i^{th} section, years.
C_{NMOC}	=	Concentration of NMOC, parts per million by volume.
$3.6x10^{-9}$	=	Conversion factor.

36.c.ii.B. If the permittee is proposing to exclude, or cease gas collection and control from, nonproductive physically separated (e.g., separately lined) closed areas that already have gas collection system, NMOC emission from each physically separated closed area must be computed using either Equation 1 in Condition 32 or Equation 2 in Condition 36.c.ii.A. [40 CFR 60.40f(a)(3)(ii)(B), 40 CFR 63.1962(a)(3)(ii)(B) and LRAPA 44-150(5)(iii)]

36.c.iii. The values for k and C_{NMOC} determined in field testing must be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (the

distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, L_O, and C_{NMOC} provided in 40 CFR 60.35f and 40 CFR 63.1959(a)(1) or the alternative values from 40 CFR 60.35f and 40 CFR 63.1959(a)(5) must be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in Condition 36.c.i. [40 CFR 60.40f(a)(3)(iii), 40 CFR 63.1962(a)(3)(iii) and LRAPA 44-150(5)(iii)]

37. Applicable Requirement(s): To comply with Condition 31.a.i, the permittee must construct the gas collection devices using the following equipment or procedures: [40 CFR 60.40f(b), 40 CFR 63.1962(b), OAR 340-236-0500(9)(b) and LRAPA 44-150(5)(iii)]

    37.a. The landfill gas extraction components must be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimension to: Convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system must extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors must be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations must be situated with regard to the need to prevent excessive air infiltration. [40 CFR 60.40f(b)(1), 40 CFR 63.1962(b)(1) and LRAPA 44-150(5)(iii)]

    37.b. Vertical wells must be placed so as not to endanger underlying liners and must address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors must 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 must 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 60.40f(b)(2), 40 CFR 63.1962(b)(2) and LRAPA 44-150(5)(iii)]

    37.c. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly must include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one (1) sampling port. The collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness. [40 CFR 60.40f(b)(3), 40 CFR 63.1962(b)(3) and LRAPA 44-150(5)(iii)]

38. Applicable Requirement(s): To comply with Conditions 31.a.ii and 31.a.iii, the permittee must convey the landfill gas to a control system in compliance with Conditions 31.a.ii and 31.a.iii through the collection header pipe(s). The gas mover equipment must 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 60.40f(c), 40 CFR 63.1962(c), OAR 340-236-0500(9)(c) and LRAPA 44-150(5)(iii)]

    38.a. For existing collection systems, the flow data must be used to project the maximum flow rate. If no flow data exist, the procedures in Condition 38.b must be used. [40 CFR 60.40f(c)(1), 40 CFR 63.1962(c)(1) and LRAPA 44-150(5)(iii)]

    38.b. For new collection systems, the maximum flow rate must be in accordance with Condition 39.a. [40 CFR 60.40f(c)(2), 40 CFR 63.1962(c)(2) and LRAPA 44-150(5)(iii)]

39. Monitoring Requirement(s): Except as provided in 40 CFR 60.38(d)(2) and 40 CFR 63.1981(d)(2), the permittee must use the specified methods in Conditions 39.a through 39.f to determine whether the gas collection system is in compliance with Condition 31.a.i.B. [40 CFR 60.36f(a), 40 CFR 63.1960(a), OAR 340-236-0500(11) and LRAPA 44-150(5)(iii)]

    39.a. For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with Condition 31.a.i.B.1, Equation 3 must be used. The permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by LRAPA and the Administrator. The methane generation rate constant (k) and methane generation potential (L_o) kinetic factors should be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42) or other site-specific values demonstrated to be appropriate and approved by LRAPA and the Administrator. If k has been determined as specified in 40 CFR 60.35f(a)(4) and

40 CFR 63.1959(a)(4), the value of k determined from the test must be used. A value of not more than 15 years must be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure. [40 CFR 60.36f(a)(1), 40 CFR 63.1960(a)(1) and LRAPA 44-150(5)(iii)]

39.a.i. For sites with known year-to-year solid waste acceptance rate: [40 CFR 60.36f(a)(1)(ii), 40 CFR 63.1960(a)(1)(ii) and LRAPA 44-150(5)(iii)]

Equation 3

$$Q_M = \sum_{i=1}^{n} 2kL_O M_i \left(e^{-kt_i}\right)$$

Where:

Q_M = Maximum expected gas generation flow rate, cubic meters 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, megagrams.
t_i = Age of the solid waste in the i^{th} section, years.

39.a.ii. If the collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, Equation 3 in Condition 39.a.i. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using Equation 3 in Condition 39.a.i or other methods must be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment. [40 CFR 60.36f(a)(1)(iii), 40 CFR 63.1960(a)(1)(iii) and LRAPA 44-150(5)(iii)]

39.b. For the purpose of determining sufficient density of gas collectors for compliance with Condition 31.a.i.B.2, the permittee must design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to LRAPA and the Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards. [40 CFR 60.36f(a)(2), 40 CFR 63.1960(a)(2) and LRAPA 44-150(5)(iii)]

39.c. For the purposes of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with Condition 31.a.i.B.3, the permittee must measure gauge pressure in the gas collection header applied to each individual well monthly. If a positive pressure exists, action must be initiated to correct the exceedance within 5 calendar days, except for the three (3) conditions allowed under Condition 35.b. Any attempted corrective measure must not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to LRAPA and the Administrator for approval. [40 CFR 60.36f(a)(3), 40 CFR 63.1960(a)(3), 40 CFR 63.1960(a)(3)(i), OAR 340-236-0500(8) and LRAPA 44-150(5)(iii)]

39.c.i. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement of positive pressure, the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but not later than 60 days after positive pressure was first measured. The permittee must keep records according to Condition 59.c. [40 CFR 60.36f(a)(3)(i), 40 CFR 63.1960(a)(3)(i)(A) and LRAPA 44-150(5)(iii)]

39.c.ii. If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement or elevated temperature measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit) or positive pressure. The permittee must submit the items listed in Condition 67.g as part of the next annual and semi-annual report. The permittee must keep records according to Condition 59.d. [40 CFR

60.36f(a)(3)(ii), 40 CFR 63.1960(a)(3)(i)(B) and LRAPA 44-150(5)(iii)]

39.c.iii. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to LRAPA and the Administrator, according to Conditions 67.g, 70, and 71. The permittee must keep records according to Condition 59.e. [40 CFR 60.36f(a)(3)(iii), 40 CFR 63.1960(a)(3)(i)(C) and LRAPA 44-150(5)(iii)]

39.d. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee must monitor each well monthly for temperature as provided in Condition 35.c. If a well exceeds the operating parameter for temperature, action must be initiated to correct the exceedance within 5 calendar days. Any attempted corrective measure must not cause exceedances of other operational or performance standards. [40 CFR 60.36f(a)(5) and OAR 340-236-0500(8)]

39.d.i. If a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit) cannot be achieved within 15 calendar days of the first measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit), the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit) was first measured. The permittee must keep records according to Condition 59.c. [40 CFR 60.36f(a)(5)(i)]

39.d.ii. If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 55 degrees Celsius (131 degrees Fahrenheit). The permittee must submit the items listed in Conditions 67.g as part of the next annual report. The permittee must keep records according to Condition 59.d. [40 CFR 60.36f(a)(5)(ii)]

39.d.iii. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to LRAPA , according to Condition 67 and 70. The permittee must keep records according to Condition 59.e. [40 CFR 60.36f(a)(5)(iii)]

39.e. Where a permittee subject to 40 CFR part 63, subpart AAAA seeks to demonstrate compliance with the temperature and nitrogen and oxygen operational standards in Condition 35.d, for the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee must follow the procedures as specified in 40 CFR 60.755(a)(5), except in Conditions 39.e.i: [40 CFR 63.1960(a)(4) and LRAPA 44-150(5)(iii)]

39.e.i. Once a permittee subject to 40 CFR part 63, subpart AAAA seeks to demonstrate compliance with the operational standard for temperature in Condition 35.d.i, the permittee must monitor each well monthly for temperature. If a well exceeds the operating parameter for temperature as provided in Condition 35.d.i, action must be initiated to correct the exceedance within 5 days. Any attempt corrective measure must not cause exceedances of other operational or performance standards. [40 CFR 63.1960(a)(4)(i) and LRAPA 44-150(5)(iii)]

39.e.i.A. If a landfill gas temperature less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit) cannot be achieved within 15 days of the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit), the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) was first measured. The permittee must keep records according to Conditions 59.c. [40 CFR 63.1960(a)(4)(i)(A) and LRAPA 44-150(5)(iii)]

39.e.i.B. If corrective actions cannot be fully implemented within 60 days following the temperature measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as

practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit). The permittee must submit the items listed in Conditions 67.g as part of the next semi-annual report. The permittee must keep records according to Condition 59.d. [40 CFR 63.1960(a)(4)(i)(B) and LRAPA 44-150(5)(iii)]

39.e.i.C. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to LRAPA and the Administrator, according to Conditions 67.g and 71. The permittee must keep records according to Condition 59.e. [40 CFR 63.1960(a)(4)(i)(C) and LRAPA 44-150(5)(iii)]

39.e.i.D. If a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured, according to the procedures in Condition 45.e.vi is greater than or equal to 1,000 ppmv the corrective action(s) for the wellhead temperature standard (62.8 degrees Celsius or 145 degrees Fahrenheit) must be completed within 15 days. [40 CFR 63.1960(a)(4)(i)(D) and LRAPA 44-150(5)(iii)]

39.f. The permittee seeking to demonstrate compliance with Condition 31.a.i.B.4 through the use of a collection system not conforming to the specifications provided in 40 CFR 60.40f and 40 CFR 63.1962 must provide information satisfactory to LRAPA and the Administrator as specified in 40 CFR 60.38f(d)(3) and 40 CFR 63.1981(d)(3) demonstrating that off-site migration is being controlled. [40 CFR 60.36f(a)(6), 40 CFR 63.1960(a)(5) and LRAPA 44-150(5)(iii)]

40. Monitoring Requirement(s): For purposes of compliance with Condition 35.a, the permittee of a controlled landfill must place each well or design component as specified in the approved design plan as provided in 40 CFR 60.38f(d) and 40 CFR 63.1981(d). Each well must be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of: [40 CFR 60.36f(b), 40 CFR 63.1960(b), OAR 340-236-0500(11) and LRAPA 44-150(5)(iii)]

40.a. Five (5) years or more if active; [40 CFR 60.36f(b)(1), 40 CFR 63.1960(b)(1) and LRAPA 44-150(5)(iii)] or

40.b. Two (2) years or more if closed or at final grade. [40 CFR 60.36f(b)(2), 40 CFR 63.1960(b)(2) and LRAPA 44-150(5)(iii)]

41. Monitoring Requirement(s): The permittee must follow the procedures used for compliance with the surface methane operational standard as provided in Condition 35.e. [40 CFR 60.36f(c), 40 CFR 63.1960(c), OAR 340-239-0500(8) and LRAPA 44-150(5)(iii)]

41.a. After installation and startup of the gas collection system, the permittee must monitor surface concentrations of methane along the entire perimeter of the collection area and along the pattern that traverses the landfill at no more than 30-meter intervals (or a site-specific established spacing) 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 Condition 42. [40 CFR 60.36f(c)(1), 40 CFR 63.1960(c)(1), and LRAPA 44-150(5)(iii)]

41.b. The background concentration must be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. [40 CFR 60.36f(c)(2), 40 CFR 63.1960(c)(2), and LRAPA 44-150(5)(iii)]

41.c. Surface emission monitoring must be performed in accordance with section 8.3.1 of Method 21 of appendix A-7 of 40 CFR part 60, except that the probe inlet must be placed within 5 to 10 centimeters of the ground. Monitoring must be performed during typical meteorological conditions. [40 CFR 60.36f(c)(3), 40 CFR 63.1960(c)(3) and LRAPA 44-150(5)(iii)]

41.d. Any reading of 500 parts per million or more above background at any location must be recorded as a monitored exceedance and the actions specified in Condition 41.d.i through 41.d.v must be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of Condition 35.e. [40 CFR 60.36f(c)(4), 40 CFR 63.1960(c)(4) and LRAPA 44-150(5)(iii)]

41.d.i. The location of each monitored exceedance must be marked and the location and

concentration recorded. For location, the permittee must determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five (5) decimal places. [40 CFR 60.36f(c)(4)(i), 40 CFR 63.1960(c)(4)(i) and LRAPA 44-150(5)(iii)]

41.d.ii. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance must be made and the location must be re-monitored within 10 calendar days of detecting the exceedance. [40 CFR 60.36f(c)(4)(ii), 40 CFR 63.1960(c)(4)(ii) and LRAPA 44-150(5)(iii)]

41.d.iii. If the re-monitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be monitored again within 10 days of the second exceedance. If the re-monitoring shows the third exceedance for the same location, the action specified in Condition 41.d.v must be taken, and no further monitoring of that location is required until the action specified in Condition 41.d.v has been taken. [40 CFR 60.36f(c)(4)(iii), 40 CFR 63.1960(c)(4)(iii), and LRAPA 44-150(5)(iii)]

41.d.iv. Any location that initially showed an exceedance but has a methane concentration less than 500 parts per million methane above background at the 10-day re-monitoring specified in Conditions 41.d.ii or 41.d.iii must be re-monitored 1 month form the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million above background, 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 Conditions 41.d.iii or 41.d.v must be taken. [40 CFR 60.36f(c)(4)(iv), 40 CFR 63.1960(c)(4)(iv) and LRAPA 44-150(5)(iii)]

41.d.v. For any location where monitored methane concentration equals or exceeds 500 parts per million above background three (3) times within a quarterly period, a new well or other collection device must be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to LRAPA and the Administrator for approval. [40 CFR 60.36f(c)(4)(v), 40 CFR 63.1960(c)(4)(v) and LRAPA 44-150(5)(iii)]

41.e. The permittee must implement a program to monitor for cover integrity and implement cover repair as necessary on a monthly basis. [40 CFR 60.36f(c)(5), 40 CFR 63.1960(c)(5) and LRAPA 44-150(5)(iii)]

42. Monitoring Requirement(s): The permittee seeking to comply with the provisions in Condition 41 must comply with the following instrumentation specifications and procedures for surface emission monitoring devices: [40 CFR 60.36f(d), 40 CFR 63.1960(d), OAR 340-236-0500(11) and LRAPA 44-150(5)(iii)]

42.a. The portable analyzer must meet the instrument specifications provided in section 6 of Method 21 of appendix A of 40 CFR part 60, except that "methane" replaces all references to "VOC". [40 CFR 60.36f(d)(1), 40 CFR 63.1960(d)(1) and LRAPA 44-150(5)(iii)]

42.b. The calibration gas must be methane, dilute to a nominal concentration of 500 parts per million in air. [40 CFR 60.36f(d)(2), 40 CFR 63.1960(d)(2) and LRAPA 44-150(5)(iii)]

42.c. To meet the performance evaluation requirements in section 8.1 of Method 21 of appendix A of 40 CFR part 60, the instrument evaluation procedures of section 8.1 of Method 21 must be used. [40 CFR 60.36f(d)(3), 40 CFR 63.1960(d)(3) and LRAPA 44-150(5)(iii)]

42.d. The calibration procedures provided in section 8 and 10 of Method 21 of appendix A of 40 CFR part 60 must be followed immediately before commencing a surface monitoring survey. [40 CFR 60.36f(d)(4), 40 CFR 63.1960(d)(4) and LRAPA 44-150(5)(iii)]

43. Monitoring Requirement(s): The provisions of 40 CFR part 60, subpart Cf and 40 CFR part 63, subpart AAAA apply at all times, including periods of startup, shutdown, or malfunction (SSM). During periods of startup, shutdown, and malfunction (SSM), the permittee must comply with the work practice specified in Condition 35.f in lieu of the compliance provisions in 40 CFR 60.36f and 40 CFR 63.1960. [40 CFR 60.36f(e), 40 CFR 63.1960(e)(2), OAR 340-236-0500(11) and LRAPA 44-150(5)(iii)]

44. Monitoring Requirement(s): Compliance is determined using performance testing, collection system monitoring, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter

monitoring data collected under Condition 46.a are used to demonstrate compliance with the operating standards for control systems. If a deviation occurs, the permittee has failed to meet the control device operating standards described in 40 CFR part 63 subpart AAAA and have deviated from the requirements of 40 CFR part 63 subpart AAAA. [40 CFR 63.1964 and LRAPA 44-150(5)(iii)]

44.a. The SSM provisions of 40 CFR 63.6(e) of 40 CFR part 63, subpart A no longer apply to 40 CFR part 63 subpart AAAA and the SSM plan developed under 40 CFR 63.1964(a) no longer applies. Compliance with the emissions standards and the operating standards of 40 CFR 63.1958 is required at all times. [40 CFR 63.1964(b) and LRAPA 44-150(5)(iii)]

45. Monitoring Requirement(s): The permittee seeking to comply with Condition 31.a.i.B for an active gas collection system must install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and: [40 CFR 60.37f(a), 40 CFR 63.1961(a), OAR 340-236-0500(12) and LRAPA 44-150(5)(iii)]

45.a. Measure the gauge pressure in the gas collection header on a monthly basis as provided in Condition 39.c; and [40 CFR 60.37f(a)(1), 40 CFR 63.1961(a)(1), and LRAPA 44-150(5)(iii)]

45.b. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as follows: [40 CFR 60.37f(a)(2), 40 CFR 63.1961(a)(2) and LRAPA 44-150(5)(iii)]

45.b.i. The nitrogen level must be determined using Method 3C of appendix A-2 to 40 CFR 60, unless an alternative test method is established as allowed by 40 CFR 60.38f(d)(2) and 40 CFR 63.1981(d)(2). [40 CFR 60.37f(a)(2)(i), 40 CFR 63.1961(a)(2)(i) and LRAPA 44-150(5)(iii)]

45.b.ii. Unless an alternative test method is established as allowed by 40 CFR 60.38(d)(2) and 40 CFR 63.1981(d)(2), the oxygen level must be determined by an oxygen meter using Method 3A and 3C of appendix A-2 to 40 CFR part 60, or ASTM D6522-11 (incorporated by reference, see 40 CFR 60.17 and 40 CFR 63.14). Determine the oxygen level by an oxygen meter using Method 3A, and 3C of appendix A-2 to 40 CFR part 60, or ASTM D6522-11 (if sample location is prior to combustion) except that: [40 CFR 60.37f(a)(2)(ii), 40 CFR 63.1961(a)(2)(ii) and LRAPA 44-150(5)(iii)]

45.b.ii.A. The span must be set between 10 and 12 percent oxygen; [40 CFR 60.37f(a)(2)(ii)(A), 40 CFR 63.1961(a)(2)(ii)(A) and LRAPA 44-150(5)(iii)]

45.b.ii.B. A data recorder is not required; [40 CFR 60.37f(a)(2)(ii)(B), 40 CFR 63.1961(a)(2)(ii)(B) and LRAPA 44-150(5)(iii)]

45.b.ii.C. Only two (2) calibration gases are required, a zero and span; [40 CFR 60.37f(a)(2)(ii)(C), 40 CFR 63.1961(a)(2)(ii)(C), and LRAPA 44-150(5)(iii)]

45.b.ii.D. A calibration error check is not required; and [40 CFR 60.37f(a)(2)(ii)(D), 40 CFR 63.1961(a)(2)(ii)(D) and LRAPA 44-150(5)(iii)]

45.b.ii.E. The allowable sample bias, zero drift, and calibration drift are ±10 percent. [40 CFR 60.37f(a)(2)(ii)(E), 40 CFR 63.1961(a)(2)(ii)(E) and LRAPA 44-150(5)(iii)]

45.b.iii. A portable gas composition analyzer may be used to monitor the oxygen levels provided: [40 CFR 60.37f(a)(2)(iii), 40 CFR 63.1961(a)(2)(iii) and LRAPA 44-150(5)(iii)]

45.b.iii.A. The analyzer is calibrated; and [40 CFR 60.37f(a)(2)(iii)(A), 40 CFR 63.1961(a)(2)(iii)(A) and LRAPA 44-150(5)(iii)]

45.b.iii.B. The analyzer meets all quality assurance and quality control requirements for Method 3A of appendix A-2 to 40 CFR part 60 or ASTM D6522-11 (incorporated by reference, see 40 CFR 60.17 and 40 CFR 63.14). [40 CFR 60.37f(a)(2)(iii)(B), 40 CFR 63.1961(a)(2)(iii)(B) and LRAPA 44-150(5)(iii)]

45.c. To demonstrate compliance with the temperature and nitrogen or oxygen operational standards in Condition 35.d, the permittee must follow the procedures as specified in 40 CFR 60.756(a)(2) and (3). Monitor temperature of the landfill gas on a monthly basis as provided in Condition 39.d. The temperature measuring device must be calibrated annually using the procedure 40 CFR part 60, appendix A-1, Method 2, Section 10.3. [40 CFR 60.37f(a)(3), 40 CFR 63.1961(a)(3) and LRAPA 44-150(5)(iii)]

45.d. The permittee must demonstrate compliance with the operational standards for temperature in Condition 35.d.i, monitor temperature of the landfill gas on a monthly basis as provided in Condition 39.e. The temperature measuring device must be calibrated annually using the procedure in Section 10.3 of EPA Method 2 of appendix A-1 to 40 CFR part 60. Keep records specified in Condition 59. [40 CFR 63.1961(a)(4) and LRAPA 44-150(5)(iii)]

45.e. To demonstrate compliance with the operational standards for temperature in Condition 35.d.i, unless a higher operating temperature value has been approved by LRAPA and the Administrator under 40 CFR part 63, subpart AAAA, 40 CFR part 60, subpart WWW, or a federal plan or EPA-approved and effective state plan that implements either 40 CFR part 60, subpart Cc or 40 CFR part 60, subpart Cf, the permittee must initiate enhanced monitoring at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as follows in Condition 45.e.i through 45.e.ix: [40 CFR 63.1961(a)(5) and LRAPA 44-150(5)(iii)]

45.e.i. Visual observations for subsurface oxidation events (smoke, smoldering ash, damage to well) within the radius of influence of the well. [40 CFR 63.1961(a)(5)(i) and LRAPA 44-150(5)(iii)]

45.e.ii. Monitor oxygen concentration as provided in Condition 45.b. [40 CFR 63.1961(a)(5)(ii) and LRAPA 44-150(5)(iii)]

45.e.iii. Monitor temperature of the landfill gas at the wellhead as provided in Condition 45.d . [40 CFR 63.1961(a)(5)(iii) and LRAPA 44-150(5)(iii)]

45.e.iv. Monitor temperature of the landfill gas every 10 vertical feet of the well as provided in Condition 45.f. [40 CFR 63.1961(a)(5)(iv) and LRAPA 44-150(5)(iii)]

45.e.v. Monitor the methane concentration with a methane meter using EPA Method 3C of appendix A-6 to 40 CFR part 60, EPA Method 18 of appendix A-6 to 40 CFR part 60, or a portable gas composition analyzer to monitor the methane levels provided that the analyzer is calibrated and the analyzer meets all quality assurance and quality control requirements for EPA Method 3C or EPA Method 18. [40 CFR 63.1961(a)(5)(v) and LRAPA 44-150(5)(iii)]

45.e.vi. Monitor carbon monoxide (CO) concentrations, in the following Conditions 45.e.vi.A through 45.e.vi.D: [40 CFR 63.1961(a)(5)(vi) and LRAPA 44-150(5)(iii)]

45.e.vi.A. Collect the sample from the wellhead sampling port in a passivated canister or multi-layer foil gas sampling bag (such as the Cali-5-Bond Bag) and analyze that sample using EPA Method 10 of appendix A-4 to 40 CFR part 60, or an equivalent method with a detection limit of at least 100 ppmv of carbon monoxide (CO) in high concentrations of methane; and [40 CFR 63.1961(a)(5)(vi)(A) and LRAPA 44-150(5)(iii)]

45.e.vi.B. Collect and analyze the sample from the wellhead using EPA Method 10 of appendix A-4 to 40 CFR part 60 to measure carbon monoxide concentrations. [40 CFR 63.1961(a)(5)(vi)(B) and LRAPA 44-150(5)(iii)]

45.e.vi.C. When sampling directly from the wellhead, the permittee must sample for 5 minutes plus twice the response time of the analyzer. These values must be recorded. The five (5) 1-minute average are then averaged to give the permittee the carbon monoxide reading at the wellhead. [40 CFR 63.1961(a)(5)(vi)(c) and LRAPA 44-150(5)(iii)]

45.e.vi.D. When collecting samples in a passivated canister of multi-layer foil sampling bag, the permittee must sample for the period of time needed to assure that enough sample is collected to provide five (5) consecutive, 1-minute samples during the analysis of the canister or bag contents, but no less than 5 minutes plus twice the response time of the analyzer. The five (5) consecutive, 1-minute averages are then averaged together to give the permittee a carbon monoxide value from the wellhead. [40 CFR 63.1961(a)(5)(vi)(D) and LRAPA 44-150(5)(iii)]

45.e.vii. The enhanced monitoring Condition 45.e must begin seven (7) days after the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees

Fahrenheit); and [40 CFR 63.1961(a)(5)(vii) and LRAPA 44-150(5)(iii)]

45.e.viii. The enhanced monitoring in Condition 45.e must be conducted on a weekly basis. If four (4) consecutive weekly carbon monoxide (CO) readings are under 100 ppmv, then enhanced monitoring may be decreased to monthly. However, if carbon monoxide (CO) readings exceed 100 ppmv again, the landfill must return to weekly monitoring. [40 CFR 63.1961(a)(5)(viii) and LRAPA 44-150(5)(iii)]

45.e.ix. The enhanced monitoring in Condition 45.e can be stopped once a higher operating value is approved, at which time the monitoring provision issued with the higher operating value should be followed, or once the measurement of landfill gas temperature at the wellhead is less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit). [40 CFR 63.1961(a)(5)(ix) and LRAPA 44-150(5)(iii)]

45.f. For each wellhead with a measurement of landfill gas temperature greater than or equal to 73.9 degrees Celsius (165 degrees Fahrenheit), annually monitor temperature of the landfill gas every 10 vertical feet of the well. This temperature can be monitored either with a removable thermometer or using temporary or permanent thermocouples installed in the well. [40 CFR 63.1961(a)(6) and LRAPA 44-150(5)(iii)]

46. Monitoring Requirement(s): Each permittee seeking to comply with Condition 31.a.ii and 31.a.iii using an enclosed combustor must calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment in the Conditions 46.a and 46.b below. [40 CFR 60.37f(b), 40 CFR 63.1961(b), OAR 340-236-0500(12) and LRAPA 44-150(5)(iii)]

46.a. A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 degrees Celsius, whichever is greater. [40 CFR 60.37f(b)(1), 40 CFR 63.1961(b)(1) and LRAPA 44-150(5)(iii)]

46.b. A device that records flow to or bypass of the control device (if applicable). The permittee must: [40 CFR 60.37f(b)(2), 40 CFR 63.1961(b)(2) and LRAPA 44-150(5)(iii)]

46.b.i. Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the control device at least every 15 minutes; or [40 CFR 60.37f(b)(2)(i), 40 CFR 63.1961(b)(2)(i) and LRAPA 44-150(5)(iii)]

46.b.ii. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line. [40 CFR 60.37f(b)(2)(ii), 40 CFR 63.1961(b)(2)(ii) and LRAPA 44-150(5)(iii)]

47. Monitoring Requirement(s): The monitoring requirements of Conditions 45 and 46 apply at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. The permittee is required to complete monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable. Where a permittee subject 40 CFR part 63, subpart AAAA seeks to demonstrate compliance with the temperature and nitrogen or oxygen operational standards in Conditions 35.d.i, 35.e and 35.f, the standards apply at all times. [40 CFR 60.37f(h), 40 CFR 63.1961(h), OAR 340-236-0500(12) and LRAPA 44-150(5)(iii)]

48. Monitoring Requirement(s): The permittee seeking to demonstrate compliance with the 500 ppm surface methane operational standards in Condition 35.e must monitor surface concentrations of methane according to the procedures in Condition 41 and the instrument specifications in Condition 42. If the permittee is complying with the 500 ppm surface methane operational standard in Condition 35.e, for location, the permittee must determine the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters and the coordinates must be in decimal degrees with at least five (5) decimal places. In the semi-annual report in Condition 67, the permittee must report the location of each exceedance of the 500 ppm methane concentration as provided in Condition 35.e and the concentration recorded at each location for which an exceedance was recorded in the previous month. Any closed landfill that has no monitored exceedances of

the operational standard in three (3) 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 60.37f(f), 40 CFR 63.1961(f), OAR 340-236-0500(12) and LRAPA 44-150(5)(iii)]

49. Monitoring Requirement(s): The permittee must calculate 3-hour block averages according to Condition 54.b.i and Condition 55.a.i and the data collected during the events listed in Conditions 49.a through 49.d are included in any average computed under 40 CFR part 63, subpart AAAA. [40 CFR 63.1975 and LRAPA 44-150(5)(iii)]

49.a. Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments. [40 CFR 63.1975(a) and LRAPA 44-150(5)(iii)]

49.b. Startups. [40 CFR 63.1975(b) and LRAPA 44-150(5)(iii)]

49.c. Shutdowns. [40 CFR 63.1975(c) and LRAPA 44-150(5)(iii)]

49.d. Malfunctions. [40 CFR 63.1975(d) and LRAPA 44-150(5)(iii)]

50. Monitoring Requirement(s): Deviations: For the purposes of landfill monitoring and startup, shutdown, and malfunction (SSM) requirements the permittee must include the items in Conditions 50.a and 50.b: [40 CFR 63.1965 and LRAPA 44-150(5)(iii)]

50.a. A deviation occurs when the control device operating parameter boundaries described in Condition 55.a are exceeded. [40 CFR 63.1965(a) and LRAPA 44-150(5)(iii)]

50.b. A deviation occurs when one (1) hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three (3) 15-minute monitoring periods within the hour. [40 CFR 63.1965(b) and LRAPA 44-150(5)(iii)]

51. Testing Requirement(s): For the performance test requirement in Condition 31.a.iii.A the permittee must use EPA Method 25 or 25C (EPA Method 25C of appendix A-1 to 40 CFR part 60 may be used at the inlet only) to determine compliance with the 98 weight-percent efficiency or the 20 parts per million by volume outlet NMOC concentration level, unless another method to demonstrate compliance has been approved by LRAPA and the Administrator as provided by 40 CFR 40 CFR 60.38f(d)(2) and 40 CFR 63.1981(d)(2). EPA Method 3, 3A, or 3C of appendix A-7 to 40 CFR part 60 must be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), EPA Method 25A should be used in place of EPA Method 25. EPA Method 18 may be used in conjunction with EPA Method 25A on a limited basis (compound specific, *e.g.*, methane) or EPA Method 3C may be used to determine methane. The methane as carbon should be subtracted from the EPA Method 25A total hydrocarbon value as carbon to give NMOC concentration as carbon. The permittee must divide the NMOC concentration as carbon by 6 to convert the C_{NMOC} as carbon to C_{NMOC} as hexane. Equation 4 must be used to calculate efficiency: [40 CFR 60.35f(e), 40 CFR 63.1959(d), OAR 340-236-0500(10), and LRAPA 44-150(5)(iii) and ACDP 06/15/22 Condition 21]

Equation 4

$$Control\ Efficiency = {}^{(NMOC_{in} - NMOC_{out})}/_{NMOC_{in}}$$

Where:

$NMOC_{in}$ = mass of NMOC entering control device

$NMOC_{out}$ = mass of NMOC exiting control device

51.a. Within 60 days after the date of completing each performance test (as defined in 40 CFR 60.8), the permittee must submit the results of the performance tests, including any associated fuel analysis, according to Condition 69.a. [40 CFR 60.35f(e)(1) and ACDP 06/15/22 Condition 29.a]

52. Testing Requirement(s): The performance test required in Condition 31.a.iii.A, must be conducted under such conditions as LRAPA and the Administrator specifies to the permittee based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown unless specified by LRAPA and the Administrator. The permittee must not conduct performance tests during periods of malfunction. The permittee must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the permittee must make available to the Administrator and LRAPA such records as may be necessary to determine the conditions of performance test. [40 CFR

63.1959(f), LRAPA 44-150(5)(iii) and ACDP 06/15/22 Condition 22]

53. Recordkeeping Requirement(s): Except as provided in 40 CFR 60.38f(d)(2) and 40 CFR 63.1981(d)(2), the permittee subject to Condition 31.a.i and 31.a.iii must keep for at least 5 year up-to-date, readily accessible, on-site records of the design capacity report that triggered Condition 31, 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 60.39f(a), 40 CFR 63.1983(a), OAR 340-236-0500(16) and LRAPA 44-150(5)(iii)]

54. Recordkeeping Requirement(s): Except as provided in 40 CFR 60.38f(d)(2) and 40 CFR 63.1981(d)(2), the permittee of a controlled landfill must keep up-to-date, readily accessible records for the life of the control system equipment of the date listed in Condition 54.a and 54.b as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of five (5) years. Records of the control device vendor specification must be maintained until removal. [40 CFR 60.39f(b), 40 CFR 63.1983(b), OAR 340-236-0500(16) and LRAPA 44-150(5)(iii)]

54.a. Where the permittee subject to the provisions of 40 CFR part 60 subpart Cf and 40 CFR part 63 subpart AAAA seeks to demonstrate compliance with Condition 31.a.i: [40 CFR 60.39f(b)(1), 40 CFR 63.1983(b)(1) and LRAPA 44-150(5)(iii)]

54.a.i. The maximum expected gas generation flow rate as calculated in Condition 39.a. The permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by LRAPA. [40 CFR 39f(b)(1)(i), 40 CFR 63.1983(b)(1)(i) and LRAPA 44-150(5)(iii)]

54.a.ii. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in Condition 36.a and 36.b. [40 CFR 39f(b)(1)(ii), 40 CFR 63.1983(b)(1)(ii) and LRAPA 44-150(5)(iii)]

54.b. Where the permittee seeks to demonstrate compliance with Condition 31.a.ii and 31.a.iii through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts: [40 CFR 60.39f(b)(2), 40 CFR 63.1983(b)(2), LRAPA 44-150(5)(iii) and ACDP 06/15/22 Condition 24.a]

54.b.i. The average temperature measured at least every 15 minutes and averaged over the same time period of the performance test. [40 CFR 60.39f(b)(2)(i), 40 CFR 63.1983(b)(2)(i), LRAPA 44-150(5)(iii) and ACDP 06/15/22 Condition 24.a.i]

54.b.ii. The percent reduction of NMOC determined as specified in Condition 31.a.iii.A achieved by the control device. [40 CFR 60.39f(b)(2)(ii), 40 CFR 63.1983(b)(2)(ii), LRAPA 44-150(5)(iii) and ACDP 06/15/22Condition 24.a.ii]

55. Recordkeeping Requirement(s): Except as provided in 40 CFR 60.38f(d)(2) and 40 CFR 63.1981(d)(2), the permittee of a controlled landfill subject the 40 CFR part 60, subpart Cf and 40 CFR part 63, subpart AAAA must keep for five (5) years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in 40 CFR 60.37f and 40 CFR 63.1961 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. [40 CFR 60.39f(c), 40 CFR 63.1983(c), OAR 340-236-0500(16) and LRAPA 44-150(5)(iii)]

55.a. The following constitute exceedances that must be recorded and report under 40 CFR 60.38f and Condition 67: [40 CFR 60.39f(c)(1), 40 CFR 63.1983(c)(1) and LRAPA 44-150(5)(iii)

55.a.i. For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-hour periods of operation during which the average temperature was more than 28 degrees Celsius (°C) (82 degrees Fahrenheit (°F)) below the average combustion temperature during the most recent performance test at which compliance with Condition 31.a.ii and 31.a.iii was determined. [40 CFR 60.39f(c)(1)(i), 40 CFR 63.1983(c)(1)(i) and LRAPA 44-150(5)(iii)]

55.b. The permittee must keep up-to-date, readily accessible continuous records of the indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under Condition 46.b.ii. [40 CFR 60.39(c)(2), 40 CFR 63.1983(c)(2) and LRAPA 44-150(5)(iii)]

55.c. The permittee complying with Conditions 31.a using an active collection system designed in accordance with Condition 31.a.i must keep records of periods when the collection system or control device is not operating. [40 CFR 60.39f(c)(5), 40 CFR 63.1983(c)(5) and LRAPA 44-150(5)(iii)]

56. Recordkeeping Requirement(s): Where the permittee is complying with the operational standard in Condition 35.f, the permittee must record the date, time, and duration of each startup and/or shutdown periods, and record the periods when the affected source was subject to the standard applicable to startup and shutdown. [40 CFR 63.1983(c)(6) and LRAPA 44-150(5)(iii)]

57. Recordkeeping Requirement(s): The permittee must demonstrate compliance with the operational standard in Condition 35.f, in the event that an affected unit fails to meet an applicable standard, record the information in Conditions 57.a through 57.c: [40 CFR 63.1983(c)(7) and LRAPA 44-150(5)(iii)]

57.a. For each failure record the date, time and duration of each failure and the cause of such events (including unknown cause, if applicable). [40 CFR 63.1983(c)(7)(i) and LRAPA 44-150(5)(iii)]

57.b. For each failure to meet an applicable standard; record and retain a list of the affected sources or equipment. [40 CFR 63.1983(c)(7)(ii) and LRAPA 44-150(5)(iii)]

57.c. Record actions taken to minimize emissions in accordance with the general duty of Condition 34 and any corrective actions taken to return the affected unit to normal or usual manner of operation. [40 CFR 63.1983(c)(7)(iii) and LRAPA 44-150(5)(iii)]

58. Recordkeeping Requirement(s): Except as provided in 40 CFR 60.38f(d)(2) and 40 CFR 63.1981(d)(2), the permittee must keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label on each collector that matches the labeling on the plot map. [40 CFR 60.39f(d), 40 CFR 63.1983(d), OAR 340-236-0500(16) and LRAPA 44-150(5)(iii)]

58.a. The permittee must keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under 40 CFR 60.36f(b) and 40 CFR 63.1960(b). [40 CFR 60.39f(d)(1), 40 CFR 63.1983(d)(1), and LRAPA 44-150(5)(iii)]

58.b. The permittee must keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in Condition 36.c.i as well as any nonproductive areas excluded from collection as provided in Condition 36.c.ii. [40 CFR 60.39f(d)(2), 40 CFR 63.1983(d)(2), and LRAPA 44-150(5)(iii)]

59. Recordkeeping Requirement(s): Except as provided in 40 CFR 60.38f(d)(2) and 40 CFR 63.1981(d)(2), the permittee must keep for at least five (5) years up-to-date, readily accessible records of the items in Conditions 59.a through 59.e. Each permittee that chooses to comply with the provisions in 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961 as allowed in 40 CFR 60.34f, 40 CFR 60.36f and 40 CFR 60.37f must keep records in Condition 59.f and must keep records according to Conditions 59.a through 59.e in lieu of 40 CFR 60.39f(e)(1) through (5). [40 CFR 60.39f(e), 40 CFR 63.1983(e), OAR 340-236-0500(16) and LRAPA 44-150(5)(iii)]

59.a. All collection and control system exceedances of the operational standards in 40 CFR 60.34f and 40 CFR 63.1959, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. [40 CFR 60.39f(e)(1), 40 CFR 63.1983(e)(1) and LRAPA 44-150(5)(iii)]

59.b. The permittee must keep records of each wellhead temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above, each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above five (5) percent, except: [40 CFR 60.39f(e)(2), 40 CFR 63.1958(e)(2) and LRAPA 44-150(5)(iii)]

59.b.i. When the permittee subject to the provisions of 40 CFR part 63 subpart AAAA seeks to demonstrate compliance with the compliance provisions for wellhead temperature in Condition 35.d.i, but no later than September 27, 2021, the records of each wellhead temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above instead of values greater than 55 degrees Celsius (131 degrees Fahrenheit). [40 CFR 63.1958(e)(2)(i) and LRAPA 44-150(5)(iii)]

59.b.ii. The permittee required to conduct the enhanced monitoring provisions in Condition 45.e, must also keep records of all enhanced monitoring activities. [40 CFR 63.1958(e)(2)(ii) and LRAPA 44-150(5)(iii)]

59.b.iii. The permittee required to submit the ***24-hour high temperature report*** in Condition 72, must also keep a record of the email transmission. [40 CFR 63.1958(e)(2)(iii) and LRAPA 44-150(5)(iii)]

59.c. For any root cause analysis for which corrective actions are required in either Conditions 39.c or 39.d or Conditions 39.c.i or 39.e.i.A, keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed. [40 CFR 60.39f(e)(3), 40 CFR 63.1983(e)(3), and LRAPA 44-150(5)(iii)]

59.d. For any root cause analysis for which corrective actions are required in Conditions 39.c.ii and 39.d.ii or 39.e.i.B, keep a record of the root cause analysis conducted, the corrective action analysis, the date for the corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates. [40 CFR 60.39f(e)(4), 40 CFR 63.1983(e)(4), and LRAPA 44-150(5)(iii)]

59.e. For any root cause analysis for which corrective actions are required in Condition 39.c.iii or 39.d.iii and 39.c.iii or 39.e.i.C, keep record of the root cause analysis conducted, the corrective action analysis the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from LRAPA or the Administrator. [40 CFR 60.39f(e)(5), 40 CFR 63.1983(e)(5) and LRAPA 44-150(5)(iii)]

59.f. The permittee that chooses to comply with 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.01961, as allowed in 40 CFR 60.34f, 40 CFR 60.36f and 40 CFR 60.37f, must keep records of which the permittee started complying with the provisions in 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961. [40 CFR 60.39f(e)(6) and OAR 340-236-0500(16)]

60. Recordkeeping Requirement(s): Except as provided in 40 CFR 60.38f(d)(2) and 40 CFR 63.1981(d)(2), the permittee must keep for at least five (5) years up-to-day, readily accessible records of all collection and control system monitoring data for parameters measured in Conditions 45.a through 45.f. [40 CFR 60.39f(h), 40 CFR 63.1983(g), OAR 340-236-0500(16) and LRAPA 44-150(5)(iii)]

61. Recordkeeping Requirement(s): The permittee demonstrating compliance with the operational standards for temperature in Condition 35.d.i, must keep the following records in Conditions 61.a and 61.b. [40 CFR 63.1983(h) and LRAPA 44-150(5)(iii)]

61.a. Records of the landfill gas temperature on a monthly basis as monitored in Condition 39.e. [40 CFR 63.1983(h)(1), and LRAPA 44-150(5)(iii)]

61.b. Records of enhanced monitoring data at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as gathered in Conditions 45.e and 45.f. [40 CFR 63.1983(h)(2) and LRAPA 44-150(5)(iii)]

61.b.i. Any records required to be maintained by 40 CFR part 63 subpart AAAA that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data and reports available upon request to LRAPA or the EPA as part of an on-site compliance evaluation. [40 CFR 63.1983(h)(2)(i) and LRAPA 44-150(5)(iii)]

62. Recordkeeping Requirement: The permittee seeking to demonstrate that site-specific surface methane emissions are below 500 parts per million by conducting surface emission monitoring using the Tier 4 procedures specified in 40 CFR 60.35f(a)(6) must keep for at least five (5) years up-to-date, readily accessible records of all surface emissions monitoring and information related to monitoring instrument calibrations conducted according to section 8 and 10 of EPA Method 21 of appendix A of 40 CFR part 63, including all of the following items in Conditions 62.a.i through 62.a.v: [40 CFR 60.39f(g) and OAR 340-236-0500(16)]

62.a. Calibration records: [40 CFR 60.39f(g)(1)]

62.a.i. Date of calibration and initials of operator performing the calibration. [40 CFR 60.39f(g)(1)(i)]

62.a.ii. Calibration gas cylinder identification, certification date, and certified concentration. [40 CFR 60.39f(g)(1)(ii)]

62.a.iii. Instrument scale(s) used. [40 CFR 60.39f(g)(1)(iii)]

62.a.iv. A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value. [40 CFR 60.39f(g)(1)(iv)]

62.a.v. If a permittee makes their own calibration gas, a description of the procedure used. [40 CFR 60.39f(g)(1)(v)]

62.b. Digital photographs of the instrument setup. The photographs must be time and date-stamped and taken at the first sampling location prior to sampling and at the last sampling location after sampling at the end of each sampling day, for the duration of the Tier 4 monitoring demonstration. [40 CFR 60.39f(g)(2)]

62.c. Timestamp of each surface scan reading: [40 CFR 60.39f(g)(3)]

62.c.i. Timestamp should be detailed to the nearest second, based on when the sample collection begins. [40 CFR 60.39f(g)(3)(i)]

62.c.ii. A log for the length of time each sample was taken using a stopwatch (e.g., the time the probe was held over the area). [40 CFR 60.39f(g)(3)(ii)]

62.d. Location of each surface scan reading. The permittee must determine the coordinates using an instrument with an accuracy of at least 4 meters. Coordinates must be in decimal degrees with at least five (5) decimal places. [40 CFR 60.39f(g)(4)]

62.e. Monitored methane concentration (parts per million) of each reading. [40 CFR 60.39f(g)(5)]

62.f. Background methane concentration (part per million) after each instrument calibration test. [40 CFR 60.39f(g)(6)]

62.g. Adjusted methane concentration using most recent calibration (parts per million). [40 CFR 60.39f(g)(7)]

62.h. For readings taken at each surface penetration, the unique identification location label matching the label specified in Condition 58. [40 CFR 60.39f(g)(8)]

62.i. Record of the operating hours of the gas collection system for each destruction device. [40 CFR 60.39f(g)(9)]

63. Recordkeeping Requirement(s): Any records required to be maintained by 40 CFR part 60, subpart Cf that are submitted electronically via the EPA's CDX may be maintained in electronic format. [40 CFR 60.39f(i) and OAR 340-236-0500(16)]

64. Reporting Requirement(s): The permittee who has already been required to submit a design plan under 40 CFR 60.38f(d), under 40 CFR part 60, subpart WWW, a state implemented 40 CFR part 60, subpart Cc or 40 CFR 63.63.1981(d), must submit a revised design to LRAPA and the Administrator for approval as follows: [40 CFR 60.38f(e), 40 CFR 63.1981(e), OAR 340-236-0500(15) and LRAPA 44-150(5)(iii)]

64.a. At least 90 days before expanding operations to an area not covered by the previously approved design plan. [40 CFR 60.38f(e)(1), 40 CFR 63.1981(e)(1) and LRAPA 44-150(5)(iii)]

64.b. Prior to installing or expanding the gas collection system in a way that is not consistent with the design plan that was submitted to LRAPA and the Administrator according to 40 CFR 60.38f(d) and 40 CFR 63.1981(d). [40 CFR 60.38f(e)(2), 40 CFR 63.1981(e)(2), and LRAPA 44-150(5)(iii)]

65. Reporting Requirement(s): **Closure report**: The permittee of a controlled landfill must submit a closure report to LRAPA and the Administrator within 30 days of ceasing waste acceptance. LRAPA and the Administrator may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to LRAPA and the Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4) and 40 CFR 63.9(b) of subpart A. [40 CFR 60.38f(f), 40 CFR 63.1981(f), OAR 340-236-0500(15) and LRAPA 44-150(5)(iii)]

66. Reporting Requirement(s): **Equipment removal report**: The permittee of a controlled landfill must submit an equipment removal report as provided in 40 CFR 60.757(e) to LRAPA and the Administrator 30 days prior to removal or cessation of operation of the control equipment. [40 CFR 60.38f(g), 40 CFR 63.1981(g), OAR 340-236-0500(15) and LRAPA 44-150(5)(iii)]

66.a. The equipment removal report must contain the following items: [40 CFR 60.38f(g)(1), 40 CFR 63.1981(g)(1) and LRAPA 44-150(5)(iii)]

66.a.i. A copy of the closure report submitted in accordance with Condition 65; and [40 CFR 60.38f(g)(1)(i), 40 CFR 63.1981(g)(1)(i) and LRAPA 44-150(5)(iii)]

66.a.ii. A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired, unless the report of the results of the performance test has been submitted to the EPA via the EPA's CDX, or information that demonstrates that the GCCS will be unable to operate for 15 years due to declining gas flow. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX; and [40 CFR 60.38f(g)(1)(ii), 40 CFR 63.1981(g)(1)(ii) and LRAPA 44-150(5)(iii)]

66.a.iii. Dated copies of three (3) successive NMOC emission rate reports demonstrating that the landfill is no longer producing 34 megagrams or greater of NMOC per year, unless the NMOC emission rate reports have been submitted to the EPA via the EPA's CDX. If the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports. [40 CFR 60.38f(g)(1)(iii), 40 CFR 63.1981(g)(1)(iii) and LRAPA 44-150(5)(iii)]

66.b. LRAPA and the Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in Condition 33 have been met. [40 CFR 60.38f(g)(2), 40 CFR 63.1981(g)(2), and LRAPA 44-150(5)(iii)]

67. Reporting Requirement(s): **Semi-annual reports**: The permittee complying with Condition 31.a using an active collection system designed in accordance with Condition 31.a.i must submit to LRAPA and the Administrator semi-annual reports. The permittee must submit the report, following the procedure specified in Condition 69. The initial report must be submitted within 180 days of installation and startup of the collection and control system and must include the initial performance test report required under 40 CFR 63.7 of subpart A, as applicable. In the initial report, the process unit(s) tested, the pollutants(s) tested, and the date that such performance test was conducted must be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX. For enclosed combustion devices and flares, reportable exceedances are defined under Condition 55. The semi-annual reports must contain the information in Conditions 67.a through 67.h. [40 CFR 63.1981(h) and LRAPA 44-150(5)(iii)]

67.a. Number of times that applicable parameters monitored under Conditions 35.b, 35.d, 35.e, 45.a and 46 were exceeded and when the gas collection and control system was not operating under Condition 35.f, including periods of SSM. For each instance, report the date, time, and duration of each exceedance. [40 CFR 60.38(h)(1), 40 CFR 63.1981(h)(1) and LRAPA 44-150(5)(iii)]

67.a.i. Where the permittee must demonstrate compliance with the temperature and nitrogen or oxygen operational standards in Condition 35.d, provide a statement of the wellhead operational standard for temperature and oxygen the permittee is complying with for the period covered by the report. Indicate the number of times each of those parameters monitored under Condition 45.c were exceeded. For each instance, report the date, time, and duration of each exceedance. [40 CFR 63.1981(h)(1)(i) and LRAPA 44-150(5)(iii)]

67.a.ii. Where the permittee must demonstrate compliance with the temperature and nitrogen or oxygen operational standards in Condition 35.d.i, provide a statement of the wellhead operational standard for temperature and oxygen the permittee is complying with for the period covered by the report. Indicate the number of times each of those parameters monitored under Condition 45.c were exceeded. For each instance, report the date, time, and duration of each exceedance. [40 CFR 63.1981(h)(1)(ii) and LRAPA 44-150(5)(iii)]

67.b. Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under 40 CFR 60.37 and 40 CFR 63.1961. [40 CFR 60.38f(h)(2), 40 CFR 63.1981(h)(2), OAR 340-236-0500(15) and LRAPA 44-150(5)(iii)]

67.c. Description and duration of all periods when the control device was not operating and length of time the control device was not operating. [40 CFR 60.38f(h)(3), 40 CFR 63.1981(h)(3), OAR 340-236-0500(15) and LRAPA 44-150(5)(iii)]

67.d. All periods when the collection system was not operating. [40 CFR 60.38f(h)(4), 40 CFR 63.1981(h)(4), OAR 340-236-0500(15) and LRAPA 44-150(5)(iii)]

67.e. The location of each exceedance of the 500 parts per million methane concentration as provided in

Condition 35.e and the concentration recorded at each location for which an exceedance was recorded in the previous month. For location, the permittee must record the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five (5) decimal places. [40 CFR 60.38f(h)(5), 40 CFR 63.1981(h)(5), OAR 340-236-0500(15), and LRAPA 44-150(5)(iii)]

67.f. The date of installation and the location of each well or collection system expansion added pursuant to Conditions 39.c, 39.d, 39.e, 40 and 41.d. [40 CFR 60.38f(h)(6), 40 CFR 63.1981(h)(6), OAR 340-236-0500(15) and LRAPA 44-150(5)(iii)]

67.g. For any corrective action analysis for which corrective actions are required in Conditions 39.c, 39.d, and 39.f and that take more than sixty (60) days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates. [40 CFR 60.38f(h)(7), 40 CFR 63.1981(h)(7), OAR 340-236-0500(15), and LRAPA 44-150(5)(iii)]

67.h. The permittee required to conduct enhanced monitoring in Conditions 45.e and 45.f must include the results of all monitoring activities conducted during the period. [40 CFR 63.1981(h)(8) and LRAPA 44-150(5)(iii)]

67.h.i. For each monitoring point, report the date, time, and well identifier along with the value and units of measure for oxygen, temperature (wellhead and downwell), methane, and carbon monoxide (CO). [40 CFR 63.1981(h)(8)(i) and LRAPA 44-150(5)(iii)]

67.h.ii. Include a summary trend analysis for each well subject to the enhanced monitoring requirements to chart the weekly reading over time for oxygen, wellhead temperature, methane, and weekly or monthly readings over time, as applicable for carbon monoxide (CO). [40 CFR 63.1981(h)(8)(ii) and LRAPA 44-150(5)(iii)]

67.h.iii. Include the date, time, staff person name, and description of findings for each visual observation for subsurface oxidation event. [40 CFR 63.1981(h)(8)(iii) and LRAPA 44-150(5)(iii)]

68. Reporting Requirement(s): **Initial Performance Test Report**: The permittee seeking to comply with Condition 31.a.ii and 31.a.iii must include the following information with the initial performance test report required under 40 CFR 60.8 and 40 CFR 63.7: [40 CFR 60.38f(i), 40 CFR 63.1981(i), OAR 340-236-0500(15) and LRAPA 44-150(5)(iii)]

68.a. A diagram of the 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 60.38f(i)(1) and 40 CFR 63.1981(i)(1) and LRAPA 44-150(5)(iii)]

68.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 60.38f(i)(2) and 40 CFR 63.1981(i)(2) and LRAPA 44-150(5)(iii)]

68.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 60.38f(i)(3), LRAPA 44-150(5)(iii) and 40 CFR 63.1981(i)(3]

68.d. The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area; [40 CFR 60.38f(i)(4) and 40 CFR 63.1981(i)(4) and LRAPA 44-150(5)(iii)]

68.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; and [40 CFR 60.38f(i)(5), 40 CFR 63.1981(i)(5) and LRAPA 44-150(5)(iii)

68.f. The provisions for the control of off-site migration. [40 CFR 60.38f(i)(6), 40 CFR 63.1981(i)(6) and LRAPA 44-150(5)(iii)]

69. Reporting Requirement(s): **Electronic Reporting**: The permittee must submit reports electronically according to Conditions 69.a and 69.b. [40 CFR 60.38f(j), 40 CFR 63.1981(l), OAR 340-236-0500(15) and LRAPA 44-150(5)(iii)]

69.a. Performance Test Reporting Requirement(s): Within 60 days after the date of completing each performance test (as defined in 40 CFR 60.8), the permittee must submit the results of the performance tests according to Conditions 69.a.i through 69.a.iii. [40 CFR 60.38f(j)(1), and 40 CFR 63.1981(l)(1) and LRAPA 44-150(5)(iii)]

69.a.i. Data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (*https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert)* at the time of the test. Submit the results of the performance test to LRAPA and the EPA via the Compliance and Emission Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/*). The data must be submitted in a file format generated through the use of EPA's ERT. Alternatively, the permittee may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website. [40 CFR 60.38f(j)(1)(i), 40 CFR 63.1981(l)(1)(i) and LRAPA 44-150(5)(iii)]

69.a.ii. Data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test. The results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI. [40 CFR 60.38f(j)(1)(ii), 40 CFR 63.1981(l)(1)(ii) and LRAPA 44-150(5)(iii)]

69.a.iii. Confidential business information (CBI). If the permittee claims some of the information submitted under 40 CFR 60.38f(a) and 40 CFR 63.1981(a) is CBI, the permittee must submit a complete file, including information claimed to be CBI, to the EPA. The file must be generated through the use of the EPA's ERT or an alternative electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham NC 27703. The same file with the CBI Omitted must be submitted to the EPA via EPA's CDX as described in Condition 69.a.i. [40 CFR 60.38f(j)(1)(i), 40 CFR 63.1981(l)(1)(iii) and LRAPA 44-150(5)(iii)]

69.b. The permittee required to submit reports following the procedure specified in this condition must submit reports to the EPA via CEDRI. CEDRI can be accessed through the EPA's CDX. The permittee must use the appropriate electronic report in CEDRI for 40 CFR part 63, subpart AAAA or an alternative electronic file format consistent with the XML schema listed on the CEDRI website (https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri). Once the spreadsheet template upload/forms for the reports have been available in CEDRI for 90 days, the permittee must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified 40 CFR part 60, subpart Cf and 40 CFR part 63, subpart AAAA, regardless of the method in which the reports are submitted. The NMOC emission rate reports and semi-annual reports should be electronically reported as a spreadsheet template upload/form to CEDRI. If the reporting forms specific to 40 CFR part 60, subpart Cf and 40 CFR part 63, subpart AAAA are not available in CEDRI at the time that the reports are due, the permittee must submit the reports to the Administrator at the appropriate address listed in 40 CFR 60.4 of 40 CFR part 60, subpart A and 40 CFR 63.13 of 40 CFR part 63 subpart A. [40 CFR 60.38f(j)(2) and 40 CFR 63.1981(l)(2), LRAPA 44-150(5)(iii)]

70. Reporting Requirement(s): **Corrective action and the corresponding timeline**. The permittee must submit according to Conditions 70.a and 70.b. If complying with the operational provisions of 40 CFR 63.1958, 63.1960, and 63.1961, as allowed at 40 CFR 60.34f, 60.36f, and 60.37f, the permittee must follow the corrective action and the corresponding timeline reporting requirements in Condition 71 in lieu of Conditions 70.a and 70.b. [40 CFR 60.38f(k) and OAR 340-236-0500(15)]

70.a. For corrective action that is required according to Conditions 39.c.iii or 39.d.iii and is expected to take longer than 120 days after the initial exceedance to complete, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator or LRAPA as soon as practicable by no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above.

LRAPA and the Administrator must approve the plan for corrective action and the corresponding timeline. [40 CFR 60.38f(k)(1)]

70.b. For corrective action that required according to Condition 39.c.iii or 39.d.iii and is not completed within 60 days after the initial exceedance, the permittee must submit a notification to LRAPA and the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance. [40 CFR 60.38f(k)(2)]

71. Reporting Requirement(s): **Corrective action and the corresponding timeline**. The permittee must submit information regarding corrective actions according to Conditions 71.a and 71.b. [40 CFR 63.1981(j) and LRAPA 44-150(5)(iii)]

71.a. For corrective action that is required according to Conditions 39.c or 39.e and is not completed within 60 days after the initial exceedance, the permittee must submit a notification to LRAPA and the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance. [40 CFR 63.1981(j)(1) and LRAPA 44-150(5)(iii)]

71.b. For corrective action that is required according to Conditions 39.c or 39.e and expected to take longer than 120 days after the initial exceedance to complete, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to LRAPA and the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above. LRAPA and the Administrator must approve the plan for corrective action and the corresponding timeline. [40 CFR 63.1981(j)(2) and LRAPA 44-150(5)(iii)]

72. Reporting Requirement(s): **24-hour high temperature report**. The permittee seeking to demonstrate compliance with the operational standard for temperature in Condition 35.d.i and a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7° C (170° F) and the carbon monoxide (CO) concentration measured is greater than or equal to 1,000 ppmv, then the permittee must report the date, time, well identifier, temperature and carbon monoxide (CO) reading via email to LRAPA and the Administrator within 24 hours of the measurement unless a higher operating temperature value has been approved by LRAPA and the Administrator for the well under 40 CFR part 63 subpart AAAA or under 40 CFR part 60, subpart WWW or a Federal plan or EPA approved and effective state plan that implements either 40 CFR part 60, subpart Cc or 40 CFR part 60, subpart Cf. [40 CFR 63.1981(k) and LRAPA 44-150(5)(iii)]

73. Reporting Requirement(s): The permittee that chooses to comply with the provisions in 40 CFR 63.1958, 40 CFR 63.1960, and 40 CFR 63.1961, as allowed in 40 CFR 63.34f, 40 CFR 63.36f and 40 CFR 63.37f, must submit the **24-hour high temperature report** according to Condition 72. [40 CFR 60.38f(n) and OAR 340-236-0500(15)]

74. Reporting Requirement(s): **Claims of EPA system outage**: If the permittee is required to electronically submit a report through CEDRI in the EPA's CDX, the permittee may assert a claim to EPA system outage for failure to comply with timely with the reporting requirements. To assert a claim of EPA system outage, the permittee must meet the following requirements: [40 CFR 63.1981(m) and LRAPA 44-150(5)(iii)]

74.a. The permittee must have been or will be precluded from accessing CEDRI and submitting a required report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems. [40 CFR 63.1981(m)(1) and LRAPA 44-150(5)(iii)]

74.b. The outage must have occurred within the period of time beginning five (5) business days prior to the date that the submission is due. [40 CFR 63.1981(m)(2) and LRAPA 44-150(5)(iii)

74.c. The outage may be planned or unplanned. [40 CFR 63.1981(m)(3) and LRAPA 44-150(5)(iii)]

74.d. The permittee must submit notification to LRAPA and the Administrator in writing as soon as possible following the date the permittee first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting. [40 CFR 63.1981(m)(4) and LRAPA 44-150(5)(iii)

74.e. The permittee must provide to LRAPA and the Administrator a written description identifying: [40 CFR 63.1981(m)(5) and LRAPA 44-150(5)(iii)]

74.e.i. The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable; [40 CFR 63.1981(m)(5)(i) and LRAPA 44-150(5)(iii)]

74.e.ii. A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage; [40 CFR 63.1981(m)(5)(ii) and LRAPA 44-150(5)(iii)]

74.e.iii. Measures taken or to be taken to minimize the delay in reporting; and [40 CFR

63.1981(m)(5)(iii) and LRAPA 44-150(5)(iii)]

74.e.iv. The date by which you propose to report, or if the permittee has already met the reporting requirement at the time of the notification, the date the permittee reported. [40 CFR 63.1981(m)(5)(iv) and LRAPA 44-150(5)(iii)]

74.f. The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator. [40 CFR 63.1981(m)(6) and LRAPA 44-150(5)(iii)]

74.g. In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved. [40 CFR 63.1981(m)(7) and LRAPA 44-150(5)(iii)]

75. Reporting Requirement(s): **Claims of force majeure**: If the permittee is required to electronically submit a report through CEDRI in the EPA's CDX, the permittee may assert a claim of force majeure for failure to comply timely with the reporting requirement. To assert a claim of force majeure, the permittee must meet the following requirements: [40 CFR 63.1981(n) and LRAPA 44-150(5)(iii)]

75.a. The permittee may submit a claim if a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning five (5) business days prior to the date the submission is due. For the purposes of Condition 75, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents the permittee from complying with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (e.g., hurricanes, earthquakes, or floods), act of war or terrorism, or equipment failure or safety hazards beyond the control of the affected facility. (e.g., large scale power outage). [40 CFR 63.1981(n)(1) and LRAPA 44-150(5)(iii)]

75.b. The permittee must submit notification to LRAPA and the Administrator in writing as soon as possible following the date the permittee first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting. [40 CFR 63.1981(n)(2) and LRAPA 44-150(5)(iii)]

75.c. The permittee must provide to LRAPA and the Administrator: [40 CFR 63.1981(n)(3) and LRAPA 44-150(5)(iii)]

75.c.i. A written description of the force majeure event; [40 CFR 63.1981(n)(3)(i) and LRAPA 44-150(5)(iii)]

75.c.ii. A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event; [40 CFR 63.1981(n)(3)(ii) and LRAPA 44-150(5)(iii)]

75.c.iii. Measures taken or to be taken to minimize the delay in reporting; and [40 CFR 63.1981(n)(3)(iii) and LRAPA 44-150(5)(iii)]

75.c.iv. The date by which the permittee proposes to report; or if the permittee has already met the reporting requirement at the time of the notification, the date the permittee reported. [40 CFR 63.1981(n)(3)(iv) and LRAPA 44-150(5)(iii)]

75.d. The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator. [40 CFR 63.1981(n)(4) and LRAPA 44-150(5)(iii)]

75.e. In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs. [40 CFR 63.1981(n)(5) and LRAPA 44-150(5)(iii)]

STATE REQUIREMENTS

Table 5: OAR 340-239: Landfill Gas Emissions

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Monitoring Condition(s)	Testing & Procedure Condition(s)	Recordkeeping & Reporting Condition(s)
OAR 340-239-0100(4)	76	Methane generation	≤ 200,000 tons of waste-in-place	NA	96 & 99	104, 106.a, 106.e, & 106.f

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Monitoring Condition(s)	Testing & Procedure Condition(s)	Recordkeeping & Reporting Condition(s)
OAR 340-239-0100(7)	77	Methane generation	≤ 7,755 metric tons (8,548 tons) of methane	NA	96 & 99	NA
OAR 340-239-0105(1)	78	Title V applicability	Design capacity ≥ 2.5 million megagrams or 2.5 million cubic meters	NA	NA	104
OAR 340-239-0105(7)	79	Applicability	Landfill closure: control device removal	NA	NA	106
OAR 340-239-0110(1)(f)	80	Methane reduction	Design plan: gas collection system	NA	98 & 99	104 & 106
OAR 340-239-0110(2)(a)	81	Minimize off-site methane migration	GCCS operation	NA	97 & 98	104 & 106
OAR 340-239-0110(2)(b)	82	Methane – enclosed flare	Methane destruction efficiency of at 99% by weight	93	100 & 103	104 & 106
OAR 340-239-0110(2)(f)	83	Performance test requirements – enclosed flare	Test 180 days of initial startup and 3 consecutive performance tests no later than 45 days from anniversary date of last test	93	100	104
OAR 340-239-0110(3)	84	Wellhead sampling	N_2 or O_2, temperature, negative pressure	93.c & 94	101, 102 & 103	104, 106 & 106.i
OAR 340-239-0110(4)	85	Wellhead raising	Collection well extension	93 & 94	97	104, 106 & 106.i
OAR 340-239-0110(5)	86	Gas collection system components	Repairs & temporary shutdown	93 & 94	98	104, 106, 106.c & 106.k
OAR 340-239-0200	87	Methane	500 ppmv surface emission concentration limits, wellhead negative pressure & 62.8ºC (145ºF) wellhead temperature	92 & 94	95, 97, 102 & 103	104, 105 & 106
OAR 340-239-0300	88	Areas of landfill not applicable to Condition 89	Working face & areas where landfill cover material is removed	NA	NA	104
OAR 340-239-0400	89	GCCS shutdown and removal	15-years in operation, declining methane rates, surface methane below 200 ppmv, does not exceed 25% of the LEL	92	95	104, 105 & 106

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Monitoring Condition(s)	Testing & Procedure Condition(s)	Recordkeeping & Reporting Condition(s)
OAR 340-239-0500(1)	90	Alternative compliance options	GCCS batch operation, surface grid patterns, dangerous areas of landfill	92, 93 & 94	101 & 103	104, 105 & 106
OAR 340-239-0500(2)	91	Alternative compliance options	Must provide LRAPA with satisfactory information to use alternative compliance options	92, 93 & 94	101 & 103	104, 105 & 106

76. Applicable Requirement(s): The permittee of a landfill having greater than or equal to 200,000 tons of waste-in-place must submit an annual Waste-in-Place Report to LRAPA pursuant to Condition 106.e and an annual Methane Generation Rate Report, pursuant to Condition 106.f, until the permittee submits a Closure Notification pursuant to Condition 106.a. The initial Waste-in-Place Report and Methane Generation Rate Report submitted by the landfill pursuant to section OAR 340-239-0100(1) must satisfy this requirement for the initial year it applies to the landfill. [OAR 340-239-0100(4)]

77. Applicable Requirement(s): If the methane generation rate reported according to OAR 340-239-0100(1) is greater than or equal to 7,755 metric tons (8,548 tons) per year, then the permittee must comply with the requirements of Conditions 80 through 106. [OAR 340-239-0100(7)]

78. Applicable Requirement(s): The permittee of a municipal solid waste landfill to which OAR chapter 340 division 239 applies, as provided in Conditions 76 and 77, "Applicability", and that has a design capacity equal or greater than 2.5 million cubic meters, must obtain an operating permit for the landfill under OAR chapter 340 division 218. [OAR 340-239-0105(1)]

79. Applicable Requirement(s): When the municipal solid waste landfill subject to OAR chapter 340 division 239 is closed, the permittee is no longer subject to the requirement to maintain an operating permit under OAR chapter 340 division 218 for the landfill if the landfill is not otherwise subject to the requirements of OAR chapter 340 division 218 and if the following condition is met: [OAR 340-239-0105(2)]

    79.a. The landfill meets the conditions for control system removal specified in Condition 89.a. [OAR 340-239-0105(2)(b)]

80. Applicable Requirement(s): The permittee must operate, maintain and expand the gas collection system in accordance with the procedures and schedules in the approved Design Plan. [OAR 340-239-0110(1)(f)]

81. Applicable Requirement(s): The permittee must satisfy all of the following requirements when operating the gas collection and control system: [OAR 340-239-0110(2)(a)]

    81.a. Route all collected gas to a gas control device or devices, and operate the gas collection and control system continuously except as provided in Condition 85 and 86. [OAR 340-239-0110(2)(a)(A)]

    81.b. Operate the gas collection and control system to comply with OAR 340-239-0110(1)(c)(G). [OAR 340-239-0110(2)(a)(B)]

    81.c. Design and operate the gas collection system to draw all the gas toward the gas control device or devices. [OAR 340-239-0110(2)(a)(C)]

    81.d. Design and operate the gas collection system to minimize off-site and on-site migration of subsurface gas in compliance with OAR chapter 340, divisions 093, 094, and 095. [OAR 340-239-0110(2)(a)(D)]

    81.e. In the event the collection or control system is inoperable, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within one (1) hour of the collection and control system not operating. [OAR 340-239-0110(2)(a)(E)]

    81.f. Efforts to repair the collection or control system must be initiated and completed in a manner such that downtime is kept to a minimum, and the collection and control system must be returned to operation. [OAR 340-239-0110(2)(a)(F)]

    81.g. Landfills with a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million

cubic meters (m^3) must install all passive collection systems with liners on the bottom and all sides in all areas in which gas is to be collected. The liners must be installed as required under 40 CFR §258.40. [OAR 340-239-0110(2)(a)(G)]

81.h. Any area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than one percent (1%) of the total amount of methane emissions from the landfill. The amount, location, and age of the material must be documented and provided to LRAPA. If data on actual amounts and age is not available, the permittee must estimate based on known information and provided all documentation used to make the estimates. A separate methane emissions estimate must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the methane emissions estimates for the entire landfill, and all calculations, data and documentation used to perform the calculations must be submitted to LRAPA. The methane emissions from each section proposed for exclusion must be computed using the methods provided in Condition 99. [OAR 340-239-0110(2)(a)(H)]

81.i. The landfill gas extraction components must be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: Convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system must extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors must be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations must be situated with regard to the need prevent excessive air infiltration. [OAR 340-239-0110(2)(a)(I)]

81.j. Vertical wells must be placed so as not to endanger underlying liners and must address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors must 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 must be designed so as not to allow indirect short circuiting of air into the cover, into the solid waste, 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. [OAR 340-239-0110(2)(a)(J)]

81.k. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly must include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one (1) sampling port. The collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness. [OAR 340-239-0110(2)(a)(K)]

81.l. Landfill gas must be conveyed to a control system in compliance with OAR 340-239-0110(2) through the collection header pipe(s). The gas mover equipment must be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedure: [OAR 340-239-0110(2)(a)(L)]

81.l.i. For existing collection systems, the flow data must be used to project the maximum flow rate. If no flow data exists, the procedures in Condition 81.l.ii must be used; [OAR 340-239-0110(2)(a)(L)(i)]

81.l.ii. For new collection systems, the maximum flow rate must be determined in accordance with Condition 99. [OAR 340-239-0110(2)(a)(L)(ii)]

82. Applicable Requirement(s): Enclosed Flares: The permittee subject to the OAR 340-239 who operates an enclosed flare must route the collected gas to an enclosed flare that meets all of the following Conditions 82.a through 82.d: [OAR 340-239-0110(2)(b) and ACDP 06/15/22 Condition 32]

82.a. Achieves a methane destruction efficiency of at least 99 percent by weight. [OAR 340-239-0110(2)(b)(A) and ACDP 06/15/22 Condition 32.a]

82.b. Is equipped with automatic dampers, an automatic shutdown device, a flame arrester, and continuous recording temperature sensors. [OAR 340-239-0110(2)(b)(B) and ACDP 06/15/22 Condition 32.b]

82.c. During restart or startup there must be a sufficient flow of propane, commercial natural gas, or other approved fuel source, to the pilot light to prevent unburned collected methane from being emitted to the atmosphere. [OAR 340-239-0110(2)(b)(C) and ACDP 06/15/22 Condition 32.c]

82.d. The gas control device must be operated within the parameter ranges established in the landfill's Title

V Operating Permit. [OAR 340-239-0110(2)(b)(D) and ACDP 06/15/22 Condition 32.d]

83. Applicable Requirement(s): Performance Test Requirements: The permittee must conduct annual performance tests for any gas control device(s) subject to the requirements of OAR 340-239-0110(2) using the test methods identified in Conditions 100. Following an initial performance test, the permittee must conduct a complete annual performance test each calendar year, no later than 45 days after the anniversary date of the initial performance test. Performance tests must be conducted in compliance with Conditions 83.a through 83.c. [OAR 340-239-0110(2)(f)]

    83.a. An initial performance test must be conducted within 180 days of startup of the gas collection and control system. [OAR 340-239-0110(2)(f)(A)]

    83.b. If a gas control device remains in compliance with standards in OAR 340-239-0110(2) after three (3) consecutive performance tests, the permittee may conduct performance tests once every three (3) years, but no later than 45 days after each third anniversary date of the initial performance test. If a subsequent performance test shows the gas collection and control system does not demonstrate compliance with the OAR 340-239-0110(2), the performance testing frequency must return to annual. [OAR 340-239-0110(2)(f)(C)]

    83.c. The performance tests must be conducted under such conditions as LRAPA specifies to the permittee based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown unless specified by LRAPA. The permittee may not conduct performance tests during periods of malfunction. The permittee must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the permittee must make available to LRAPA such records as may be necessary to determine the conditions of performance tests. [OAR 340-239-0110(2)(f)(D)]

84. Applicable Requirement(s): Wellhead sampling: The permittee required to comply with OAR 340-239-0110(2) for the active gas collection system must install a sampling port and measuring devices, or an access port for measuring devices, at each wellhead and comply with the following, using measuring devices that meet the requirements of Condition 101: [OAR 340-239-0110(3)]

    84.a. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in Condition 94; [OAR 340-239-0110(3)(a)]

    84.b. Monitor temperature of the landfill gas on a monthly basis as provided in Condition 94; and [OAR 340-239-0110(3)(b)]

    84.c. Measure the gauge pressure in the gas collection header on a monthly basis as provide in Condition 93.c. [OAR 340-239-0110(3)(c)]

85. Applicable Requirement(s): Wellhead Raising: The requirements of Condition 81.a, 81.b and 84 do not apply to individual wells involved in well raising provided the following conditions are met: [OAR 340-239-0110(4)]

    85.a. New fill is being added or compacted in the immediate vicinity around the well; and [OAR 340-239-0110(4)(a)]

    85.b. Once installed, a gas collection well extension is sealed or capped until the raised well is reconnected to a vacuum source. [OAR 340-239-0110(4)(b)]

86. Applicable Requirement(s): Repairs and Temporary Shutdown of Gas Collection System Components: The requirements of Conditions 81.a and 81.b do not apply to individual landfill gas collection system components that must be temporarily shut down in order to repair the components due to emergencies, catastrophic events such as earthquakes, to extinguish landfill fires, to prevent landfill fires, to connect new landfill gas collection system components to the existing system, to perform construction activities pursuant to Condition 88, or to conduct performance testing, provided the following requirements are met: [OAR 340-239-0110(5)]

    86.a. Any new gas collection system components required to maintain compliance with OAR 340 division 239 must be included in the most recent Design Plan pursuant to OAR 340-239-0110(1). The permittee must comply with applicable provisions of the Notice of Construction requirements in LRAPA title 34 and permit modification requirement of OAR chapter 340, division 218 prior to the construction, installation and operation of new landfill gas collection system components. [OAR 340-239-0110(5)(a)]

    86.b. Methane emissions are minimized during shutdown pursuant to Condition 81.e; and [OAR 340-239-0110(5)(b)]

86.c. The permittee must submit a notification to LRAPA after any temporary shutdown due to an emergency, catastrophic event or landfill fires in accordance with Condition 106.k. [OAR 340-239-0110(5)(c)]

87. Applicable Requirement(s): When required as provided Conditions 80 through 106, the permittee must comply with OAR chapter 340 division 239. [OAR 340-239-0200]

87.a. Surface Emission Methane Concentration Limits: Except as provided in Conditions 85, 86, 88, and 92, beginning August 1, 2022, or upon commencing operation of a newly installed gas collection and control system or modification of an existing gas collection and control system pursuant to OAR 340-239-0110(1), whichever is later, no location on the landfill surface may exceed either of the following methane concentration limits: [OAR 340-239-0200(1)]

87.a.i. 500 ppmv, other than nonrepeatable, momentary readings, as determined by instantaneous surface emissions monitoring conducted in accordance with Condition 97.b. [OAR 340-239-0200(1)(a)]

87.a.ii. An average methane concentration limit of 25 ppmv as determined by integrated surface emissions monitoring conducted in accordance with Condition 97.c. [OAR 340-239-0200(1)(b)]

87.b. Wellhead Gauge Pressure Requirement: Each landfill gas collection and control system wellhead must be operated under a negative pressure without causing air infiltration, except as provided in Condition 85 and 86 or under any of the following conditions: [OAR 340-239-0200(2)]

87.b.i. Use of a geomembrane or synthetic cover. The permittee must develop acceptable pressure limits for the wellheads and include them in the Design Plan; [OAR 340-239-0200(2)(a)]

87.b.ii. A decommissioned well. A well may experience a static positive pressure after shutdown to accommodate for declining flows; or [OAR 340-239-0200(2)(b)]

87.b.iii. A fire or increased well temperature. The permittee must record instances when positive pressure occurs in efforts to avoid a fire. These records must be submitted with the semi-annual reports as provided in Condition 106.c. [OAR 340-239-0200(2)(c)]

87.c. Wellhead Temperature Requirement: [OAR 340-239-0200(3)]

87.c.i. Each landfill gas collection and control system interior wellhead in the collection system must be operated with a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit). [OAR 340-239-0200(3)(a)]

87.c.ii. The permittee may request a higher operating temperature value at a particular well. A higher operating value demonstration must be submitted to LRAPA for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria in order to be approved (i.e., it is only acceptable if it neither causes fires nor kills methanogens). [OAR 340-239-0200(3)(b)]

88. Applicable Requirement(s): The requirements of Condition 87 do not apply to the working face of the landfill or to areas of the landfill surface where the landfill cover material has been removed and solid waste has been exposed for the purpose of installing, expanding, replacing, or repairing components of the landfill gas, leachate, or gas condensate collection and removal system, for conducting a remedial action, or for law enforcement activities requiring excavation; as long as these areas are kept to the minimum size and time duration as possible. [OAR 340-239-0300]

89. Applicable Requirement(s): When the permittee has installed a gas collection and control system pursuant to Conditions 80 through 86, the permittee may permanently shutdown and remove the system only as provided in OAR chapter 340 division 239. [OAR 340-239-0400]

89.a. The gas collection and control system at a closed landfill, or at a closed area of a landfill, may be capped or removed provided all of the following Conditions 89.a.i through 89.a.v are met: [OAR 340-239-0400(1)]

89.a.i. The gas collection and control system was in operation for at least 15-years, unless the permittee can demonstrate to the satisfaction of LRAPA that due to declining methane rates the permittee of the landfill will be unable to operate the gas collection and control system for a 15-year period. [OAR 340-239-0400(1)(a)]

89.a.ii. The calculated or measured methane generation rate at the landfill is less than 664 metric tons (732 tons) per year on three (3) successive test dates. For measured methane generation rates, the test dates must be no less than 90 days apart and no more than 180 days apart. The calculated methane generation rate must be calculated pursuant to Condition 96. [OAR 340-239-0400(1)(b)]

89.a.iii. Surface methane concentration measurements of methane do not exceed 200 ppmv. [OAR 340-239-0400(1)(c)]

89.a.iv. The permittee submits an Equipment Removal Report to LRAPA pursuant to Condition 106.b. [OAR 340-239-0400(1)(d)]

89.a.v. The concentration of methane gas at the landfill does not exceed 25 percent of the lower explosive limit for methane concentration in facility structures (excluding gas collection and control system components) or the lower explosive limit for methane concentration at the property boundary. [OAR 340-239-0400(1)(e)]

89.b. The permittee that has capped or removed a gas collection and control system under Condition 89.a must conduct surface methane concentration measurements over the portion of the landfill with the capped or removed gas collection and control system pursuant to Condition 97 for at least eight (8) consecutive calendar quarters after the gas collection and control system is capped and removed. The measurements must comply with the following requirements: [OAR 340-239-0400(2)]

89.b.i. The walking grid in Condition 97.a.ii may be reduced to 100-foot spacing so long as walking grid is offset by 25-feet each quarter so that by the end of one (1) year of monitoring, the entire surface area has been monitored every 25 feet; [OAR 340-239-0400(2)(a)]

89.b.ii. If there is no measured concentration of methane of 200 ppmv or greater from the surface of the closed landfill in any of these measurement events, the permittee must submit a final gas collection and control system Closure Notification to LRAPA pursuant to Condition 106.a; and [OAR 340-239-0400(2)(b)]

89.b.iii. If there is any measured concentration of methane of 200 ppmv or greater in any of these measurement events, other than nonrepeatable, momentary readings, as determined by instantaneous surface emissions monitoring, from the surface of the closed landfill, the permittee must comply with Conditions 80 through 106. [OAR 340-239-0400(2)(c)]

90. Applicable Requirement(s): The permittee may request alternatives to the compliance measures, monitoring requirements, test methods and procedures of OAR 340-239-0110, 340-239-0600 and 340-239-0800. Any alternatives requested by the permittee of a landfill must be submitted in writing to LRAPA and receive written approval from LRAPA before the alternatives may be implemented. Alternative compliance option requests may include, but are not limited to, the following: [OAR 340-239-0500(1)]

90.a. Semi-continuous (batch) operation of the gas collection and control system due to insufficient landfill gas flow rates; [OAR 340-239-0500(1)(a)]

90.b. Alternative wind speed requirements for landfills consistently having winds in excess of the limits specified in OAR chapter 340 division 239; [OAR 340-239-0500(1)(b)]

90.c. Alternative walking patterns to address potential safety and other issues, such as: steep and slippery slopes, monitoring instrument obstructions, and physical obstructions; [OAR 340-239-0500(1)(c)]

90.d. Exclusion of construction areas and other dangerous areas from landfill surface inspection; and [OAR 340-239-0500(1)(d)]

90.e. Exclusion of paved roads that do not have any cracks, potholes, or other penetrations from landfill surface inspection. [OAR 340-239-0500(1)(e)]

91. Applicable Requirement(s): The permittee seeking to use an alternative compliance option pursuant to OAR chapter 340 division 239 must provide information satisfactory to LRAPA demonstrating that: [OAR 340-239-0500(2)]

91.a. Off-site migration of landfill gas is being, and will be, effectively controlled; and [OAR 340-239-0500(2)(a)]

91.b. The proposed alternatives provide an equivalent level of methane emission control, as compared with the methane controls that would have been required of the permittee under OAR 340-239-0110, 340-

239-0600, and 340-239-0800, as applicable. LRAPA may not approve use of an alternative compliance option unless it determines the proposed alternative will provide an equivalent level of methane emission control and effectively control off-site migration of landfill gas. [OAR 340-239-0500(2)(b)]

92. Monitoring Requirement(s): Surface Emissions Monitoring (SEM): The permittee with a gas collection and control system must conduct quarterly instantaneous and integrated surface monitoring of the landfill surface using the procedures specified in Condition 97. All of the following requirements apply to such monitoring: [OAR 340-239-0600(1)]

92.a. Instantaneous Surface Monitoring. Any reading exceeding a limit specified in Condition 87.a.i or 89.b.iii must be recorded as an exceedance and all of the following actions must be taken in Conditions 92.a.i through 92.a.v: [OAR 340-239-0600(1)(a)]

92.a.i. The permittee must record the name of the individual that conducted SEM, date, location, and value of each exceedance, along with retest dates and results. The location of each exceedance must be clearly marked and identified on a topographic map of the landfill, drawn to scale with the location of both the grids and the gas collection system clearly identified. The documentation required under Condition 92 must be retained in the landfill's files and reported to LRAPA as provided in Conditions 104 and 105. [OAR 340-239-0600(1)(a)(A)]

92.a.ii. The permittee must take corrective action such as, but not limited to, cover maintenance or repair, or well vacuum adjustments. [OAR 340-239-0600(1)(a)(B)]

92.a.iii. The permittee must re-monitor the location of the exceedance, and the location must be re-monitored within ten (10) days of a measured exceedance. The permittee must comply with all of the following requirements: [OAR 340-239-0600(1)(a)(C)]

92.a.iii.A. If the re-monitoring of the location shows a second exceedance, the permittee must take additional corrective action and the location must be re-monitored again no later than 10 days after the second exceedance. [OAR 340-239-0600(1)(a)(C)(i)]

92.a.iii.B. If the re-monitoring shows a third exceedance, the permittee must install a new or replacement collection device and must demonstrate compliance no later than 120 days after detecting the third exceedance. [OAR 340-239-0600(1)(a)(C)(ii)]

92.a.iii.C. Any location that initially showed an exceedance but has a methane concentration at the 10-day re-monitoring of less than 500 ppmv methane must be re-monitored one (1) month from initial exceedance. If the one-month re-monitoring shows a concentration less than 500 ppmv methane no further monitoring of that location is required until the next quarterly monitoring period. If the one-month re-monitoring shows an exceedance, the permittee must install a new or replacement well to achieve compliance no later the 120 days after detecting the third exceedance. [OAR 340-239-0600(1)(a)(C)(iii)]

92.a.iii.D. For any location where monitored methane concentration equal or exceeds 500 ppmv three (3) times within a quarterly period, a new well or other collection device must be installed within 120 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 LRAPA for approval pursuant to Conditions 90 and 91. [OAR 340-239-0600(1)(a)(C)(iv)]

92.a.iv. The permittee of a closed or inactive landfill, or of any closed or inactive areas on an active landfill that has no monitored exceedances of the limits specified in Condition 87.a.i after four (4) consecutive quarterly instantaneous surface monitoring periods, may shift to annual instantaneous surface monitoring. [OAR 340-239-0600(1)(a)(D)]

92.a.v. The permittee that has shifted to annual instantaneous surface monitoring under Condition 92.a.iii must return to quarterly instantaneous surface monitoring upon any exceedances of the limits specified in Condition 87.a.i that cannot be remediated within 10 days or upon

any exceedances detected during a LRAPA inspection. [OAR 340-239-0600(1)(a)(E)]

92.b. Integrated Surface Monitoring. Any reading exceeding the limit specified in Condition 87.a.ii must be recorded as an exceedance and all of the following actions must be taken: [OAR 340-239-0600(1)(b)]

92.b.i. The permittee must record the average surface concentration measured as methane for each grid along with retest dates and results. The location of the grids and the gas collection system must be clearly marked and identified on a topographic map of the landfill drawn to scale. The documentation required under Condition 92 must be retained in the landfill's files and reported to LRAPA as provided in Conditions 104 and 105. [OAR 340-239-0600(1)(b)(A)]

92.b.ii. Within 10 days of a measured exceedance, corrective action must be taken by the permittee such as, but not limited to; cover maintenance or repair, or well vacuum adjustments and the grid must be re-monitored. The permittee must comply with all of the following requirements: [OAR 340-239-0600(1)(b)(B)]

92.b.ii.A. If the re-monitoring of the grid shows a second exceedance, additional corrective action must be taken and the location must be re-monitored again no later than 10 days after the second exceedance. [OAR 340-239-0600(1)(b)(B)(i)]

92.b.ii.B. If the re-monitoring in Condition 92.b.ii.A shows a third exceedance, the permittee must install a new or replacement well to achieve compliance no later than 120 days after detecting the third exceedance. [OAR 340-239-0600(1)(b)(B)(ii)]

92.b.iii. The permittee of a closed or inactive landfill, or of any closed or inactive areas on an active landfill that has no monitored exceedances of the limits specified in Condition 87.a.ii after four (4) consecutive quarterly integrated surface monitoring periods, may shift to annual integrated surface monitoring. [OAR 340-239-0600(1)(b)(C)]

92.b.iv. The permittee that has shifted to annual integrated surface monitoring under Condition 92.b.iii must return to quarterly integrated surface monitoring upon the occurrence of any exceedances of the limits specified in Condition 87.a.ii during annual monitoring or detected during any LRAPA inspection. [OAR 340-239-0600(1)(b)(D)]

93. Monitoring Requirement(s): Gas Control System Equipment Monitoring. The permittee must monitor the gas control system using the following procedures: [OAR 340-239-0600(2)]

93.a. For enclosed flare, all of the following equipment must be installed, calibrated, maintained, and operated according to the manufacturer's specifications: [OAR 340-239-0600(2)(a)]

93.a.i. A temperature monitoring device equipped with a continuous recorder that has an accuracy of plus or minus (±) one (1) percent of the temperature being measured expressed in degrees Celsius or Fahrenheit. [OAR 340-239-0600(2)(a)(A)]

93.a.ii. A device that records gas flow to the control device and bypass of the control device (if applicable). The permittee must: [OAR 340-239-0600(2)(a)(B)]

93.a.ii.A. Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the control device at least every 15 minutes; and [OAR 340-239-0600(2)(a)(B)(i)]

93.a.ii.B. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line. [OAR 340-239-0600(2)(a)(B)(ii)]

93.b. Components containing landfill gas and under positive pressure must be monitored quarterly for leaks. Any component leak over 500 ppmv methane must be tagged and repaired within 10 days. Any component leak over 250 ppmv must be recorded pursuant to Condition 104.a.xvii. Quarterly component leak testing at landfills having landfill gas-to-energy facilities may be conducted prior to scheduled maintenance or planned outage periods. [OAR 340-239-0600(2)(c)]

93.c. The permittee must measure gauge pressure in the gas collection header applied to each individual well on a monthly basis. If a positive pressure exists, other than as provided in Condition 87.b, action

must be initiated to correct the exceedance within 5 days. Any attempted corrective measure must not cause exceedances of other operational or performance standards. [OAR 340-239-0600(2)(d)]

94. Monitoring Requirement(s): Wellhead Monitoring. On a monthly basis for each individual wellhead, the permittee must determine and record gauge pressure, temperature, and nitrogen or oxygen content of gas emissions. Such monitoring must comply with all of the following Conditions 94.a through 94.d. [OAR 340-239-0600(3)]

94.a. If there is any positive pressure reading other than as provided in Conditions 85 or 86, the permittee must take the following actions. Any attempted corrective measure must not cause exceedances of other operational or performance standards: [OAR 340-239-0600(3)(a)]

94.a.i. Initiate corrective action within five (5) days of the positive pressure measurement; [OAR 340-239-0600(3)(a)(A)]

94.a.ii. If negative pressure cannot be achieved without excess air infiltration within 15 days of the date the positive pressure was first measured, the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after positive pressure was first measured. The permittee must submit a Corrective Action Report to LRAPA pursuant to Condition 106.i; [OAR 340-239-0600(3)(a)(B)]

94.a.iii. If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the permittee must also conduct a corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement; and [OAR 340-239-0600(3)(a)(C)]

94.a.iv. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to LRAPA. [OAR 340-239-0600(3)(a)(D)]

94.b. If a well exceeds the operating parameter for temperature, action must be initiated to correct the exceedance within five (5) days. Any attempted corrective measure must not cause exceedances of other operational or performance standards, and the permittee must comply with Conditions 94.b.i through 94.b.v: [OAR 340-239-0600(3)(b)]

94.b.i. If a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit), or as established in Condition 87.c, cannot be achieved within 15 days of the first measurement of landfill gas temperature greater than 62.8 degree Celsius (145 degrees Fahrenheit), the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater that 62.8 degrees Celsius (145 degrees Fahrenheit) was first measured. The permittee must keep records according to Condition 104. [OAR 340-239-0600(3)(b)(A)]

94.b.ii. If corrective actions cannot be fully implemented within 60 days following the temperature measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit). The permittee must submit the items listed in Condition 106.c.i as part of the next semi-annual report. The permittee must keep records according to Condition 104. [OAR 340-239-0600(3)(b)(B)]

94.b.iii. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to LRAPA, according to Conditions 106.c.i and 94.a.iii. The permittee must keep records according to Condition 104. [OAR 340-239-0600(3)(b)(C)]

94.b.iv. If a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured, according to the procedures in Condition 101, is greater than or equal to 1,000 ppmv the corrective action(s) for the wellhead temperature standard (62.8 degrees Celsius or 145 degrees Fahrenheit) must be completed within 15 days. [OAR 340-239-0600(3)(b)(D)]

94.b.v. If a higher operating temperature has not been approved by LRAPA, the enhanced monitoring specified in Condition 102 is required at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit). [OAR 340-239-0600(3)(b)(E)]

94.c. Cover integrity. The permittee must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis. The cover must conform with requirements in OAR chapter 340, divisions 094 and 095. [OAR 340-239-0600(4)]

94.d. The monitoring requirements of OAR chapter 340, division 239 apply at all times, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. Monitoring system repairs completed in response to monitoring system malfunctions to return the monitoring system to operation must be completed as expeditiously as practicable. [OAR 340-239-0600(5)]

95. Testing Methods and Procedures Requirement(s): Hydrocarbon Detector Specifications. Any instrument used for the measurement of methane must be a gas detector, or other equivalent instrument approved by LRAPA, that meets the calibration, specifications and performance criteria of EPA Reference Method 21, Determination of Volatile Organic Compound Leaks, 40 CFR part 60, appendix A, except that those rules must be applied with the following adjustments: [OAR 340-239-0800(1)]

95.a. "Methane" replaces all references to volatile organic compounds (VOC); [OAR 340-239-0800(1)(a)]

95.b. The calibration gas must be methane, diluted to a nominal concentration of 500 parts per million in air; [OAR 340-239-0800(1)(b)]

95.c. To meet the performance evaluation requirements in section 8.1 of Method 21 of 40 CFR part 60, appendix A, the instrument evaluation procedures of section 8.1 of Method 21 of 40 CFR part 60, appendix A must be used; and [OAR 340-239-0800(1)(c)]

95.d. The calibration procedures provided in sections 8 and 10 of Method 21 of 40 CFR part 60, appendix A must be followed immediately before commencing a surface monitoring survey. [OAR 340-239-0800(1)(d)]

96. Testing Methods and Procedures Requirement(s): Determination of methane generation rate. For the methane generation rate, the permittee must include wastes received up to December 31 of the previous year. The methane generation rate must be determined as follows, as applicable: [OAR 340-239-0800(2)]

96.a. For landfill without a carbon adsorption or passive venting system, the methane generation rate must be calculated using the procedure specified in 40 CFR §98.343(a)(1). LRAPA may request additional information as may be necessary to verify the methane generation rate from the landfill. Site-specific data may be substituted when available. [OAR 340-239-0800(2)(a)]

97. Testing Methods and Procedures Requirement(s): Surface Emission Monitoring Procedures. The permittee must measure the landfill surface concentration of methane using a hydrocarbon detector meeting the requirements of Condition 95. The landfill surface must be inspected and monitored quarterly using Conditions 97.a through 97.c: [OAR 340-239-0800(3)]

97.a. Monitoring Area: The entire landfill surface must be divided into individually identified 50,000 square foot grids and include the entire perimeter of the collection area. The grids must be used for both instantaneous and integrated surface emissions monitoring. The monitoring must comply with Conditions 97.a.i through 97.a.iv: [OAR 340-239-0800(3)(a)]

97.a.i. Surface monitoring must be performed in accordance with section 8.3.1 of EPA Method 21 of appendix A of 40 CFR part 60, except that the probe inlet must be placed within two (2) inches of the landfill surface while traversing the grid. [OAR 340-239-0800(3)(a)(A)]

97.a.ii. The walking pattern must be no more than a 25-foot spacing interval and must traverse each monitoring grid and: [OAR 340-239-0800(3)(a)(B)]

97.a.ii.A. If the permittee has no exceedances of the limits specified in Condition 87 after any four (4) consecutive quarterly monitoring periods, the walking pattern spacing may be increased to 100-foot intervals. The permittee must return to a 25-foot spacing interval upon any exceedances of the limits

specified in Condition 87 that cannot be remediated within 10 days or upon any exceedances detected during a LRAPA inspection; and [OAR 340-239-0800(3)(a)(B)(i)]

97.a.ii.B. If the permittee can demonstrate that in the past three (3) years before the effective date of OAR chapter 340 division 239 that there were no measured exceedances of the limit specified in Condition 87.a.i by annual or quarterly monitoring, the permittee may increase the walking pattern spacing to 100-foot intervals. The permittee must return to 25-foot spacing interval upon any exceedances of the limits specified in OAR 340-239-0200 that cannot be remediated within 10 days or upon any exceedances detected during a LRAPA inspection. [OAR 340-239-0800(3)(a)(B)(ii)]

97.a.iii. The permittee must use a wind barrier, similar to a funnel, when onsite average wind speed exceeds 4 miles per hour or 2 meters per second or gusts exceeding 10 miles per hour. Average on-site wind speed must also be determined in an open area at 5-minute intervals using an on-site anemometer with a continuous recorder and data logger for the entire duration of the monitoring event. The wind barrier must surround the SEM monitor, and must be placed on the ground, to ensure wind turbulence is blocked. SEM cannot be conducted if average wind speed exceeds 25 miles per hour. [OAR 340-239-0800(3)(a)(C)]

97.a.iv. Monitoring must be performed during typical meteorological conditions. [OAR 340-239-0800(3)(a)(D)]

97.b. Instantaneous Surface Emission Monitoring Procedures must comply with the following Conditions 97.b.i through 97.b.vi: [OAR 340-239-0800(3)(b)]

97.b.i. The permittee must record any instantaneous surface readings of methane 100 ppmv or greater. The permittee must document if the reading is a confirmed reading or whether it is a nonrepeatable, momentary reading; [OAR 340-239-0800(3)(b)(A)]

97.b.ii. Surface areas of the landfill that exceed a methane concentration limit of 500 ppmv must be marked and remediated pursuant to Condition 92.a; [OAR 340-239-0800(3)(b)(B)]

97.b.iii. Surface areas of the landfill that exceed a methane concentration limit of 250 ppmv must be monitored in a five (5) foot grid around the location to determine the extents of the methane leak; [OAR 340-239-0800(3)(b)(C)]

97.b.iv. The wind speed must be recorded during the sampling period; [OAR 340-239-0800(3)(b)(D)]

97.b.v. The landfill surface areas with cover penetrations, distressed vegetation, cracks or seeps must also be inspected visually and with a hydrocarbon detector meeting the requirements of Condition 95. If a landfill would not be subject to quarterly penetration monitoring as otherwise required pursuant to another state or federal regulation such as including: Conditions 90 and 91, 40 CFR part 63 subpart AAAA, 40 CFR part 60 subpart WWW or XXX, and if no methane is detected with the hydrocarbon detector at a specific penetration point for four (4) consecutive quarters, then the landfill may reduce monitoring to annually at that penetration. If any methane concentration is detected during annual monitoring, the penetration location must return to quarterly monitoring; and [OAR 340-239-0800(3)(b)(E)]

97.b.vi. The location of each monitored exceedance must be marked and the location and concentration recorded. The location must be recorded using an instrument with an accuracy of at least four (4) meters. The coordinates must be in decimal degrees with at least five (5) decimal places. [OAR 340-239-0800(3)(b)(F)]

97.c. Integrated Surface Emissions Monitoring Procedures must comply with the following Conditions 97.c.i through 97.c.iii. [OAR 340-239-0800(3)(c)]

97.c.i. Integrated surface readings must be recorded and then averaged for each grid; [OAR 340-239-0800(3)(c)(A)]

97.c.ii. Individual monitoring grids that exceed an average methane concentration of 25 ppmv must be identified and remediated pursuant to Condition 92.b; and [OAR 340-239-0800(3)(c)(B)]

97.c.iii. The wind speed must be recorded during the sampling period. [OAR 340-239-0800(3)(c)(C)]

98. Testing Methods and Procedures Requirement(s): Gas Collection and Control System Leak Inspection Procedures. The permittee must measure leaks using a hydrocarbon detector meeting the requirements of Condition 95. [OAR 340-239-0800(4)]

99. Testing Methods and Procedures Requirement(s): Determination of Expected Gas Generation Flow Rate. The permittee must determine the expected gas generation flow rate as prescribed in 40 CFR §§98.343(1)(a) or 63.1960(a)(1), which are incorporated by reference herein. [OAR 340-239-0800(5)]

100. Testing Methods and Procedures Requirement(s): Control Device Destruction Efficiency Determination. The permittee must use the following methods of analysis to determine the efficiency of the control device in reducing methane: [340-239-0800(6)]

100.a. For Enclosed Combustors, one of the following test methods, all of which are incorporated by reference herein (and all as promulgated in 40 CFR part 60, Appendix A), must be used to determine the efficiency of the control device in reducing methane by at least 99 percent: [OAR 340-239-0800(6)(a)]

100.a.i. U.S. EPA Reference Method 18, Measurement of Gaseous Organic Compound Emissions By Gas Chromatography; [OAR 340-239-0800(6)(a)(A)]

100.a.ii. U.S. EPA Reference Method 25, Determination of Total Gaseous Nonmethane Organic Emissions as Carbon. EPA Reference Method 25A, Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer; or [OAR 340-239-0800(6)(a)(B)]

100.a.iii. U.S. EPA Reference Method 25C, Determination of Nonmethane Organic Compounds in Landfill Gases. [OAR 340-239-0800(6)(a)(C)]

100.b. The following equation must be used to calculate destruction efficiency: [OAR 340-239-0800(6)(b)]

$$Destruction\ Efficiency = [1-(Mass\ of\ Methane_{outlet})/(Mass\ of\ Methane_{inlet})] \times 100\%$$

101. Testing Methods and Procedures Requirement(s): Well monitoring. [OAR 340-239-0800(7)]

101.a. The permittee must determine wellhead nitrogen levels using EPA Reference Method 3C, Determination of Volatile Organic Compound Leaks, 40 CFR part 60, appendix A, unless an alternative test method is approved by LRAPA. [OAR 340-239-0800(7)(a)]

101.b. Unless an alternative test method is established and approved by LRAPA, the permittee must determine wellhead oxygen levels by an oxygen meter using EPA Reference Method 3A or 3C, 40 CFR part 60, appendix A, or ASTM D6522-20, except that, if sample location is prior to combustion: [OAR 340-239-0800(7)(b)]

101.b.i. The span must be set between 10 and 12 percent oxygen; [OAR 340-239-0800(7)(b)(A)]

101.b.ii. A data recorder is not required; [OAR 340-239-0800(7)(b)(B)]

101.b.iii. Only two (2) calibration gases are required, a zero and span; [OAR 340-239-0800(7)(b)(C)]

101.b.iv. A calibration error check is not required; and [OAR 340-239-0800(7)(b)(D)]

101.b.v. The allowable sample bias, zero drift, and calibration drift are ±10 percent. [OAR 340-239-0800(7)(b)(E)]

101.c. The permittee may use a portable gas composition analyzer to monitor wellhead oxygen levels provided that the analyzer is calibrated and the analyzer meets all quality assurance and quality control requirements for 40 CFR part 60, appendix A-1, Method 3A or ASTM D6522-11. [OAR 340-239-0800(7)(c)]

101.d. Determination of Gauge Pressure. The permittee must determine wellhead gauge pressure using a hand-held manometer, magnahelic gauge, or other pressure measuring device approved by LRAPA. The device must be calibrated and operated in accordance with the manufacturer's specifications. [OAR 340-239-0800(7)(d)]

101.e. The permittee must calibrate wellhead temperature measuring devices annually using the procedure in 40 CFR part 60, appendix A-1, Method 2, Section 10.3 except that a minimum of two (2) temperature points, bracket within 10 percent of all landfill absolute temperature measurements or two (2) fixed points of ice bath and boiling water, corrected for barometric pressure, are used. [OAR 340-

239-0800(7)(e)]

102. Testing Methods and Procedures Requirement(s): Enhanced monitoring. The permittee must initiate enhanced monitoring at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as in Conditions 102.a through 102.j: [OAR 340-239-0800(8)]

102.a. Visual observations for subsurface oxidation events (smoke, smoldering ash, damage to well) within the radius of influence of the well; [OAR 340-239-0800(8)(a)]

102.b. Monitor oxygen or nitrogen concentration as provided in Condition 84.a; [OAR 340-239-0800(8)(b)]

102.c. Monitor temperature of the landfill gas at the wellhead as provided in Condition 94; [OAR 340-239-0800(8)(c)]

102.d. Monitor temperature of the landfill gas every 10 vertical feet of the well as provided in Condition 94; [OAR 340-239-0800(8)(d)]

102.e. Monitor the methane concentration with a methane meter using EPA Method 3C of appendix A-6 to 40 CFR part 60, EPA Method 18 of appendix A-6 to 40 CFR part 60, or a portable gas composition analyzer to monitor the methane levels provided that the analyzer is calibrated and the analyzer meets all quality assurance and quality control requirements for EPA Method 3C and EPA Method 18; [OAR 340-239-0800(8)(e)]

102.f. Monitor carbon monoxide concentrations, as follows: [OAR 340-239-0800(8)(f)]

102.f.i. Collect the sample from the wellhead sampling port in a passivated canister or multi-layer foil gas sampling bag (such as the Cali-5-Bond Bag) and analyze that sample using EPA Method 10, 40 CFR part 60, appendix A-4, or an equivalent method with a detection limit of at least 100 ppmv of carbon monoxide in high concentrations of methane; and [OAR 340-239-0800(8)(f)(A)]

102.f.ii. Collect and analyze the sample from the wellhead using EPA Method 10, 40 CFR part 60, Appendix A-4 to measure carbon monoxide concentrations; [OAR 340-239-0800(8)(f)(B)]

102.g. The enhanced monitoring must begin seven (7) days after the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit); [OAR 340-239-0800(8)(g)]

102.h. The enhanced monitoring must be conducted on a weekly basis. If four (4) consecutive weekly carbon monoxide readings are under 100 ppmv, then enhanced monitoring may be decreased to monthly. If monthly carbon monoxide readings exceed 100 ppmv, the landfill must return to weekly monitoring; [OAR 340-239-0800(8)(h)]

102.i. The enhanced monitoring can be stopped once a higher operating value is approved, at which time the monitoring provisions issues with the higher operating value must be followed, or once the measurement of landfill gas temperature at the wellhead is less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit); and [OAR 340-239-0800(8)(i)]

102.j. For each wellhead with a measurement of landfill gas temperature greater than or equal to 73.9 degrees Celsius (165 degrees Fahrenheit), annually monitor temperature of the landfill gas every 10 vertical feet of the well. This temperature can be monitored either with a removable thermometer, or using temporary or permanent thermocouples installed in the well. [OAR 340-239-0800(8)(j)]

103. Testing Methods and Procedures Requirement(s): Alternative Test Methods. Notwithstanding any other provision in OAR chapter 340 division 239, the permittee may use alternative test methods for any of the test methods described OAR chapter 340 division 239 provided that the alternative methods are approved in writing by LRAPA pursuant to Conditions 90 and 91. [OAR 340-239-0800(10)]

104. Recordkeeping Requirement(s): [OAR 340-239-0700(2)]

104.a. The permittee subject to OAR chapter 340 division 239 must maintain the following records for at least five (5) years: [OAR 340-239-0700(2)(a)]

104.a.i. All gas collection system downtime exceeding five (5) days, including dates of the downtime, individual well shutdown and disconnection times, the reason for the downtime, and any corrective actions conducted in response to the downtime; [OAR 340-239-0700(2)(a)(A)]

104.a.ii. All gas control system downtime in excess of one (1) consecutive hour, the reason for the downtime, the length of time the gas control system was shutdown, and any corrective actions conducted in response to the downtime; [OAR 340-239-0700(2)(a)(B)]

104.a.iii. All instantaneous surface readings of 100 ppmv methane or greater. All exceedances of the limits in Condition 87, including the location of the leak (or affected grid), leak concentration in ppmv methane, date and time of measurement, the action taken to repair the leak, date of repair, any required re-monitoring and the re-monitored concentration in ppmv methane, wind speed during surface sampling, the installation date and location of each well installed as part of a gas collection system expansion; [OAR 340-239-0700(2)(a)(C)]

104.a.iv. Any positive wellhead gauge pressure measurements, the name of the individual that conducted the actions, the date and time of the measurements, the well identification number, and the corrective action taken; [OAR 340-239-0700(2)(a)(D)]

104.a.v. Each wellhead temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above, each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent; [OAR 340-239-0700(2)(a)(E)]

104.a.vi. Monthly solid waste acceptance rate, for active landfills or landfills that have accepted waste within the last five (5) years; [OAR 340-239-0700(2)(a)(F)]

104.a.vii. The current amount of waste-in-place including waste composition; [OAR 340-239-0700(2)(a)(G)]

104.a.viii. The nature, location, amount, and date of deposition of nondecomposable waste for any landfill areas excluded from the collection systems; [OAR 340-239-0700(2)(a)(H)]

104.a.ix. Results of any performance tests conducted pursuant to Condition 83. [OAR 340-239-0700(2)(a)(I)]

104.a.x. Descriptions of mitigation measures taken to prevent the release of methane or other emissions into the atmosphere: [OAR 340-239-0700(2)(a)(J)]

104.a.x.A. When solid waste was brought to the surface during the installation or preparation of wells, piping, or other equipment; [OAR 340-239-0700(2(a)(J)(i)]

104.a.x.B. During repairs or the temporary shutdown of gas collection system components; and [OAR 340-239-0700(2(a)(J)(ii)]

104.a.x.C. When solid waste was excavated and moved. [OAR 340-239-0700(2(a)(J)(iii)]

104.a.xi. Any construction activities pursuant to Condition 88. Records must contain the following information: [OAR 340-239-0700(2(a)(K)]

104.a.xi.A. A description of the actions being taken, the areas of the landfill that will be affected by these actions, the reason the actions are required, and any landfill gas collection system components that will be affected by these actions; [OAR 340-239-0700(2(a)(K)(i)]

104.a.xi.B. Construction start and finish dates, projected equipment installation dates, and projected shut down times for individual gas collection system components; and [OAR 340-239-0700(2(a)(K)(ii)]

104.a.xi.C. A description of the mitigation measures taken to minimize methane emissions and other potential air quality impacts. [OAR 340-239-0700(2(a)(K)(iii)]

104.a.xii. For any root cause analysis for which corrective actions are required, records of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from LRAPA; [OAR 340-239-0700(2)(a)(L)]

104.a.xiii. The equipment operating parameters specified to be monitored under Condition 93 as well as records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. The records must include the following information: [OAR 340-239-0700(2)(a)(M)]

104.a.xiii.A. For enclosed flares, all 3-hour periods of operation during which the average temperature difference was more than 28 °Celsius (or 50 °Fahrenheit) below the average combustion temperature during the most recent performance test at which compliance with Conditions 82 was determined; [OAR 340-239-0700(2)(a)(M)(i)]

104.a.xiii.B. The indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines; and [OAR 340-239-0700(2)(a)(M)(iv)]

104.a.xiv. All collection and control system exceedances of the operational standards; the reading in the subsequent month, whether or not the second reading is an exceedance; and the location of each exceedance. [OAR 340-239-0700(2)(a)(N) and ACDP 06/15/22 Condition 37.a.iii]

104.a.xv. The permittee who converts waste-in-place from volume to mass, must keep readily accessible, records of the annual recalculation of site-specific density capacity, and the supporting documentation; [OAR 340-239-0700(2)(a)(O)]

104.a.xvi. The date initial placement of waste in newly constructed landfill cells; and [OAR 340-239-0700(2)(a)(R)]

104.a.xvii. Documentation of any component leaks above 250 ppmv methane detected pursuant to Condition 93.b and all repairs performed in response to any component leaks above 500 ppmv. [OAR 340-239-0700(2)(a)(S)]

104.a.xviii. The maximum design capacity of the landfill. [OAR 340-239-0700(2)(a)(T)]

104.b. The permittee must maintain the following records for the life of the control system equipment, as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of five (5) years. Records of the control device vendor specifications must be maintained until removal: [OAR 340-239-0700(2)(b)]

104.b.i. A density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in OAR 340-239-0110(1)(a); [OAR 340-239-0700(2)(b)(A)]

104.b.ii. The expected gas generation flow rate as calculated pursuant to Condition 99; [OAR 340-239-0700(2)(b)(B)]

104.b.iii. The percent reduction of methane achieved by the control device determined pursuant to Condition 100; [OAR 340-239-0700(2)(b)(C)]

104.b.iv. When the permittee subject to the provisions of OAR chapter 340 division 239 is demonstrating compliance with Condition 81 through use of an enclosed combustion device: [OAR 340-239-0700(2)(b)(E)]

104.b.iv.A. The average temperature measured at least every 15 minutes and averaged over the same time period of the performance test; and [OAR 340-239-0700(2)(b)(E)(i)]

104.b.iv.B. The percent reduction of methane determines as specified in Condition 100 (OAR 340-239-0800(6)) achieved by the control device. [OAR 340-239-0700(2)(b)(E)(ii)]

104.b.v. An up-to-date map showing each existing and planned gas collector in the system; [340-239-0700(2)(b)(G)]

104.b.vi. An up-to-date, readily accessible plot map showing each existing and planned collectors in the system and providing a unique identification location label for each collector. [340-239-0700(2)(b)(I)]

104.c. Record Retention: The permittee must maintain copies of the records and reports required by OAR chapter 340 division 239 and provide them to LRAPA within five (5) business days upon request. [OAR 340-239-0700(2)(d)]

105. Reporting Requirement(s): The electronic reporting requirements of Conditions 68 and 69 are incorporated by reference herein. The permittee that meets the applicability or designated facility requirements in 40 CFR §§60.31f must comply with the electronic reporting requirements of Conditions 68 and 69, respectively and as applicable. [OAR 340-239-0700(1)]

106. Reporting Requirement: Reporting Requirements: [OAR 340-239-0700(3) and ACDP 06/15/22 Condition 38]

106.a. Closure Notification: The permittee that has ceased accepting waste must submit a Closure Notification to LRAPA within 30 days of waste acceptance cessation, and: [OAR 340-239-0700(3)(a)]

106.a.i. The Closure Notification must include the last day solid waste was accepted, the anticipated closure date of the landfill, and estimated waste-in-place; and [OAR 340-239-0700(3)(a)(A)]

106.a.ii. LRAPA may request additional information as necessary to verify that permanent closure has taken place in accordance with the requirements of any applicable regulations, requirements, ordinances in effect at the time of closure. [OAR 340-239-0700(3)(a)(B)]

106.b. Equipment Removal Report. The permittee must submit a gas collection and control system Equipment Removal Report to LRAPA 30 days prior to well capping, removal or cessation of operation of the gas collection, treatment, or control system equipment. The report must contain the following information: [OAR 340-239-0700(3)(b)]

106.b.i. A copy of a Closure Notification submitted pursuant to Condition 106.a; [OAR 340-239-0700(3)(b)(A)]

106.b.ii. A copy of the Initial Performance Test Report or other documentation demonstrating that the gas collection and control system has been installed and operated for a minimum of 15 years, unless the permittee can demonstrate to the satisfaction of LRAPA that due to declining methane rates the landfill is unable to operate the gas collection and control system for a 15-year period; and [OAR 340-239-0700(3)(b)(B)]

106.b.iii. Surface emission monitoring results needed to verify that landfill surface methane concentration measurements do not exceed the limits specified in Condition 87. [OAR 340-239-0700(3)(b)(C)]

106.c. Semi-Annual Report. The permittee subject to OAR chapter 340 division 239, must prepare semi-annual reports for the periods of January 1 through June 30 of each year, unless otherwise approved in writing by LRAPA. The Semi-Annual Report will be ***due on August 31***, unless otherwise approved in writing by LRAPA. The Semi-Annual Report must contain the following information: [OAR 340-239-0700(3)(c)]

106.c.i. All instantaneous surface readings of 100 ppmv or greater. All exceedances of the limits in Condition 87 and Condition 93.c including the location of the leak (or affected grid), leak concentration in ppmv, date and time of measurement, the action taken to repair the leak, date of repair, any required re-monitoring and the re-monitored concentration in ppmv, wind speed during surface sampling, the concentration recorded at each location for which an exceedance was recorded in the previous month, and the installation date and location of each well installed as part of a gas collection system expansion; [OAR 340-239-0700(3)(c)(A)]

106.c.ii. For any corrective action analysis for which corrective actions are required in Conditions 94.a and 94.b and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or elevated temperature reading, and for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates; [OAR 340-239-0700(3)(c)(B)]

106.c.iii. All known, prevented, or suspected subsurface landfill fire(s) along with potential causes and any efforts conducted to avoid or put out the fire(s). Any positive pressure reading that may have contributed to the known, prevented, or suspected fire; [OAR 340-239-0700(3)(c)(C)]

106.c.iv. The number of times that applicable parameters monitored under OAR 340-239-0110(2) or Condition 87, were exceeded and when the gas collection and control system was not operating in compliance with Condition 81 including periods of startup, shutdown, and malfunction. For each instance, report the date, time and duration of each exceedance. Where the permittee subject to the requirements of OAR chapter 340 division 239 is demonstrating compliance with the operational standard for temperature Condition 94.b,

the permittee must provide a statement of the wellhead operational standard for temperature and oxygen the landfill is complying with for the period covered by the report. The report must indicate: [OAR 340-239-0700(3)(c)(D)]

106.c.iv.A. The number of times each of those parameters monitored under Condition 94.b, were exceeded. For each instance, report the date, time and duration of each exceedance; and [OAR 340-239-0700(3)(c)(D)(i)]

106.c.v. Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating; [OAR 340-239-0700(3)(c)(F)]

106.c.vi. All periods when the collection system was not operating; [OAR 340-239-0700(3)(c)(G)]

106.c.vii. The date of installation and the location of each well or collection system expansion; [OAR 340-239-0700(3)(c)(H)]

106.c.viii. The permittee required to conduct enhanced monitoring in accordance with Condition 102 for temperatures exceeding 62.8 degrees Celsius (145 degrees Fahrenheit) must include the results of all monitoring activities conducted during the period; [OAR 340-239-0700(3)(c)(I)]

106.c.ix. For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts per hour (150 million British thermal units per hour) or greater, all three-hour periods of operation during which the average temperature was more than 28 degrees Celsius (82 degrees Fahrenheit) below the average combustion temperature during the most recent performance test. [OAR 340-239-0700(3)(c)(J)]

106.d. Annual Report. The permittee subject to the requirements of OAR chapter 340 division 239 must prepare an Annual Report for the period of January 1 through December 31 of each year. Each Annual Report must be submitted to LRAPA ***by March 1*** of the following year, as stated in Condition 165.b, unless otherwise specified by LRAPA. The Annual Report must consist of the semi-annual and the following annual reporting requirements: [OAR 340-239-0700(3)(d)]

106.d.i. Landfill name, owner and operator, address, and permit number as issued according to OAR chapter 340 division 218; [OAR 340-239-0700(3)(d)(A)]

106.d.ii. Total volume of landfill gas collected (reported in standard cubic feet); [OAR 340-239-0700(3)(d)(B)]

106.d.iii. Average composition of the landfill gas collection over the reporting period (reported in percent methane and percent carbon dioxide by volume); [OAR 340-239-0700(3)(d)(C)]

106.d.iv. Gas control device type, year of installation, rating, fuel type, and total amount of landfill gas combusted in each control device; [OAR 340-239-0700(3)(d)(D)]

106.d.v. The date that the gas collection and control system was installed and in full operation; [OAR 340-239-0700(3)(d)(E)]

106.d.vi. The percent methane destruction efficiency of each gas control device(s); and [OAR 340-239-0700(3)(d)(F)]

106.d.vii. Type and amount of supplemental fuels burned with the landfill gas in each device, if applicable; [OAR 340-239-0700(3)(d)(G)]

106.d.viii. Total volume of landfill gas shipped off-site (MMscf), the composition of the landfill gas collected (reported in percent methane and percent carbon dioxide by volume), and the recipient of the gas; [OAR 340-239-0700(3)(d)(H)]

106.d.ix. Most recent topographic map of the site showing the areas with final cover and a geomembrane and the areas with final cover without a geomembrane with corresponding percentages over the landfill surface; [OAR 340-239-0700(3)(d)(I)]

106.d.x. The information required Conditions 104.a.i through 104.a.v, 104.a.vii, 104.a.x through 104.a.xii ; [OAR 340-239-0700(3)(d)(J)]

106.d.xi. Instrument specifications for all instruments used for monitoring compliance with OAR chapter 340 division 239. [OAR 340-239-0700(3)(d)(K)]

106.e. Waste-in-Place Report. The permittee subject to the requirements of Condition 76 must prepare an initial Waste-in-Place Report and annual Waste-in-Place reports each following year. The initial

Waste-in-Place Report must be submitted by October 1, 2022. Each annual Waste-in-Place Report must be prepared for the period of January 1 through December 31 of each year and be submitted to LRAPA ***by March 1***. The report also must include: [OAR 340-239-0700(3)(e)]

106.e.i. Landfill name, owner and operator, address, and the permit number as issued according to OAR chapter 340 division 218; [OAR 340-239-0700(3)(e)(A)]

106.e.ii. The landfill's status (active, closed, or inactive) and the estimated waste-in-place, as of December 31 of the prior year, in tons; [OAR 340-239-0700(3)(e)(B)]

106.e.iii. A description of the known and assumed waste composition in the landfill; and [OAR 340-239-0700(3)(e)(C)]

106.e.iv. The most recent topographic map of the site showing the areas with final cover and a geomembrane and the areas with final cover without a geomembrane with a calculation of the corresponding percentage geomembrane coverage over the landfill surface. [OAR 340-239-0700(3)(e)(D)]

106.f. Methane Generation Rate Report. The permittee subject to the requirements of Condition 76 must calculate the methane generation rate using the calculation procedures specified in Condition 96 and report the results, along with a summary of efforts being implemented at the landfill to reduce landfill gas emissions, to LRAPA: [OAR 340-239-0700(3)(f)]

106.f.i. By October 1, 2022 for landfills with greater than 200,000 tons waste-in-place; [OAR 340-239-0700(3)(f)(A)]

106.f.ii. The report must include the results of a visual inspection of the landfill cover and any action done to fix leaks and minimize methane releases. [OAR 340-239-0700(3)(f)(D)]

106.g. Performance Test Report. For a control system designed and operated to meet the requirements of OAR chapter 340 division 239, the permittee must submit a Performance Test Report that establishes the reduction efficiency or parts per million by volume no later than 180 days after the initial startup of the approved control system using EPA Method 25 or 25C (NMOC), 40 CFR part 60, appendix A, which is incorporated by reference herein. The permittee must submit any additional Performance Test Reports within 30 days after the date of completing each performance test, including any associated fuel analyses. The Performance Test Report must meet the following requirement: [OAR 340-239-0700(3)(h)]

106.g.i. The Performance Test Report must include the following information: [OAR 340-239-0700(3)(h)(A)]

106.g.i.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; [OAR 340-239-0700(3)(h)(A)(i)]

106.g.i.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; [OAR 340-239-0700(3)(h)(A)(ii)]

106.g.i.C. The documentation of the presence of asbestos or nondecomposable material for each area from which collection wells have been excluded based on the presence of asbestos or nondecomposable material; [OAR 340-239-0700(3)(h)(A)(iii)]

106.g.i.D. The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area; and [OAR 340-239-0700(3)(h)(A)(iv)]

106.g.i.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; [OAR 340-239-0700(3)(h)(A)(v)]

106.g.i.F. The provisions for the control of off-site migration. [OAR 340-239-0700(3)(h)(A)(vi)]

106.g.ii. The control device must be operated within the parameter ranges established during the initial or most recent performance test, the most recent permit, or manufacturer written specifications. The operating parameters to be monitoring are specified in Condition 93. [OAR 340-239-0700(3)(h)(B)]

106.h. Amended Design Plan. The permittee who has already been required to submit a design plan under OAR 340-239-0110(2) must submit as Amended Design Plan to LRAPA within 90 days of any event that requires a change to the Design Plan as follows: [OAR 340-239-0700(3)(j)]

106.h.i. At least 90 days before expanding operations to an area not covered by the previously approved Design Plan; and [OAR 340-239-0700(3)(j)(A)]

106.h.ii. Prior to installing, repairing, or expanding the gas collection system in a way that is not consistent with the Design Plan previously approved by LRAPA. [OAR 340-239-0700(3)(j)(B)]

106.i. Corrective Action reports: [OAR 340-239-0700(3)(k)]

106.i.i. For corrective action that is required according to Condition 94 and is expected to take longer than 120 days after the initial exceedance to complete, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to LRAPA as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit). The permittee must receive LRAPA approval regarding the plan for corrective action and the corresponding timeline. [OAR 340-239-0700(3)(k)(A)]

106.i.ii. For corrective action that is required according to Condition 94 and is not completed within 60 days after the initial exceedance, the permittee must submit a notification to LRAPA as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance. [OAR 340-239-0700(3)(k)(B)]

106.i.iii. If the permittee cannot fully implement a corrective action described in Condition 106.i.i or 106.i.ii within 60 days following the positive pressure or excess temperature measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement. [OAR 340-239-0700(3)(k)(C)]

106.j. 24-Hour High Temperature Report. Where the permittee must demonstrate compliance with the operational standard for temperature in Condition 94.b, a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit), and the carbon monoxide concentration measured is greater than or equal to 1,000 ppmv, the permittee must report the date, time, well identifier, temperature and carbon monoxide reading to LRAPA within 24 hours of the measurement unless a higher operating temperature value has been approved by LRAPA for the well. [OAR 340-239-0700(3)(m)]

106.k. Repairs and Temporary Shutdown Notification. At least 30 days prior to a scheduled shutdown, the permittee that temporarily shuts down a gas collection and control system per Condition 86 must submit a notification of the shutdown that includes a justification for the shutdown, the system component(s) that will require shutdown, and the approximate timeline for the shutdown. If the shutdown occurred due to catastrophic or other unplanned event as stipulated in Condition 86, the notification must be submitted within 10 days after the shutdown. [OAR 340-239-0700(3)(n)]

106.l. Root Cause Analysis Report. If the permittee cannot fully implement a corrective action required according to Condition 94 within 120 days after the initial exceedance, the permittee must submit the root cause analysis and additional analysis and reporting according to Condition 106.i as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit). The root cause analysis must include a thorough investigation of the landfill gas collection and control system to determine the primary cause, and any other contributing causes, of positive pressure or high temperature at a wellhead. The report must include all factors investigated, method used, and alternative causes that were analyzed. [OAR 340-239-0700(3)(o)]

106.m. Notwithstanding any other provision of OAR chapter 340 division 239, when any provision of OAR chapter 340 division 239 requires that any report, or information be submitted by the permittee, the

report must contain certification by a responsible official of the truth, accuracy, and completeness of the report. This certification, and any other certification required under OAR chapter 340 division 239, must state that, based on information and belief formed after reasonable inquiry, the statement and information in the report are true, accurate, and complete. [OAR 340-239-0700(3)(q)]

LRAPA REQUIREMENTS

Table 6: Emission Unit: GCCS with Enclosed Flare Specific Emission Limits and Standards

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Monitoring Condition(s)	Testing Condition(s)	Recordkeeping & Reporting Condition(s)
LRAPA 32-010(3)	107	PM	20 % Opacity	109	NA	118
LRAPA 32-015(2)(c)	108	PM	0.10 gr/dscf	109	NA	118
LRAPA 32-007	110	Enclosed Flare	Reduction of NMOC by 98% weight percent or reduce outlet NMOC to < 20 ppmv and methane by 99%	31.a.iii.A.1, 34, 46, & 82.a	112-115	116 – 118
LRAPA 32-007(b)	111	Enclosed Flare	At all times the GCCS is in operation the enclosed flare and/or EPUD generators must be utilized	35.f	NA	116 – 118

107. Applicable Requirement(s): The permittee must not allow visible emission to equal or exceed 20 percent opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour. [LRAPA 32-010(3)]

108. Applicable Requirement(s): The permittee must not cause, suffer, allow, or permit particulate matter emissions from the enclosed flare in the excess of the following limits of 0.10 grains per day standard cubic foot. [LRAPA 32-015(2)(c)]

109. Monitoring Requirement: At least quarterly, for a period of six (6) minutes, the permittee must visually survey the enclosed flare using EPA Method 22. For the purpose of the survey, visible emissions requiring action are considered to be any visible emission that leave the general location of the enclosed flare. The person conducting the EPA Method 22 does not have to be EPA Method 9 certified. If the permittee determines that a Modified EPA Method 9 (EPA Method 203B) test is required, that test must be conducted by a certified visible emission reader. However, the individual conducting the EPA Method 22 should be familiar with the procedures of EPA Method 9, including using the proper location to observe visible emissions. If the enclosed flare has identifiable visible emissions, the permittee must either immediately take corrective action to eliminate visible emissions or conduct a Modified EPA Method 9 (EPA Method 203B) test within 24 hours or both. [OAR 340-218-0050(3)(a) and LRAPA 32-010(2)]

    109.a. Recordkeeping Requirement(s): The permittee must maintain records of the visible emissions surveys, corrective actions (if necessary), and/or the results of any EPA Method 203B tests. [OAR 340-218-0050(3)(b)]

    109.b. Reporting Requirement(s): The permittee must submit the records of Condition 109.a in the semi-annual and annual reports submitted in accordance with Conditions 165.a and 165.b. [OAR 340-218-0050(3)(c)]

110. Applicable Requirement(s): The permittee must use the manufacturer's specifications of operating at minimum of 760° Celsius (1,400° Fahrenheit) at the inlet based on a 3-hour block average, until initial performance testing is completed, and a new minimum inlet temperature is established. The permittee must comply with this

standard at all times except during periods of startup, shutdown, and malfunction. The permittee must keep records with the amount of time the enclosed flare is below the established inlet temperature and the reasons for the deviation from the permitted temperature and any corrective actions taken. [OAR 340-218-0050(3)(a) and LRAPA 32-007(b)]

111. Applicable Requirement(s): The permittee must not operate the gas collection and control system (EU: GCCS) without the enclosed flare online and functioning properly. If the enclosed flare is offline or not functioning properly, the permittee must either divert the LFG to EPUD or ensure that within one (1) hour the gas mover system is shut down and all valves to EU: GCCS are closed. The permittee must operate the enclosed flare at least within the minimum control efficiencies stated in Conditions 31.a.iii.A.1 and 100.a. The permittee must perform routine maintenance of the enclosed flare and keep records as required by Conditions 34, 46 and 93.a. [LRAPA 32-007]

112. Testing Requirement(s): The permittee must verify the emission factors for PM, NO_X, CO, VOC, TRS and the inlet LFG gas heat content and demonstrate compliance with the reduction of NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen or less and reduction of methane by 99% by weight of Conditions 31.a.i.A and 82.a by testing the enclosed flare within 60 days after achieving the maximum production rate at which the enclosed flare will operate, but not later than 180 days after initial startup of the enclosed flare by following the test methods and procedures in Conditions 51 and 100 and in Table 7. [LRAPA 35-0120 and LRAPA 35-0140]

112.a. Methane: If the enclosed flare remains in compliance with the 99% destruction efficiency for three (3) consecutive years of performance tests, then the permittee may conduct performance test once every three (3) years, but no later than 45 days after each third anniversary date of the last performance test per Condition 83.a. [LRAPA 35-0120 and LRAPA 35-0140]

112.b. NMOC, PM, NO_X, CO, and VOC: If the results of the emission factor verification testing on the enclosed flare are less than the emissions factors in the permit and the enclosed flare is achieving the 98% reduction rate or reduction of the outlet concentration is less than 20 parts per million by volume (ppmv), dry basis as hexane at 3 percent oxygen for NMOC during the initial performance test, then the permittee must conduct a performance test every five (5) years no later than 45 days after the fifth 5th) anniversary date of the last performance test. If the results of the emission factor verification testing are greater than the emission factors in the permit but the NMOC reduction rate is met, the permittee must apply to revise the emission factors in the permit and retest to show compliance with the amended emission factors within one (1) year of the previous test until compliance is demonstrated. [LRAPA 35-0120 and LRAPA 35-0140]

Table 7: Test Methods by Pollutant

Measured Pollutant	Method	Standard
PM	DEQ Method 5	Emission Factor Verification
NO_X	EPA Method 7E	Emission Factor Verification
CO	EPA Method 10	Emission Factor Verification
VOC	EPA Method 18, 25/25A or 25C	Emission Factor Verification
Total Reduced Sulfur	EPA Method 16, 16A, or 16C	Emission Factor Verification
NMOC	EPA Method 25 or 25C	98% Reduction Efficiency or outlet of < 20 ppmv
Methane Outlet Concentration	EPA Method 25 or 25C	99% Destruction Efficiency
LFG gas heat value	EPA Method 2E and Method 25 or 25C	Gas heat value verification
Opacity	EPA Method 203B	≤ 20 percent

113. Testing Requirement(s): The permittee must submit a source test plan at least 60 days prior to the test date and be approved by the LRAPA Source Test Coordinator. All tests must be conducted in accordance with the DEQ's

Source Sampling Manual and the approved source test plan. Test data and results must be submitted for review to the Source Test Coordinator within 60 days of the test date unless otherwise approved in the source test plan. [LRAPA 35-0120(1) & (3)]

114. Testing Requirement(s): The permittee may request an extension from LRAPA for the testing deadline stated in Condition 112 if the permittee provides adequate justification for the extension; [LRAPA 35-0120(3)]

115. Testing Requirement(s): If any required performance test is declared invalid by LRAPA or fails to demonstrate compliance with the applicable limits in Conditions 31.a.iii.A.1, 82.a, and 112 when following procedures in Conditions 112 through 114, then the testing must be repeated. The permittee or its agent must submit a new source test plan to LRAPA for approval within 30 calendar days from the date LRAPA declares a source test invalid or the permittee receives source test results that fail to demonstrate compliance with the applicable limits. [LRAPA 34-0120(1)]

116. Recordkeeping Requirement(s): The permittee must prepare and maintain a written Operation and Maintenance Plan (O&M Plan) for the enclosed flare used for the EU: GCCS. The O&M Plan must be reviewed annually by the permittee and revised as necessary based on the operation of the enclosed flare. The initial copy must be submitted to LRAPA prior to startup of the enclosed flare. The O&M Plan must contain detailed, complete, step-by-step written procedures of the operation of the enclosed flare. The O&M must be made available to LRAPA personnel for inspection upon request. [LRAPA 32-007(1) and LRAPA 34-016(a)

117. Recordkeeping Requirement(s): For the enclosed flare, the permittee must collect and keep records of the data and information required below: [LRAPA 32-007(1)(b)]

    117.a. All visible emission surveys of the enclosed flare; [LRAPA 32-007(1)(b) and LRAPA 34-016(a)]

    117.b. Operating temperatures measured at the inlet based on a 3-hour block average specified in Condition 110; [LRAPA 32-007(1)(b)]

    117.c. Total LFG flow to the enclosed flare; [LRAPA 32-007(1)(b)]

    117.d. Any inspection of the enclosed flare; [LRAPA 32-007(1)(b)] and

    117.e. Any maintenance performed. [LRAPA 32-007(1)(b)]

118. Recordkeeping Requirement(s): The permittee must report each instance in which the enclosed flare did not meet the requirements of Conditions 107 through 111 including periods of startup, shutdown, and malfunction. These instances are deviations and must be reported in accordance with Conditions 161. [LRAPA 32-007(3)]

REQUIREMENTS FOR EMISSION UNITS: UPR AND PIR

Table 8: Summary of Requirements for Emission Units: UPR and PIR

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Monitoring Condition(s)	Testing Condition(s)	Recordkeeping & Reporting Condition(s)
LRAPA 48-015(1)	119	PM	Visible emissions	120	NA	121

119. Applicable Requirement(s): The permittee must not allow any materials to be handled, transported, or stored; or a building, its appurtenances; or a road to be used, constructed, altered, repaired or demolished; or any equipment to be operated, without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions must include, but not be limited to the following: [LRAPA 48-015(1)] This condition is only enforceable by LRAPA.

    119.a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

    119.b. Application of water or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces which can create airborne dusts;

    119.c. Full or partial enclosure of materials stockpiles in cases where application of water or other suitable chemicals is not sufficient to prevent particulate matter form becoming airborne;

    119.d. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty

materials;

119.e. Adequate containment during sandblasting or other similar operations;

119.f. The covering moving, open bodied trucks transporting materials likely to become airborne; and

119.g. The prompt removal from paved streets of earth or other material which does or may become airborne.

120. Monitoring Requirement(s): At least once each month, for a minimum period of 30 minutes, the permittee must visually survey the site for any sources of excess fugitive emissions. For the purpose of this survey, excess fugitive emissions are considered to be any visible emissions that leave the plant site boundaries for more than 18 seconds in a six (6) minute period. The person conducting the observation must follow the procedures of EPA Method 22. If sources of visible emissions are identified, the permittee must: [OAR 340-218-0050(3)(a), LRAPA 34-016(1) and LRAPA 48-015(2) & (3)]

120.a. Immediately take corrective action to minimize the fugitive emissions, including but not limited to those actions identified in Condition 119; and

120.b. Develop an LRAPA-approved fugitive emission control plan upon request by LRAPA if the above precautions are not adequate and implement the plan whenever fugitive emissions leave the property for more than 18 second in a six (6) minute period.

121. Recordkeeping Requirement(s): The permittee must maintain records of the fugitive emissions surveys and corrective actions, as applicable. The record must be maintained onsite for a period of a least five (5) years and must be provided to LRAPA personnel of request. [OAR 340-218-0050(3)(b) and LRAPA 34-016(1)]

REQUIREMENTS FOR AGGREGATE INSIGNIFICANT EMISSIONS AND CATEGORICALLY INSIGNIFICANT ACTIVITIES

Table 9: Requirements for Aggregate Insignificant Emissions (EU: AIE) and Categorically Insignificant Activities (EU: CIA):

Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard	Monitoring Condition(s)	Testing Condition(s)	Recordkeeping & Reporting Condition(s)
LRAPA 32-010(3)	122.a	PM	20 % Opacity	123	123	123
LRAPA 32-015(2)(c)	122.b	PM	0.10 gr/dscf	123	123	123
LRAPA 32-045	122.c	PM	Process limit weight	123	123	123
40 CFR 60.4205(b)	124-128	PM, NO_X & CO	EPA Tier 3 standards for emergency CI ICE	124.a, 127.a, 127.b, & 128.a	NA	129

122. Applicable Requirement(s): LRAPA acknowledges that aggregate insignificant emission units (EUs: AIE) identified by rule as either categorically insignificant activities or aggregate insignificant emission [LRAPA Title 12 and OAR 340-200-0020] exist at facilities required to obtain a LRAPA Title V Operating Permit. Emission Units: AIE must comply with all applicable requirements. In general, the requirements that could apply to EUs: AIE are as follows:

122.a. LRAPA 32-010(3) – 20% opacity for a period or periods aggregating more than three (3) minutes in any hour for sources other than wood fired boilers.

122.b. LRAPA 32-015(2)(c) – 0.10 gr/dscf for non-fugitive, non-fuel burning equipment installed, constructed, or modified after April 16, 2015.

122.c. LRAPA 32-045 – Process weight limit for non-fugitive, non-fuel burning process equipment.

123. Testing, Monitoring, and Recordkeeping Requirement(s): Unless otherwise specified in this permit or an applicable requirement LRAPA is not requiring any testing, monitoring, recordkeeping, or reporting for the applicable emissions limits and standards that apply to the EUs: AIE. However, if testing were performed for compliance purposes, the permittee would be required to use the test methods identified in the definitions of "opacity" and "particulate matter" in LRAPA Title 12 and perform the testing in accordance with the DEQ's *Source Sampling Manual*.

CI Internal Combustion Engine: 40 CFR part 60 subpart IIII

124. Applicable Requirement(s): The permittee of a 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in Condition 124.a, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. [40 CFR 60.4205(b) and LRAPA 46-535(3)(cccc)]

124.a. Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kW (3,000 hp) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in Condition 124.a.i. [40 CFR 60.4202(a) and LRAPA 46-535(3)(cccc)]

124.a.i. For engines with a rated power greater than or equal to 37 kW (50 hp), the Tier 2 or Tier 3 emission standards for new nonroad CI engines for the same rated power as described in 40 CFR part 1039, appendix I, for all pollutants and the smoke standards as specified in 40 CFR 1039.105 beginning in model year 2007. [40 CFR 60.4202(a)(2) and LRAPA 46-535(3)(cccc)]

124.a.i.A. The permittee must comply with the Tier 3 standards as summarized in the following table: [40 CFR 1039, Appendix I, Table 3 – Tier 3 Emission Standards and LRAPA 46-535(3)(cccc)]

Table 10: 40 CFR 1039, Appendix I, Table – Tier 3 Emission Standards

Rated Power (kW)	Starting Model Year	NO_X+NMHC (g/kW-hr)	CO (g/kW-hr)	PM (g/kW-hr)
130≤ kW<560	2006	4.0	3.5	0.20

124.a.i.B. The permittee must not exceed the following smoke standards: [40 CFR 1039.105(b) and LRAPA 46-535(3)(cccc)]

124.a.i.B.1 20 percent during the acceleration mode. [40 CFR 1039.105(b)(1) and LRAPA 46-535(3)(cccc)]

124.a.i.B.2 15 percent during the lugging mode. [40 CFR 1039.105(b)(2) and LRAPA 46-535(3)(cccc)]

124.a.i.B.3 50 percent during the peaks in either the acceleration or lugging modes. [40 CFR 1039.105(b)(3) and LRAPA 46-535(3)(cccc)]

124.a.ii. The permittee of a stationary CI ICE with a displacement of less than 30 liters per cylinder must use diesel fuel that meets the requirements of Conditions 124.a.i.A and 124.a.i.B: [40 CFR 60.4207(b) and LRAPA 46-535(3)(cccc)]

124.a.ii.A. A maximum sulfur content of 15 ppm per gallon. [40 CFR 1090.305(b) and LRAPA 46-535(3)(cccc)]

124.a.ii.B. Cetane index or aromatic content, as follows: [40 CFR 1090.305(c) and LRAPA 46-535(3)(cccc)]

124.a.ii.B.1 Minimum cetane index of 40; [40 CFR 1090.305(c)(1) and LRAPA 46-535(3)(cccc)] or

124.a.ii.B.2 Maximum aromatic content of 35 volume percent. [40 CFR 1090.305(c)(2) and LRAPA 46-535(3)(cccc)]

125. Monitoring Requirement(s): The permittee complying with the emissions standards specified in 40 CFR part 60 subpart IIII must do all the following except as permitted under Condition 128. [40 CFR 60.4211(a) and

LRAPA 46-535(3)(cccc)]

125.a. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; [40 CFR 60.4211(a)(1) and LRAPA 46-535(3)(cccc)]

125.b. Change only those emission-related settings that are permitted by the manufacturer; and [40 CFR 60.4211(a)(2) and LRAPA 46-535(3)(cccc)]

125.c. Meet the requirements of 40 CFR part 1068, as applicable. [40 CFR 60.4211(a)(3) and LRAPA 46-535(3)(cccc)]

126. Applicable Requirement: If the permittee owns or operates a 2007 model year and later stationary CI internal combustion engine must comply with the emission standards specified in Condition 124, the permittee must comply by purchasing an engine certified to the emission standards in Condition 124, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in Condition 128. [40 CFR 60.4211(c) and LRAPA 46-535(3)(cccc)]

127. Applicable Requirement(s): If the permittee owns or operates an emergency stationary ICE, the permittee must operate the emergency stationary ICE according to the requirements in Conditions 127.a. and 127.b. In order for the engine to be considered an emergency stationary ICE under 40 CFR part 60 subpart IIII, any operation other than emergency operation and maintenance and testing, as described in Conditions 127.a. and 127.b., is prohibited. If the permittee does not operate the engine according to the requirements in Conditions 127.a. and 127.b, the engine will not be considered an emergency engine under 40 CFR part 60 subpart IIII and must meet all requirements for non-emergency engines. [40 CFR 60.4211(f) and LRAPA 46-535(3)(cccc)]

127.a. There is no time limit on the use of emergency stationary ICE in emergency situations. [40 CFR 60.4211(f)(1) and LRAPA 46-535(3)(cccc)]

127.b. The permittee may operate the emergency stationary ICE for any combination of the purposes specified in Condition 127.b.i. for a maximum of 100 hours per calendar year. [40 CFR 60.4211(f)(2) and LRAPA 46-535(3)(cccc)]

127.b.i. Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition LRAPA for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. [40 CFR 60.4211(f)(2)(i) and LRAPA 46-535(3)(cccc)]

128. Applicable Requirement(s): If the permittee does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows: [40 CFR 60.4211(g) and LRAPA 46-535(3)(cccc)]

128.a. If the permittee owns or operates of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, the permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device in no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions or within 1 year after the permittee change emission-related setting in a way that is not permitted by the manufacturer. [40 CFR 60.4211(g)(3) and LRAPA 46-535(3)(cccc)]

129. Reporting and Recordkeeping Requirement(s): If the permittee owns or operates a stationary CI internal combustion engine, the permittee must meet the following notification, reporting, and recordkeeping requirements: [40 CFR 60.4214 and LRAPA 44-150(5)(cccc)]

129.a. If the stationary CI internal combustion engine is an emergency stationary internal combustion engine,

the permittee is not required to submit an initial notification. Starting with the model years in Table 5 to 40 CFR 63 Subpart IIII, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee must record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214(b) and LRAPA 46-535(3)(cccc)]

PLANT SITE EMISSION LIMITS (PSELs)

130. Applicable Requirements: The plant site emissions must not exceed the following limits for any 12 consecutive calendar month period: [LRAPA 42-0040 and 42-0041]

Table 11: Plant Site Emission Limits (PSELs)

Pollutant	Plant Site Emissions Limits (tons/yr)	Unassigned Emissions (tons/yr)
PM	24	0
PM_{10}	14	0
$PM_{2.5}$	9	0
NO_X	39	0
CO	99	0
SO_2	39	0
VOC	39	0
H_2S	9	0
TRS	9	0
NMOC	49	0
GHG	261,056	0

130.a. ***By the 15th working day of each month***, the permittee must demonstrate compliance with PSELs in Condition 130 for the previous 12 consecutive calendar month period for each pollutant, except GHG, in accordance with the following procedures. [LRAPA 42-0080(4)(c)]

$$E = \sum_{i=1}^{12} \frac{EF \cdot P_i}{K}$$

Where:
- E = Emissions in tons per year;
- ∑ = Symbol representing "summation of";
- i = Month, beginning with the most recent, summing for 12 preceding, consecutive calendar months;
- EF = Pollutant emission factors (see Table 12 in Condition 130.b)
- P = Monthly LFG flow to the flare (MMscf or MMBtu) [Conversion Factor: 1,026 MMBtu of natural gas = 1.026 MMscf] and monthly VMT;
- K = Conversion Factor Constant: 2,000 pounds per 1 ton

130.b. The permittee must use the following emission factors for calculating the pollutants emission, unless alternative emission factors as approved by LRAPA. The permittee may request or LRAPA may require using alternative emission factors provided the alternative emission factors are based on actual test data or other documentation (e.g., AP-42 compilation of emission factors) that has been reviewed and approved by LRAPA by way of a modified permit. The emission factors are not enforceable limits unless otherwise specified in this permit. [LRAPA 34-016(1) and LRAPA 42-0080(4)(c)]

Table 12: Emission Factors

Emission Unit (EU)	Pollutant	Emission Factor (EF)	EF Unit
Fugitive Landfill Gas [1] (EU: LFG)	CO	10.3	lb/MMscf
	VOC	52.6	lb/MMscf
	NMOC (as hexane)	133.1	lb/MMscf
	H_2S	3.14	lb/MMscf
Landfill Gas Collection and Control System (EU: GCCS)	PM, PM_{10}, $PM_{2.5}$	17	lb/MMscf CH_4
	NO_X	0.06	lb/MMBtu
	CO	0.20	lb/MMBtu
	SO_2	16.64	lb/MMscf
	VOC	1.07	lb/MMscf
	HAPs	0.352	lb/MMscf
	H_2S	0.062	lb/MMscf
	TRS	0.062	lb/MMscf
	NMOC	2.66	lb/MMscf
Unpaved Roads (EU: UPR) [2]	PM	0.98	lb/VMT
	PM_{10}	0.30	lb/VMT
	$PM_{2.5}$	0.030	lb/VMT
Paved Industrial Roads (EU: PIR) [2]	PM	0.136	lb/VMT
	PM_{10}	0.027	lb/VMT
	$PM_{2.5}$	0.007	lb/VMT

[1] To determine the Fugitive LFG emissions, US EPA LandGEM must be used.
[2] VMT to be tracked includes only vehicles that deliver refuse. Staff travel on-site has been determined to be an aggregate insignificant activity.

131. For GHG, the permittee must register and report emission in accordance with OAR 340-215. [OAR 340-215 and LRAPA 34-016(1)]

MONITORING REQUIRMENTS

General Monitoring Requirements [OAR 340-218-0050(3)]

132. The permittee must not knowingly render inaccurate any required monitoring device or methods. [OAR 340-218-0050(3)(a)(E)]

133. The permittee must use the same methods used to determine compliance as those used to determine actual emission for fee purposes and can be no less rigorous than the requirements of OAR 340-218-0080. [OAR 340-218-0050(3)(a)(F)]

134. Monitoring requirements must commence on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(a)(G)]

Specific Monitoring Requirements [OAR 340-218-0050 and LRAPA 34-016]

135. At least monthly for EUs: UPR and PIR, and at least quarterly for EU: GCCS enclosed flare, for a minimum

period of 30 minutes, the permittee must visually survey the plant for any sources of excess fugitive emissions. For the purpose of this survey, excess fugitive emissions are considered to be any visible emissions that leave the plant site boundaries for more than 18 seconds in a six (6) minute period. The person conducting the observation must follow the procedures of EPA Method 22. If sources of visible emissions are identified, the permittee must:

135.a. Immediately take corrective action to minimize the fugitive emissions, including but not limited to those actions identified in Conditions 4 and 120; and

135.b. Develop an LRAPA-approved fugitive emission control plan upon request by LRAPA if the above precautions are not adequate and implement the plan whenever fugitive emissions leave the property for more than 18 seconds in a six (6) minute period.

Asbestos Monitoring:

136. The friable and non-friable asbestos disposal must meet the monitoring requirements in Conditions 23 through 26.

Federal Monitoring:

137. Active collection system per Condition 45:

137.a. Measure Monthly:

137.a.i. Measure the gauge pressure in the gas collection header as applicable in Condition 35.b;

137.a.ii. Monitor temperature 55°C (131°F) or 62.8°C (145°F) as applicable in Condition 35.c or 35.d.i; and

137.a.iii. Monitor nitrogen and oxygen concentrations ($\leq$ 20% N_2 or $\leq$ 5% O_2) as applicable in Condition 35.d;

138. Enclosed flare must be calibrated, maintained, and operated according to manufacturer's specifications according to Condition 46:

138.a. Temperature monitoring device with continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 degrees Celsius; and

138.b. A device that records flow to or bypass of the control device (if applicable).

139. The standards in Conditions 45 and 46 apply at all times, including malfunctions according to Condition 47.

140. Surface methane operational standard: Quarterly surface concentration must be monitored according to Condition 48:

141. Deviations: For the purposes of landfill monitoring and startup, shutdown, and malfunction (SSM) requirements must include items in Condition 49.

OAR 340 division 239 Landfill Gas Emission Monitoring:

142. Surface Emission Monitoring (SEM) according to Condition 92:

142.a. Monitored Quarterly:

142.a.i. Instantaneous Surface Monitoring: $\leq$ 500 ppmv; and

142.a.ii. Integrated Surface Monitoring: $\leq$ 25 ppmv.

143. Gas Control System Equipment Monitoring according to Condition 93.

143.a. Enclosed Flare operation per manufacturer's specifications:

143.a.i. Temperature monitoring device with continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius; and

143.a.ii. A device that records flow to or bypass of the control device.

143.b. Components containing landfill gas and under positive pressure must be monitored quarterly for leaks; and

143.c. Gauge pressure must be measured at the gas collection heard at each well on a monthly basis.

144. Wellhead Monitoring according to Condition 94:

144.a. If positive pressure readings occur, then action must be taken;

144.b. If well exceeds operating parameters for temperature, then action must be taken;

144.c. Cover integrity must be monitored, and repairs done on a monthly basis; and

144.d. The standards in Conditions 94 apply at all times, including during malfunctions.

TESTING REQUIRMENTS

General Testing Requirements: [OAR 340-218-0050(3)(a)(B)&(C), LRAPA 35-0120(3) and LRAPA 35-0140]

145. Unless otherwise specified in this permit, the permittee shall conduct all testing in accordance with the DEQ's *Source Sampling Manual*.

145.a. Unless otherwise specified by a state or federal regulation, the permittee shall submit a source test plan to LRAPA at least 30 days prior to the date of the test. The test plan must be prepared in accordance with DEQ's *Source Sampling Manual* and address any planned variations or alternatives to prescribed test methods. The permittee should be aware that if significant variations are requested, it may require more than 30 days for LRAPA to grant approval and may require EPA approval in addition to approval by LRAPA.

145.b. Only regular operating staff may adjust the processes or emission control device parameters during a compliance source test and within two (2) hours prior to the tests. Any operating adjustments made during a compliance source test, which are a result of consultation during the tests with source testing personnel, equipment vendors, or consultants, may render the source test invalid.

145.c. Unless otherwise specified by permit condition or LRAPA approved source test plan, all compliance source test must be performed as follows:

145.c.i. At least 90% of the maximum design capacity for initial performance tests on new or modified equipment; or

145.c.ii. At least 90% of the normal maximum operating rate for existing equipment. For purposes of this permit, the normal maximum operating rate is defined as no less than the 90th percentile of the average hourly operating rates during a 12-month period immediately preceding the source test. Data supporting the normal maximum operating rate must be included with the source test report. Average hourly operating rates can be determined by taking daily operating data and dividing by the number of hours of operation.

145.d. Each source test must consist of at least three (3) test runs and the emissions results must be reported as the arithmetic average all valid test runs. If for reasons beyond the control of the permittee a test run is invalid, LRAPA may accept two (2) test runs for demonstrating compliance with the emission limit or standard.

145.e. Source testing reports prepared in accordance with DEQ's *Source Sampling Manual* must be submitted to LRAPA within 60 days of completing any required source test, unless a different time period is approved in the source test submitted prior to the source test.

Specific Testing Requirements: [OAR 340-218-0050(3)(a)(B)&(C), LRAPA 35-0120 and LRAPA 35-0140]

146. The permittee must test the EU: GCCS Enclosed Flare with the following:

Enclosed Flare Requirements:

146.a. NMOC: Performance testing the enclosed flare must meet the 98 weight-percent efficiency or the 20 ppmv outlet NMOC concentration levels per Condition 51 and conducted under conditions specified in Condition 52.

146.b. Methane: Performance testing the enclosed flare must achieve a methane destruction efficiency of at least 99 percent by weight of Condition 82.a using the test methods in Condition 100.

146.c. Performance testing of the enclosed flare must meet the requirements of Conditions 112 through 115.

147. The permittee must follow the procedural testing requirement in the following conditions: [LRAPA 35-0120 and OAR 340-218-0050(3)(a)]

Procedural Testing Requirements:

147.a. Hydrocarbon detector specification must meet the requirements in Condition 95.

147.b. Determination of methane generation rate must meet the requirements in Condition 96.

147.c. Surface emission monitoring procedures must meet the requirements in Condition 97.

147.d. Gas collection and control system leak inspection must meet the requirements in Condition 98.

147.e. Determination of expected gas generation flow rate must meet the requirements in Condition 99.

RECORDKEEPING REQUIRMENTS

General Recordkeeping Requirements: [OAR 340-218-0050(3)(a) and (b); and LRAPA 34-016]

148. The permittee must maintain the following general records of testing and monitoring required by this permit:
    - 148.a. The date, place as defined in the permit, and time of sampling or measurements;
    - 148.b. The date(s) analyses were performed;
    - 148.c. The company or entity that performed the analyses;
    - 148.d. The analytical techniques or methods used;
    - 148.e. The results of such analyses;
    - 148.f. The operating conditions as existing at the time of sampling or measurement; and
    - 148.g. The records of quality assurance for continuous monitoring systems (including but not limited to quality control activities, audits, calibration drift checks).
149. Unless otherwise specified by permit condition, the permittee must make every effort to maintain 100 percent of the records required by the permit. If information is not obtained or recorded for legitimate reasons (e.g., the monitor or data acquisition system malfunctions due to a power outage), The missing record(s) must not be considered a permit deviation provided the amount of data lost does not exceed 10% of the averaging periods in a reporting period or 10% of the total operating hours in a reporting period, if no averaging time in specified. Upon discovering that a required record is missing, the permittee must document the reason for this missing record. In addition, any missing record that can be recovered from other available information must not be considered a missing record. [OAR 340-214-0114, 340-218-0050(3)(b) and LRAPA 35-016]
150. Recordkeeping requirements must commence on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(b)(C)]
151. Unless otherwise specified, the permittee must retain records of all required monitoring data and support information for a period of at least five (5) years for the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. All existing records required by the previous Air Contamination Discharge Permit or LRAPA Title V Operating Permit must also be retained for five (5) years from the date of the monitoring sample measurement, report or application. [OAR 340-218-0050(3)(b)(B)]

Specific Recordkeeping Requirements: [OAR 340-218-0050(3)(a) and (b); and LRAPA 34-016]

152. <u>Facility-Wide General Recordkeeping:</u>
    - 152.a. Fugitive emission surveys and corrective actions according to Condition 6;
    - 152.b. Maintain a log of all complaints received and action takes according to Condition 10.
    - 152.c. Sulfur content for fuel oil used in the auxiliary equipment according to Condition 12.
153. <u>Asbestos Recordkeeping:</u>
    - 153.a. Inspect ACWM disposal area each day according to Condition 26.
    - 153.b. Maintain waste shipment records for at least two (2) years according to Condition 27.
    - 153.c. Immediate notification to LRAPA in the presence of improperly enclosed or uncovered asbestos-containing waste and written report by the following day according to Condition 28.
    - 153.d. A log of visible observation taken during unloading according to Condition 29.
154. <u>Federal Recordkeeping:</u>
    - 154.a. Records of design capacity report, current amount of solid waste in-place, and year-by-year waste acceptance rate according to Condition 53.
    - 154.b. Up-to-date, readily accessible records for the life of the control system equipment including initial performance test and any compliance determinations according to Condition 54.
    - 154.c. Records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded according to Condition 55.
    - 154.d. Records of the date, time, and duration of each startup and/or shutdown periods for any affected source according to Condition 56.
    - 154.e. Record demonstrating compliance with operational standards in 35.f. In the event that the affected unit fails to meet an applicable standard, recorded information according to Condition 57.

154.f. Records of information on the collection system that must be kept for the life of the collection system according to Condition 58.

154.g. Records of all collection and control system exceedances of the operational standards and the root cause analysis according to Condition 59 must be kept for at least five (5) years.

154.h. Records of all collection and control system monitoring data for parameters measured according to Condition 60 must be kept for at least five (5) years.

154.i. Records demonstrating compliance with wellhead temperature according to Condition 61.

154.j. Records all of site-specific methane surface emission monitoring according to Condition 62, must be kept or at least five (5) years.

154.k. All records required to be maintained by 40 CFR part 60, subpart Cf that are submitted electronically via the EPA's CDX may be maintained in electronic format according to Condition 63.

155. OAR 340 division 239 Landfill Gas Emissions Recordkeeping: All records must be kept for at least five (5) years according to Condition 104.a:

155.a. Record of all gas collection system downtime exceeding five (5) days according to Condition 104.a.i.

155.b. Record of all gas control system downtime exceeding one (1) consecutive hour according to Condition 104.a.ii.

155.c. Records of all exceedances of instantaneous surface readings of greater than 100 ppmv according to Condition 104.a.iii.

155.d. Records of any positive wellhead gauge pressure measurements must have records according to Condition 104.a.iv.

155.e. Records of any wellhead temperature greater than 62.8ºC (145ºF) must have records according to Condition 104.a.v.

155.f. Records of monthly solid waste acceptance rate according to Condition 104.a.vi.

155.g. Records of current amount of waste-in-place according to Condition 104.a.vii.

155.h. Records of nondecomposable waste information according to Condition 104.a.viii.

155.i. Records of all results of performance test conducted according to Condition 104.a.ix.

155.j. Records of all methane migration measures taken according to Condition 104.a.x.

155.k. Records of all construction activities must contain all listed information in Condition 104.a.xi.

155.l. Records for any root cause, corrective action taken, and root cause analysis conducted according to Condition 104.a.xii.

155.m. Records of enclosed flare equipment operating parameters specified under Condition 104.a.xiii.

155.n. Records of all collection and control system exceedances according to Condition 104.a.xiv.

155.o. Records of annual recalculations of waste-in-place from volume to mass according to Condition 104.a.xv.

155.p. Record of date of initial placement of waste in newly constructed landfill cells according to Condition 104.a.xvi.

155.q. Records of any component leaks above 250 ppmv according to Condition 104.a.xvii.

155.r. Records of maximum design capacity of the landfill according to Condition 104.a.xviii

156. OAR 340 division 239 Landfill Gas Emissions Recordkeeping: All records must be kept for the life of the control system equipment according to Condition 104.b:

156.a. Records of the density of wells, horizontal collectors, surface collectors, and other gas extraction devices according to Condition 104.b.i.

156.b. Records of expected gas generation flow rate according to Condition 104.b.ii.

156.c. Records of percent reduction of methane achieved by the enclosed flare according to Condition 104.b.iii.

156.d. Records of the average temperature and percent reduction of methane of the enclosed flare according to Condition 104.b.iv.

156.e. Records of an up-to-date map showing each existing and planned gas collector in the system according to Condition 104.b.v.

156.f. Records of an up-to-date plot map of all existing and planned collectors according to Condition 104.b.vi.

157. LRAPA Recordkeeping – Enclosed Flare:

157.a. The Operation and Maintenance Plan (O&M Plan) for the enclosed flare according to Condition 116.

157.b. Records of all information required for the enclosed flare according to Condition 117.

157.c. Records of each instance in which the enclosed flare did not meet requirements according to Condition 118.

158. LRAPA Recordkeeping – EU: UPR and PIR:

158.a. Records of all fugitive emission surveys and corrective action according to Condition 121.

159. PSELs Recordkeeping:

159.a. ***By the 15th of each month***, the PSELs for the previous consecutive 12 calendar months will be determined per Condition 130.a.

REPORTING REQUIRMENTS [OAR 340-218-0050(3)(c)]

General Reporting Requirements

160. Excess Emissions Reporting: The permittee must report all excess emissions as follows: [LRAPA 36-010, 36-025(1), and OAR 340-218-0050(3)(c)]

160.a. Immediately (within one (1) hour of the event) notify LRAPA of an excess emission event by phone, email, or facsimile; and

160.b. Within fifteen (15) days of the excess emissions event, submit a written report that contains the following information:

160.b.i. The date and time of the beginning of the excess emissions event and the duration or best estimate of the time until return to normal operation;

160.b.ii. The date and time the owner or operator notified LRAPA of the event;

160.b.iii. The equipment involved;

160.b.iv. Whether the event occurred during planned startup, planned shutdown, scheduled maintenance, or as a result of a breakdown, malfunction, or emergency;

160.b.v. Steps taken to mitigate emissions and corrective action taken;

160.b.vi. The magnitude and duration of each occurrence of excess emissions during the course of an event and the increase over normal rates or concentrations as determined by continuous monitoring or best estimate (supported by operating data and calculations);

160.b.vii. The final resolution of the cause of the excess emissions; and

160.b.viii. Where applicable, evidence supporting any claim that emissions in excess of technology-based limits were due to any emergency pursuant to LRAPA 36-040.

160.c. In the event of any excess emissions which are of a nature that could endanger public health and occur during non-business hours, weekends, or holidays, the permittee must immediately notify LRAPA by calling the Oregon Emergency Response System (OERS). The current number is 1-800-452-0311.

160.d. If startups, shutdowns, or scheduled maintenance may result in excess emissions, the permittee must submit startup, shutdown, or scheduled maintenance procedures used to minimize excess emissions to LRAPA for prior authorization, as required in LRAPA 36-010 and 36-015. New or modified procedures must be received by LRAPA in writing at least 72 hours prior to the first occurrence of the excess emission event. The permittee must abide by the approved procedures and have a copy available at all times.

160.e. The permittee must notify LRAPA of planned startup/shutdown or scheduled maintenance events only if required by permit condition or if it results in excess emissions. When notice is required by this condition, it must be made in accordance with Condition 160.a and 160.b.

160.f. The permittee must maintain a log of all excess emissions in accordance with LRAPA 36-025(3). However, the permittee is not required to submit the detailed log with the semi-annual and annual monitoring reports. The permittee is only required to submit a brief summary listing the date, time, and the affected emissions units for each excess emission that occurred during the reporting period.

[OAR 340-218-0050(3)(c)]

161. Permit Deviation Reporting: The permittee must promptly report deviations from permit requirements that do not cause excess emissions, including those attributable to upset conditions, as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. "Prompt" is defined in OAR 340-218-0050(3)(c)(B) as 15 days. Deviations that cause excess emissions, as specified in LRAPA Title 36 must be reported in accordance with LRAPA 36-025. [OAR 340-218-0050(3)(c)(B)]

162. All required reports must be certified by a responsible official consistent with OAR 340-218-0040(5). [OAR 340-218-0050(3)(c)(D)]

163. Reporting requirements must commence on the date of permit issuance unless otherwise specified in the permit. [OAR 340-218-0050(3)(c)(E)]

164. Reports must be sent to the following regulatory agencies addresses, unless otherwise instructed:

Lane Regional Air Protection Agency
1010 Main Street
Springfield, OR 97477
(541) 736-1056

Enforcement and Compliance Assurance Division
Region 10 (20-C04)
U.S. Environmental Protection Agency
1200 Sixth Avenue, Suite 155
Seattle, WA 98101

Specific Reporting Requirements [OAR 340-218-0050(3)(c)]

165. The permittee must submit three (3) copies of the semi-annual monitoring report, using LRAPA-approved forms, covering the period January 1 to June 30 ***by August 31***, and covering the period July 1 to December 31 ***by March 1***, unless otherwise approved in writing by LRAPA. Two (2) copies of the report shall be submitted to LRAPA and one (1) copy to EPA Region 10. The semi-annual monitoring report shall include the semi-annual compliance certification. All instances of deviations from permit requirements must be clearly identified in such reports: [OAR 340-218-0050(3)(c)(A) and 340-218-0080(6)(c)]

165.a. The semi-annual report is ***due on August 31*** and must include the semi-annual compliance certification, and all information identified in Condition 67. [40 CFR 63.1981(h), OAR 340-239-0700(3)(c), OAR 340-218-0080(6)(c) and ACDP 06/15/22 Condition 38.b]

165.a.i. Any exceedances, including SSM, of the parameters in Condition 67.a and 106.c.iv;

165.a.ii. Any time the gas stream was diverted from the control device according to Condition 67.b;

165.a.iii. Any time when the control device was not operating according to Condition 67.c and 106.c.v;

165.a.iv. All periods when the collection system was not operating according to Condition 67.d and 106.c.vi;

165.a.v. Each exceedance 500 ppm of surface methane concentrations according to Condition 67.e;

165.a.vi. Date of installation and location of each well or collection system expansion according to Condition 67.f and 106.c.vii;

165.a.vii. Any corrective action analysis for which corrective actions were required according to Condition 67.g and 106.c.ii;

165.a.viii. Any enhanced monitoring conducted according to Condition 67.h and 106.c.viii;

165.a.ix. All instantaneous surface reading of 100 ppm or greater according to Condition 106.c.i;

165.a.x. All known, prevented or suspected subsurface landfill fire(s) according to Condition 106.c.iii; and

165.a.xi. Enclosed flare: All three-hour periods of operation during which the average temperature was more than 28ºC (82ºF) below the average combustion temperature during the most recent performance test according to Condition 106.c.ix.

165.b. The annual report is ***due on March 1*** and must consist of the following: [OAR 340-218-0050(3)(c)(A) and 340-218-0080(6)(c)]

165.b.i. Emission Fee Report; [OAR 340-220-0100]

165.b.ii. Excess Emissions Upset Log; [OAR 340-214-0340]

165.b.iii. Second Semi-Annual Compliance Certification; [OAR 340-218-0080]

165.b.iv. Asbestos Disposal and Cover Review Forms signed by employee according to Condition 30; [LRAPA 32-077 and SFO 21-3830]

165.b.v. Total volume of landfill gas collected according to Condition 106.d.ii; [OAR 340-239-0700(3)(d)(B)]

165.b.vi. Average composition of the landfill gas collection according to Condition 106.d.iii; [OAR 340-239-0700(3)(d)(C)]

165.b.vii. Enclosed flare or other gas control device information according to Condition 106.d.iv; [OAR 340-239-0700(3)(d)(D) and ACDP 06/15/22 Condition 73.a and 74]

165.b.viii. Date the GCCS was installed and in full operation according to Condition 106.d.v; [OAR 340-239-0700(3)(d)(E) and ACDP 06/15/22 Condition 73.a]

165.b.ix. The percent of methane destruction efficiency of each gas control device(s) according to Condition 106.d.vi; [OAR 340-239-0700(3)(d)(F) and ACDP 06/15/22 Condition 73.b]

165.b.x. Information for supplemental fuels burned per control device(s) according to Condition 106.d.vii; [OAR 340-239-0700(3)(d)(G) and ACDP 06/15/22 Condition 73.c]

165.b.xi. Total volume of landfill gas shipped off-site according to Condition 106.d.viii; [OAR 340-239-0700(3)(d)(H)]

165.b.xii. Most recent topographic map of site showing the areas according to Condition 106.d.ix; [OAR 340-239-0700(3)(d)(I)]

165.b.xiii. All information required for Conditions 104.a.i through 104.a.v and 104.a.x through 104.a.xii according to Condition 106.d.x; [OAR 340-239-0700(3)(d)(J)]

165.b.xiv. Instrument specifications for all instruments used for monitoring compliance with OAR chapter 340 division 239 according to Condition 106.d.xi; [OAR 340-239-0700(3)(d)(K)] and

165.b.xv. Any and all reports or information required by OAR chapter 340 division 239 must be certified by the responsible official according to Condition 106.m. [OAR 340-239-0700(3)(q)]

166. Greenhouse Gas Reporting: The permittee must register and report in compliance with Chapter 340, Division 215 of the Oregon Administrative Rules, if the source's direct greenhouse gas emissions meet or exceed 2,500 metric tons CO_2e during the previous year. Once a source's direct greenhouse gas emissions meet or exceed 2,500 metric tons CO_2e during a year, the permittee must annually register and report in each subsequent year, regardless of the amount of the source's direct GHG emissions in future years, except as provided in OAR 340-215-0032 and OAR 340-215-0034. Air contamination sources required to register and report under OAR 340-215-0030(2) must register and submit annual emissions data reports to LRAPA under OAR 340-215-0044 by the due date for the annual report for non-greenhouse gas emissions specified in Condition 165.b, or ***by March 31 of each year***, whichever is later. [OAR 340-215-0030(2) and 340-340-215-0046(1)(a)]

167. Electronic Reporting: The permittee must submit reports electronically according to Condition 69 and 105. [ACDP 06/15/22 Condition 69]

168. Methane Generation Rate Report: The permittee must supply all information required by Condition 106.f.

169. Revised Design Plan: If the permittee revises design plan they must submit the revised design plan to LRAPA and the Administrator for approval according to Conditions 64 and 106.h.

170. Closure Report: If the permittee closes the facility the permittee must supply LRAPA and the Administrator a closure report according to Conditions 65 and 106.a. [ACDP 06/15/22 Condition 72]

171. Equipment Removal Report: If the permittee removes equipment associated with the GSSC it must be reported to LRAPA and the Administrator according to Conditions 66 and 106.b.

172. Initial Performance Test Report: For the initial performance test for the enclosed flare, the permittee must provide all information required according to Conditions 68 and 106.g. [ACDP 06/15/22 Condition 70 and 71]

173. Corrective Action and the Corresponding Timeline: The permittee must follow the corrective action and the corresponding timeline reporting requirements according to Conditions 70, 71 and 106.i.

174. 24-Hour High Temperature Report: The permittee demonstrating compliance with the operational standard for temperature must supply the information required in Conditions 72, 73 and 106.j.

175. Claims of EPA System Outage: To assert a claim of EPA system outage, the permittee must meet the

requirements in Condition 73.

176. Claims of Force Majeure: The permittee may assert a claim of force majeure for failure to comply timely with the reporting requirements according to Condition 75.

177. Repair and Temporary Shutdown Notification: The permittee must supply, at least 30 days prior to a scheduled shutdown according to Condition 106.k.

178. Root Cause Analysis Report: The permittee must provide LRAPA with a root cause analysis report according to Condition 106.l.

179. Operation and Maintenance Plan (O&M Plan). The permittee must submit a prepared and must maintain a written O&M Plane according to Condition 116. [ACDP 06/15/22 Condition 75]

NON-APPLICABLE REQUIREMENTS

180. The following Federal air quality requirements are not applicable to this facility for the reasons stated. [OAR 340-218-0110]

Table 13: Non-Applicable Federal Requirements

Rule Citation	Summary	Reason for Not Being Applicable
40 CFR part 60, subpart Cb	Emission Guidelines and Compliance Times for Municipal Waste Combustor that are Constructed on or before September 20, 1994	The facility is not subject to this NSPS because the facility does not operate a municipal waste combustor.
40 CFR part 60, subpart Ea	Standards of Performance for Municipal Waste Combustors for which Construction is Commenced after September 20, 1994 or for which Modification or Reconstruction is Commenced After 19, 1996	The facility is not subject to this NSPS because the facility does not operate a municipal waste combustor.
40 CFR part 60, subpart Eb	Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994 or for Which Modification or Reconstruction is Commenced After June 19, 1996	The facility is not subject to this NSPS because the facility does not operate a municipal waste combustor.
40 CFR part 60, subpart XXX	Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014	The facility commenced construction, reconstruction, or modification prior to July 14, 2014.
40 CFR part 60, subpart AAAA	Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modifications or Reconstruction is Commenced After June 6, 2001	The facility is not subject to this NSPS because the facility does not operate a municipal waste combustor.
40 CFR part 60, subpart BBBB	Emission Guidelines and Compliance Times for Small Municipal Waste Combustion Units Constructed on or Before August 30, 1999	The facility is not subject to this NSPS because the facility does not operate a municipal waste combustor.

Rule Citation	Summary	Reason for Not Being Applicable
40 CFR part 60, subpart CCCC	Standards of Performance for Commercial and Industrial Solid Waste Incineration Units	The facility is not subject to this NSPS because the facility is a municipal solid waste landfill.
40 CFR part 60, subpart DDDD	Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units	The facility is not subject to this NSPS because the facility is a municipal solid waste landfill.
40 CFR part 60, subpart EEEE	Standards of Performance for Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006	The facility is not subject to this NSPS because the facility is a municipal solid waste landfill.
40 CFR part 60, subpart FFFF	Emission Guidelines and Compliance Times for Other Solid Waste Incineration Units That Commenced Construction On or Before December 9, 2004	The facility is not subject to this NSPS because the facility is a municipal solid waste landfill.

BAE/cmw
11/18/2022

GENERAL CONDITIONS

G1. General Provision

Terms not otherwise defined in the permit must have the meaning assigned to such terms in the referenced regulation.

G2. Reference Materials

Where referenced in this permit, the version of the following materials are effective as of the dates noted unless otherwise specified in the permit:

a. Source Sampling Manual; November 2018 - State Implementation Plan Volume 4, Appendix A4;

b. Continuous Monitoring Manual; April 16, 2015 - State Implementation Plan Volume 3, Appendix A6; and

c. All state and federal regulations as in effect on the date of issuance of this permit.

G3. Applicable Requirements [OAR 340-218-0010(3)(b)]

Oregon Title V Operating Permits do not replace requirements in Air Contaminant Discharge Permits (ACDP) issued to the source even if the ACDP(s) have expired. For a source operating under a Title V permit, requirements established in an earlier ACDP remain in effect notwithstanding expiration of the ACDP or Title V permit, unless a provision expires by its terms or unless a provision is modified or terminated following the procedures used to establish the requirement initially. Source specific requirements, including, but not limited to TACT, RACT, BACT, and LAER requirements, established in an ACDP must be incorporated into the LRAPA Title V Operating Permit and any revisions to those requirements must follow the procedures used to establish the requirement initially.

G4. Compliance [OAR 340-218-0040(3)(n)(C), 340-218-0050(6), and 340-218-0080(4)]

a. The permittee must comply with all conditions of the federal operating permit. Any permit condition noncompliance constitutes a violation of the Federal Clean Air Act and/or state rules and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application. Any noncompliance with a permit condition specifically designated as enforceable only by the state constitutes a violation of state rules only and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.

b. Any schedule of compliance for applicable requirements with which the source is not in compliance at the time of permit issuance must be supplemental to, and must not sanction noncompliance with the applicable requirements on which it is based.

c. For applicable requirements that will become effective during the permit term, the source must meet such requirements on a timely basis unless a more detailed schedule is expressly required by the applicable requirement.

G5. Masking Emissions

The permittee must not install or use any device or other means designed to mask the emission of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement. [LRAPA 32-050(2)] This condition is enforceable only by LRAPA.

G6. Credible Evidence

Notwithstanding any other provisions contained in any applicable requirement, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any such applicable requirements. [LRAPA 34-017]

G7. Certification [OAR 340-214-0110, 340-218-0040(5), 340-218-0050(c)(D), and 340-218-0080(2)]

Any document submitted to LRAPA or EPA pursuant to this permit must contain certification by a responsible official of truth, accuracy and completeness. All certifications must state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and, complete. The permittee must promptly, upon discovery, report to LRAPA a material error or omission in these records, reports, plans, or other documents.

G8. Outdoor Burning [LRAPA title 47]

The permittee is prohibited from conducting outdoor burning, except as may be allowed by LRAPA 47-001 through 47-030.

G9. Asbestos [40 CFR Part 61, Subpart M (federally enforceable), OAR 340-248-0240, and LRAPA 43-015 (LRAPA-only enforceable)]

The permittee must comply with OAR 340-248-0240, LRAPA 43-015, and 40 CFR Part 61, Subpart M when conducting any renovation or demolition activities at the facility.

G10. Stratospheric Ozone and Climate Protection [40 CFR 82 Subpart F, OAR 340-260-0040]

The permittee must comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, Recycling and Emissions Reduction.

G11. Permit Shield [OAR 340-218-0110]

a. Compliance with the conditions of the permit must be deemed compliance with any applicable requirements as of the date of permit issuance provided that:

i. such applicable requirements are included and are specifically identified in the permit, or

ii. LRAPA, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

b. Nothing in this rule or in any federal operating permit must alter or affect the following:

i. the provisions of ORS 468.115 (enforcement in cases of emergency) and ORS 468.035 (function of department);

ii. the liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

iii. the applicable requirements of the national acid rain program, consistent with Section 408(a) of the FCAA; or

iv. the ability of LRAPA to obtain information from a source pursuant to ORS 468.095 (investigatory authority, entry on premises, status of records).

c. Sources are not shielded from applicable requirements that are enacted during the permit term, unless such applicable requirements are incorporated into the permit by administrative amendment, as provided in OAR 340-218-0150(1)(h), significant permit modification, or reopening for cause by LRAPA.

G12. Inspection and Entry [OAR 340-218-0080(3)]

Upon presentation of credentials and other documents as may be required by law, the permittee must allow Lane Regional Air Protection Agency, or an authorized representative (including an authorized contractor acting as a representative of the EPA Administrator), to perform the following:

a. Enter upon the permittee's premises where a Title V operating permit program source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

b. Have access to and copy, at reasonable times, any records that must be kept under conditions of the permit;

c. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

d. As authorized by the FCAA or LRAPA rules, sample or monitor, at reasonable times, substances or parameters, for the purposes of assuring compliance with the permit or applicable requirements.

G13. Fee Payment [OAR 340-220-0010, and 340-220-0030 through 340-220-0190]

The permittee must pay an annual base fee and an annual emission fee for all regulated air pollutants except for carbon monoxide, any class I or class II substance subject to a standard promulgated under or established by Title VI of the Federal Clean Air Act, or any pollutant that is a regulated air pollutant solely because it is subject to a standard or regulation under Section 112(r) of the Federal Clean Air Act. The permittee must submit payment to Lane Regional Air Protection Agency, 1010 Main Street, Springfield, Oregon, 97477, within 30 days of the date LRAPA mails the fee invoice or August 1 of the year following the calendar year for which emission fees are paid, whichever is later. Disputes must be submitted in writing to LRAPA. Payment must be made regardless of the dispute. User-based fees must be charged for specific activities (e.g., computer modeling review, ambient monitoring review, etc.) requested by the permittee.

G14. Off-Permit Changes to the Source [OAR 340-218-0140(2)]

a. The permittee must monitor for, and record, any off-permit change to the source that:

i. Is not addressed or prohibited by the permit;

ii. Is not a Title I modification;

iii. Is not subject to any requirements under Title IV of the FCAA;

iv. Meets all applicable requirements;

v. Does not violate any existing permit term or condition; and

vi. May result in emissions of regulated air pollutants subject to an applicable requirement but not otherwise regulated under this permit or may result in insignificant changes as defined in LRAPA Title 12.

b. A contemporaneous notification, if required under OAR 340-218-0140(2)(b), must be submitted to LRAPA and the EPA.

c. The permittee must keep a record describing off-permit changes made at the facility that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those off-permit changes.

d. The permit shield of Condition G11 must not extend to off-permit changes.

G15. Section 502(b)(10) Changes to the Source [OAR 340-218-0140(3)]

a. The permittee must monitor for, and record, any Section 502(b)(10) change to the source, which is defined as a change that would contravene an express permit term but would not:

i. Violate an applicable requirement;

ii. Contravene a federally enforceable permit term or condition that is a monitoring, recordkeeping, reporting, or compliance certification requirement; or

iii. Be a Title I modification.

b. A minimum 7-day advance notification must be submitted to LRAPA and the EPA in accordance with OAR 340-218-0140(3)(b).

c. The permit shield of Condition G11 must not extend to Section 502(b)(10) changes.

G16. Administrative Amendment [OAR 340-218-0150]

Administrative amendments to this permit must be requested and granted in accordance with OAR 340-218-0150. The permittee must promptly submit an application for the following types of administrative amendments upon becoming aware of the need for one, but no later than 60 days of such event:

a. Legal change of the registered name of the company with the Corporations Division of the State of Oregon, or

b. Sale or exchange of the activity or facility.

G17. Minor Permit Modification [OAR 340-218-0170]

The permittee must submit an application for a minor permit modification in accordance with OAR 340-218-0170.

G18. Significant Permit Modification [OAR 340-218-0180]

The permittee must submit an application for a significant permit modification in accordance with OAR 340-218-0180.

G19. Staying Permit Conditions [OAR 340-218-0050(6)(c)]

Notwithstanding Conditions G16 and G17, the filing of a request by the permittee for a permit modification, revocation and re-issuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

G20. Construction/Operation Modification [OAR 340-218-0190]

The permittee must obtain approval from LRAPA prior to construction or modification of any stationary source of air pollution control equipment in accordance with LRAPA 34-010 and 34-034 through 34-038.

G21. New Source Review Modification [LRAPA 38-0010]

The permittee must not begin construction of a major source or a major modification of any stationary source without having received an Air Contaminant Discharge Permit (ACDP) (LRAPA 34-010) from LRAPA and having satisfied the requirements of LRAPA Title 38 (New Source Review).

G22. Need to Halt or Reduce Activity Not a Defense [OAR 340-218-0050(6)(b)]

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

G23. Duty to Provide Information [OAR 340-218-0050(6)(e) and LRAPA 34-015]

The permittee must furnish to LRAPA, within a reasonable time, any information that LRAPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee must also furnish to LRAPA copies of records required to be retained by the permit or, for information claimed to be confidential, the permittee may furnish such records to LRAPA along with a claim of confidentiality.

G24. Reopening for Cause [OAR 340-218-0050(6)(c) and 340-218-0200]

a. The permit may be modified, revoked, reopened and reissued, or terminated for cause as determined by LRAPA.

b. A permit must be reopened and revised under any of the circumstances listed in OAR 340-218-0200(1)(a).

c. Proceedings to reopen and reissue a permit must follow the same procedures as apply to initial permit issuance and must affect only those parts of the permit for which cause to reopen exists.

G25. Severability Clause [OAR 340-218-0050(5)]

Upon any administrative or judicial challenge, all the emission limits, specific and general conditions, monitoring, recordkeeping, and reporting requirements of this permit, except those being challenged, remain valid and must be complied with.

G26. Permit Renewal and Expiration [OAR 340-218-0040(1)(a)(D) and 340-218-0130]

a. This permit must expire at the end of its term, unless a timely and complete renewal application is submitted as described below. Permit expiration terminates the permittee's right to operate.

b. Applications for renewal must be submitted at least 12 months before the expiration of this permit, unless LRAPA requests an earlier submittal. If more than 12 months is required to process a permit renewal application, LRAPA must provide no less than six (6) months for the owner or operator to prepare an application.

c. Provided the permittee submits a timely and complete renewal application, this permit must remain in effect until final action has been taken on the renewal application to issue or deny the permit.

G27. Permit Transference [OAR 340-218-0150(1)(d)]

The permit is not transferable to any person except as provided in OAR 340-218-0150(1)(d).

G28. Property Rights [340-218-0050(6)(d)]

The permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations, except as provided in OAR 340-218-0110.

G29. Permit Availability [LRAPA 34-015 and 340-218-0120(2)]

The permittee must have available at the facility at all times a copy of the LRAPA Title V Operating Permit and must provide a copy of the permit to LRAPA or an authorized representative upon request.

ALL INQUIRIES SHOULD BE DIRECTED TO:

Lane Regional Air Protection Agency
1010 Main Street
Springfield, OR 97477
(541) 736-1056