



# Public Notice

## Virtual Public Hearing About Coffin Butte Landfill's Proposed Air Quality Permit on May 12 and Request for Public Comment Informational Meeting Before the Hearing

Date posted: 03/23/2026

The Oregon Department of Environmental Quality invites the public to submit written comments and attend a public hearing on May 12, 2026, to provide verbal comments on the proposed Title V permit for Valley Landfills, Inc.'s Coffin Butte Landfill at 28972 Coffin Butte Road in Corvallis. DEQ gives equal weight to written and oral comments. Prior to the hearing, DEQ officials will provide information about the proposed permit renewal and a recent enforcement order for air quality violations.

### How to provide public comment

---

**Facility name:** Coffin Butte Landfill

**Permit type:** Title V permit

**Hearing details:** [Register for info meeting and public hearing on Zoom](#)

**Comments due by:** May 15, 2026, at 5 p.m.

**Submit written comments:**

**By mail:** Air Quality Permit Coordinator, Oregon DEQ, 4026 Fairview Industrial Way SE, Salem, OR 97302

**By web:** [In Your DEQ Online](#)

**By email:** [wraqpermits@deq.oregon.gov](mailto:wraqpermits@deq.oregon.gov)

---

### Summary

This is a renewal of a Title V air permit for Valley Landfills, which operates Coffin Butte Landfill, a municipal solid waste landfill north of Corvallis along Highway 99W. This permit action also includes a significant modification for changes in emission calculations from landfill growth that triggered new source review for several pollutants and required an air quality analysis. After a public notice and hearing in May 2025, significant changes were made to the permit requiring another public comment period.

The proposed permit includes new stricter federal and state rules that aim at reducing methane and other emissions from the landfill. Some pollutant emission limits are increased in this proposed permit due to landfill growth and revisions to EPA's emission model for landfills; however, emissions were modeled and showed continued compliance with the national ambient air quality standards.

### About the facility

Coffin Butte Landfill is at 28972 Coffin Butte Road in Corvallis. The landfill is north of the city along Highway 99W. DEQ issued the previous permit Oct. 30, 2009, and it was originally scheduled to expire Oct. 1, 2014. The facility submitted a timely and complete renewal application Sept. 30, 2013; therefore, the current permit remains in effect until the renewal permit is issued.

The landfill accepts municipal solid waste and asbestos-containing materials for disposal, petroleum contaminated soils and recyclable materials for storage and transfer. The major activities at the facility include the receipt, disposal and management of municipal solid waste.

## **What air pollutants does the permit regulate?**

This permit regulates emissions of the following pollutants: particulate matter, nitrogen oxides, carbon monoxide, sulfur dioxide, volatile organic compounds, non-methane organic compounds, total reduced sulfur, hydrogen sulfide, and greenhouse gases. Plant site emission limits for each of these pollutants are listed in the attached draft permit.

## **How does DEQ determine permit requirements?**

DEQ evaluates types and amounts of pollutants and the facility's location and determines permit requirements according to state and federal regulations.

## **What special conditions are in this permit?**

The permit adds conditions for state regulations to minimize greenhouse gas emissions of methane from landfills, with surface emission monitoring and source testing of the flare. The permit adds quarterly sulfur sampling of the landfill gas to adequately characterize sulfur compound emissions. The permit adds work practice requirements for control of particulate matter from onsite paved and unpaved roads. In addition, the permit includes a compliance schedule for installation of additional landfill gas control equipment.

## **How does DEQ monitor compliance with the permit requirements?**

This permit would require the facility to monitor pollutants using state and federally approved monitoring practices and standards.

The permittee is subject to state and Federal requirements for municipal solid waste landfills, with requirements for operation and monitoring of the landfill gas collection and control system, surface emission monitoring, quarterly landfill gas sulfur analysis, and annual testing of the flare emissions.

## **What happens after the hearing?**

DEQ considers and responds to all comments received and may modify the proposed permit based on comments. If a facility meets all legal requirements, DEQ will issue the facility's air quality permit.

After the public comment period, DEQ sends the proposed permit to the U.S. Environmental Protection Agency. EPA has 45 days to review it and submit objections to DEQ. If EPA has no objections, anyone may petition EPA with an objection during the following 60 days. A petition may be based only on objections already raised during the public comment period, unless the person submitting the petition can demonstrate it was impossible or impractical to do so, or that new information is now available to justify a new objection.

## **Where can I get more information?**

View information about this project online at [Your DEQ Online](#), or contact Western Region Air Quality Permit Coordinator using the following contact information:

Phone: 503-378-8240 or toll-free: 800-349-7677

Email: [WRAQPermits@deq.oregon.gov](mailto:WRAQPermits@deq.oregon.gov)

View the application and related documents in person at the DEQ office in Salem. For a review appointment, call the Salem office at 503-378-8240. For more information about DEQ's regulation of the landfill visit the DEQ [Coffin Butte Landfill web page](#).

## **Non-discrimination statement**

DEQ does not discriminate on the basis of race, color, national origin, disability, age, sex, religion, sexual orientation, gender identity, or marital status in the administration of its programs and activities.

For translation and other formats, visit DEQ's [Civil Rights and Environmental Justice page](#).

**OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**OREGON TITLE V OPERATING PERMIT**

Western Region-Salem Office  
4026 Fairview Industrial Drive SE  
Salem, OR 97302  
Telephone (503) 378-8240

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:

Valley Landfills, Inc.

28972 Coffin Butte Road  
Corvallis, OR 97330

PLANT SITE LOCATION:

Coffin Butte Landfill  
Highway 99 & Coffin Butte Road  
Corvallis, OR 97330

INFORMATION RELIED UPON:

Application Number:

TRAACS/YDO  
27490/56589,  
34684/56718,  
35161/56774

Received:

09/30/13, 2/21/23, 12/1/13  
Updated 10/8/2018,  
6/12/2024, 8/14/2025 &  
10/13/2025

LAND USE COMPATIBILITY STATEMENT:

Issued by:

Benton County

Dated:

03/06/1997, updated  
2/5/2025 and 3/25/2025

ISSUED BY THE DEPARTEMENT OF ENVIRONMENTAL QUALITY

\_\_\_\_\_  
Zachary J. Loboy, Western Region Air Quality Manager    Date

Nature of Business: Municipal Solid Waste Landfill

SIC: 4953

RESPONSIBLE OFFICIAL

Title:        General Manager  
Alternate:    Vice President

FACILITY CONTACT PERSON

Name:        Bret Davis  
Title:        General Manager  
Phone:        (541) 286-3311

**TABLE OF CONTENTS**

LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS PERMIT .....3  
PERMITTED ACTIVITIES .....4  
EMISSIONS UNIT (EU) AND POLLUTION CONTROL DEVICE (PCD) IDENTIFICATION .....4  
OPERATION OF POLLUTION CONTROL DEVICES AND PROCESSES .....4  
EMISSION LIMITS AND STANDARDS, TESTING, MONITORING, AND RECORDKEEPING  
REQUIREMENTS .....4  
Emission Standards for Municipal Solid Waste Landfills – OAR 340-236-0500, and Part 63 Subpart AAAA .....9  
Oregon Administrative Rule Chapter 340 Division 239 – Landfill Gas Emissions .....31  
NESHAP Subpart ZZZZ– NESHAP for Reciprocating Internal Combustion Engines (RICE) .....57  
    Insignificant Activities Requirements .....60  
Plant Site Emission Limit .....61  
**EMISSION FEES** .....65  
**COMPLIANCE SCHEDULE**.....65  
**GENERAL TESTING REQUIREMENTS** .....65  
**GENERAL MONITORING AND RECORDKEEPING REQUIREMENTS** .....66  
**REPORTING REQUIREMENTS** .....67  
**Non-Applicable Requirements** .....71

LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS PERMIT

ACDP	Air Contaminant Discharge Permit	NO <sub>x</sub>	Nitrogen oxides
Act	Federal Clean Air Act	NSPS	New Source Performance Standards
ASTM	American Society of Testing and Materials	NSR	New Source Review
AQMA	Air Quality Maintenance Area	O <sub>2</sub>	Oxygen
Btu	British thermal unit	OAR	Oregon Administrative Rules
Calendar year	The 12-month period beginning January 1 <sup>st</sup> and ending December 31 <sup>st</sup>	ODEQ	Oregon Department of Environmental Quality
CAO	Cleaner Air Oregon	ORS	Oregon Revised Statutes
CFR	Code of Federal Regulations	O&M	Operation and maintenance
CO	Carbon monoxide	Pb	Lead
CO <sub>2e</sub>	carbon dioxide equivalent	PCD	Pollution control device
CPMS	Continuous parameter monitoring system	PM	Particulate matter
DEQ	Oregon Department of Environmental Quality	PM <sub>10</sub>	Particulate matter less than 10 microns in size
dscf	Dry standard cubic feet	PM <sub>2.5</sub>	Particulate matter less than 2.5 microns in size
EF	Emission factor	ppm	Parts per million
EPA	US Environmental Protection Agency	PSD	Prevention of Significant Deterioration
EU	Emissions unit	PSEL	Plant Site Emission Limit
FCAA	Federal Clean Air Act	PTE	Potential to Emit
FSA	Fuel sampling and analysis	RACT	Reasonably Available Control Technology
Gal	gallon(s)	Scf	standard cubic foot
GDF	gasoline dispensing facility	SER	Significant Emission Rate
GHG	greenhouse gas	SERP	source emission reduction plan
gr/dscf	Grain per dry standard cubic feet (1 pound = 7000 grains)	SIC	Standard Industrial Code
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040	SIP	State Implementation Plan
HCFC	Halogenated Chloro-Fluoro-Carbons	SO <sub>2</sub>	Sulfur dioxide
H <sub>2</sub> S	Hydrogen sulfide	Special Control Area	as defined in OAR 340-204-0070
I&M	inspection and maintenance	SSM	Startup, shutdown, malfunction
ID	Identification number or label	ST	Source test
LandGEM	EPA LandGEM Model version 3.1	TACT	Typically Achievable Control Technology
lb	pound(s)	VE	Visible emissions
LFG	landfill gas	VMT	Vehicle miles traveled
MMBtu	million British thermal units	VOC	Volatile organic compounds
NA	Not applicable	year	A period consisting of any 12-consecutive calendar months
NESHAP	National Emission Standard for Hazardous Air Pollutants		
NMOC	Nonmethane organic compounds		

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 related to or associated with air contaminant source(s) in accordance with the requirements, limitations, and conditions of this permit. [OAR 340-218-0010 and 340-218-0120(2)]
2. All conditions in this permit are federally enforceable, meaning that they are enforceable by DEQ, EPA, and citizens under the Clean Air Act, except Conditions 8, 9, 10, 11, 12, 13, 14, 15, 71 through 99, 128.e, 128.f, 151, G5, and G9 (OAR 340-248-0005 through 340-248-0180) are only enforceable by the state. [OAR 340-218-0060]
3. Conditions 107 through 117 (NESHAP Subpart M, Asbestos rule) are federally enforceable only.

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

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

**Table 1. EU and PCD IDENTIFICATION**

Emission Unit Description	EU ID	Pollution Control Device Description	PCD ID
Municipal solid waste landfill (Cells 1-6)	LF	Landfill gas collection and extraction system	LFGCES-1
		Enclosed Flare-(3390 scfm max.)	ENCL-FL
Municipal solid waste landfill fugitives (Cells 1-6)	LF-Fug	None	NA
Vehicle traffic on paved roads	PIR	Water application, 15 mph speed limit	NA
Vehicle traffic on unpaved roads (public vehicles)	UPR-1	Water application, 15 mph speed limit	NA
Industrial Vehicle traffic on unpaved roads	UPR-2	Water application, 15 mph speed limit	NA
Tipper 2	TIP-2	Tier 3 Engine	NA
Tipper 3	TIP-3	Tier 4 Engine	NA
Petroleum contaminated soils	PCS	None	NA
Cell Development & closure	CDC	None	NA
Aggregate Insignificant activities: Cell development, operation, and closing Tipping and dump truck drops Leachate collection and wastewater treatment Portable light plant Trash pumps	AI	None None None None None	NA NA NA NA NA
Categorically insignificant activity: Emergency generator	EGEN	None	NA

OPERATION OF POLLUTION CONTROL DEVICES AND PROCESSES

5. The permittee must operate and ensure proper functioning of all air pollution control devices and components at all times when the associated emission source is operating. [OAR 340-226-0120]

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.

Facility-wide Requirements

**Table 2. Facility wide emission limits and standards**

Applicable Requirement	Condition Number	Pollutant/Parameter	Limit/Standard	Averaging Time	Testing Condition	Monitoring Condition
340-208-0210(1)	6	Fugitive emissions	Minimize	NA	NA	7
340-208-0300	8	Air contaminants	No nuisance	NA	NA	10
340-208-0450	9	PM >250µm	No fallout	NA	NA	10
340-248-0280(10)	11	Asbestos disposal	Handling procedures	Recordkeeping	NA	12, 13
340-248-0280(11)	14	Asbestos cover	Maintain cover	Recordkeeping	NA	15

**Fugitive Emissions**

6. Applicable Requirement: The permittee must not allow or permit 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: [OAR 340-208-0210(1)]
  - 6.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;
  - 6.b. application of water, or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces which can create airborne dusts;
  - 6.c. full or partial enclosure of materials stockpiles in cases where application of oil, water, or chemicals are not sufficient to prevent particulate matter from becoming airborne;
  - 6.d. installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
  - 6.e. adequate containment during sandblasting or other similar operations; and,
  - 6.f. covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne.
  - 6.g. prompt removal from paved streets of earth or other material that does or may become airborne.
  
7. Monitoring Requirement: At least once each week 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: [OAR 340-212-0120(1), OAR 340-208-0210(2)&(3) and OAR 340-218-0050(3)(a)]
  - 7.a. Immediately take corrective action to minimize the fugitive emissions, including but not limited to those actions identified in Condition 6. After taking corrective action, the permittee must conduct another fugitive emissions survey using EPA Method 22 within 24 business hours of conducting the previous fugitive emissions survey; or
  - 7.b. Develop a DEQ approved fugitive emission control plan upon request by DEQ and implement the plan whenever fugitive emissions leave the property for more than 18 seconds in a six-minute period.
  - 7.c. Recordkeeping: The permittee must maintain records of the fugitive emissions surveys, corrective actions (if necessary), and/or the results of any EPA Method 22 tests. [OAR 340-214-0114(1) and OAR 340-218-0050(3)(b)]

**Nuisance Conditions**

8. Applicable Requirement: The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by DEQ personnel. [OAR 340-208-0300] This condition is enforceable only by the State.
9. Applicable Requirement: The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person. [OAR 340-208-0450] This condition is enforceable only by the State.
10. Monitoring and Recordkeeping Requirement: The permittee must maintain a log of each air quality complaint received by the permittee during the operation of the facility and must provide the DEQ Western Region-Salem with written notification by the end of each month of all nuisance complaints regarding fugitive dust, odors, or particulate deposition received. Documentation, when available, must include date of contact, time of observed nuisance condition, description of nuisance condition, location of receptor, status of plant operation during the observed period, and time of response to complainant. A plant representative must immediately investigate the condition following the receipt of the nuisance complaint and a plant representative must provide a response to the complainant within 24 hours, if possible. This condition is only enforceable by the State. [OAR 340-212-0120(1) and OAR 340-214-0114(1)]

### **Asbestos Disposal and Cover**

11. Applicable Requirement: The permittee must meet the asbestos-containing material handling and disposal requirements and procedures specified below for active waste disposal sites. [OAR 340-248-0280(10)] This condition is only enforceable by the state.
  - 11.a. Ensure that off-loading of asbestos-containing waste material is done under the direction and supervision of the landfill operator or their authorized agent and is accomplished in a manner that prevents the leak-tight transfer containers from rupturing and prevents visible emissions to the air. [OAR 340-248-0280(10)(a)(A)]
  - 11.b. If visible emissions are observed, the permittee must take immediate measures to suppress emissions. Such measures include, but are not limited to, wetting the source of emissions or covering the source of emissions with soil.
  - 11.c. Ensure that off-loading of asbestos-containing waste material occurs at the immediate location where the waste is to be buried, and restrict public access to the off-loading area until the waste is covered. [OAR 340-248-0280(10)(a)(B)]
  - 11.d. Select the asbestos waste burial site in an area of minimal work activity that is not subject to future excavation. [OAR 340-248-0280(10)(a)(G)]
  - 11.e. Cover all asbestos-containing waste material deposited at the disposal site with at least 12 inches of soil or six inches of soil plus 12 inches of other waste before compacting equipment runs over it, and complete such covering and compaction no later than the end of the operating day that the waste is received. [OAR 340-248-0280(10)(a)(H)]
12. Monitoring Requirement: The permittee must monitor the asbestos-containing material handling and disposal procedures, provide notifications, and record the information required as specified below for active waste disposal sites. [OAR 340-248-0280(10)] This condition is only enforceable by the State.
  - 12.a. Immediately notify the Department by telephone, followed by a written report the following working day, of the presence of improperly enclosed or uncovered waste. Submit a copy of the signed asbestos waste shipment record along with the report. [OAR 340-248-0280(10)(a)(D)]
  - 12.b. Send a copy of the signed asbestos waste shipment record to the asbestos waste generator as soon as possible, but not longer than 30 days after receipt of the waste. [OAR 340-248-0280(10)(a)(E)]
  - 12.c. Upon discovering a discrepancy between the quantity of waste designated on the asbestos waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the asbestos waste generator. If the discrepancy cannot be reconciled, the permittee must report the discrepancy and reconciliation attempts in writing to the Department within the 15th day after receiving the waste. A copy of the asbestos waste shipment record with the Department assigned asbestos project number must be submitted with the report. [OAR 340-248-0280(10)(a)(F)]

13. **Recordkeeping Requirements:** The permittee must maintain the following records: This condition is only enforceable by the State.
- 13.a. A copy of asbestos waste shipment records must be maintained for at least two years and ensure all information on the Department form regarding waste disposal has been supplied. [OAR 340-248-0280(10)(a)(C)]
  - 13.b. A log of visual observations taken during unloading of asbestos-containing waste. [OAR 340-248-0280(10)(a)(A)]
  - 13.c. A 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 must be maintained until landfill closure. [OAR 340-248-0280(10)(b)]
14. **Applicable Requirement:** The permittee must meet the asbestos-containing material disposal and cover standards specified in OAR 340-248-0280(11) for inactive waste disposal sites that accepted asbestos containing materials. [OAR 340-248-0280] This condition is only enforceable by the State.
- 14.a. Maintain a cover of at least two feet of soil or one foot of soil plus one foot of other waste; [OAR 340-248-0280(11)(a)]
  - 14.b. Grow and maintain a cover of vegetation on the area to prevent erosion of the nonasbestos-containing cover of soil or other waste materials. In desert areas where vegetation would be difficult to maintain, a layer of at least three inches of well-graded, nonasbestos crushed rock may be placed and maintained on top of the final cover instead of vegetation; [OAR 340-248-0280(11)(b)]
  - 14.c. For inactive disposal sites with asbestos-containing tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used and maintained to achieve the requirements of Conditions 14.a and 14.b, provided the prior written approval of DEQ is obtained; [OAR 340-248-0280(1)(c)]
  - 14.d. Excavating or disturbing the inactive disposal site is an asbestos abatement project, requiring notification according to OAR 340-248-0260. [OAR 340-248-0280(11)(d)]
15. **Notification Requirement:** The permittee must provide notifications as specified in OAR 340-248-0280(11) for excavating or disturbing inactive waste disposal sites. [OAR 340-248-0280] This condition is only enforceable by the State.

**Accidental Release Prevention/Risk Management Plan**

16. Applicable Requirement: 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) to EPA and to DEQ via DEQ’s ‘[Your DEQ Online](#)’ system 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]

**Municipal Solid Waste Landfill (EU LF and LF-Fug)**

**Table 3. Summary of Requirements for Municipal Solid Waste Landfill (LF and LF-Fug):**

Applicable Requirement(s)	Condition Number	Pollutant/Parameter	Limit/Standard	Testing Requirement	Monitoring Conditions(s)
OAR 340-208-0110(3)(a)	17	Visible emissions	20% opacity in 6 min block average	19	17.c
OAR 340-226-0210(2)(c)	18	PM	0.10 gr/dscf, avg	19	17.c
OAR 340-218-0050(3)(a)(C)	20	NO <sub>x</sub>	Verify NO <sub>x</sub> emission rate used in modeling	20.a-20.d	N/A
OAR 340-236-0500 &	21-30, 34	LFG/ NMOC	Operate and maintain the landfill and associated air pollution control and monitoring equipment in a manner	31	32-70

Applicable Requirement(s)	Condition Number	Pollutant/Parameter	Limit/Standard	Testing Requirement	Monitoring Conditions(s)
40 CFR Part 63 Subpart AAAAA			<p>consistent with safety and good air pollution control practices for minimizing emissions.</p> <p>Operate a collection system that complies with 40 CFR 60.33f(b) and 40 CFR 63.1959(b)(2)(ii) and</p> <p>Route all the collected gas to a control system that complies with the requirements in one of the following:</p> <p>(1) A non-enclosed flare designed and operated in accordance with 40 CFR 60.18 except as noted in 40 CFR 60.37f(d);</p> <p>(2) 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.</p> <p>(3) Route the collected gas to a treatment system that processes the collected gas for subsequent sale or beneficial use.</p>		
OAR 340 Division 239	71- 81	Greenhouse gases, LFG, CH <sub>4</sub>	<p>Landfill gas collection and control requirements.</p> <p>(1) 500 ppmv methane surface monitoring;</p> <p>(2) 25 ppmv integrated methane surface monitoring;</p> <p>(3) Route all collected landfill gas to a control device or devices;</p> <p>(4) Operate all flares and energy recovery devices to achieve a minimum of 99% methane destruction efficiency. Lean burn internal combustion engines must reduce the outlet methane concentration to 3000 ppmv @15% O<sub>2</sub>.</p>	73	84-99
OAR 340-218-0050(3)(a)(C)	100	TRS	Quarterly sampling of LFG for reduced sulfur compounds	100	NA

**VISIBLE EMISSIONS**

17. The permittee must comply with the following visible emission limits from ENCL-FL: [OAR 340-208-0110(3)(a)]
- 17.a. Any visible emissions may not equal or exceed an average of 20 percent opacity; and
  - 17.b. The visible emissions standards in this condition are based on the average of 24 consecutive observations recorded at 15-second intervals, or more frequently as allowed under Condition 17.b.ii, which comprise a six-minute block. Six-minute blocks need not be consecutive in time and in no case may two blocks overlap. For each set of 24 observations, the six-minute block average is calculated by summing the opacity of the 24 observations and dividing the sum by 24. Six-minute block averages are measured by:
    - 17.b.i. EPA Method 9; or
    - 17.b.ii. A continuous opacity monitoring system (COMS) installed and operated in accordance with the DEQ Continuous Monitoring Manual or 40 CFR Part 60; or
    - 17.b.iii. An alternative monitoring method approved by DEQ that is equivalent to EPA Method 9.
  - 17.c. Monitoring Requirement: The permittee must monitor visible emissions from emissions units ENCL-FL by conducting EPA Method 9 tests once per week [OAR 340-212-0120(1) and 340-218-0050(3)(a)(C)]
  - 17.d. The EPA Method 9 test method may be waived provided the permittee conducts a six (6) minute visible emissions survey each week on the device at the compliance demonstration point using EPA Method 22 and visible emissions, excluding water vapor, are not detected for more than 5% (18 seconds) of the survey time.
  - 17.e. If any EPA Method 22 survey does not meet the requirement in Condition 17.d for no visible emissions, an EPA Method 9 test must be conducted within one hour of the Method 22 survey. If the permittee observes no further exceedances during the EPA Method 9 test, the permittee can resume weekly testing using EPA Method 22.

- 17.f. Recordkeeping Requirement: The permittee must maintain records of all visible emissions tests and surveys, including date, time, observer, observations, results, and any corrective actions taken. [OAR 340-214-0114(1) and 340-218-0050(3)(b)(A)]

**Particulate Matter**

- 18. The permittee may not emit particulate matter emissions in excess of 0.10 grains per dry standard cubic foot from ENCL-FL. [OAR 340-226-0210(2)(c)]
- 19. Testing Requirement: At least once every five years, with the first test conducted within one year of permit issuance, the permittee must conduct a source test for opacity and PM emissions from ENCL-FL to demonstrate compliance with Conditions 17 and 18. In conjunction with that test or as a separate source test once during the permit term, the permittee must conduct an emission factor verification test for CO and SO<sub>2</sub>, using the methods listed below or other as approved by DEQ. [OAR 340-212-0120(1) and OAR 340-218-0050(3)(a)(B)]
  - 19.a. Results must be presented as follows:
    - 19.a.i. % opacity,
    - 19.a.ii. Grain loading in gr/dscf for PM
    - 19.a.iii. Concentrations and emission rates of PM, CO and SO<sub>2</sub> in lbs/hr and lbs/MMCF of LFG.
  - 19.b. Process information must be included in the source test report for quantity of LFG burned and rate in cfm, SCFM exhaust flow, flare temperature, major constituents of the LFG, i.e, % methane, % nitrogen and % CO<sub>2</sub>.
  - 19.c. Test Methods:

Pollutant	Reference Test Method
PM	OR Method 5
Opacity	EPA Method 9
CO	EPA Method 10
SO <sub>2</sub>	EPA Method 6C

- 19.d. A test meeting the requirements listed in this condition that was conducted within 12 months prior to permit issuance will be considered to meet the requirements for the initial test.

**NAAQS Compliance Requirements**

- 20. Testing Requirement(s): The permittee must conduct a source test for NO<sub>x</sub> emissions to verify the emissions used in the 2024 air quality analysis on ENCL-FL using the following methods: [OAR 340-212-0120(1) and OAR-340-218-0050(3)(a)(C)]
  - 20.a. The permittee must use EPA Method 7E to determine the NO<sub>x</sub> emission rate, reported as lbs/hr and lb/MMCF of LFG burned.
  - 20.b. This test can be conducted concurrently with the test in Condition 73.e and must be conducted in the years when the test in Condition 73.e is required.
  - 20.c. If the NO<sub>x</sub> emission rate for ENCL-FL exceeds that used in the 2024 air quality analysis, DEQ may require the permittee to re-run the model to demonstrate compliance with the NAAQS.
  - 20.d. The initial source test must be conducted within one year of permit issuance. A test meeting the requirements listed in this condition that was conducted within one year prior to permit issuance will be considered to meet the requirements for the initial test.

**EMISSION STANDARDS FOR MUNICIPAL SOLID WASTE LANDFILLS – OAR 340-236-0500, AND PART 63 SUBPART AAAA**

- 21. The Permittee must comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in OAR 340-236-0500, "Emission Standards for

Municipal Solid Waste Landfills” [OAR 340-236-0500(1)(a)]

22. Physical or operational changes made to an existing municipal solid waste landfill solely to comply with the landfill gas control requirements in this permit are not considered a modification or reconstruction and would not subject an existing municipal solid waste landfill to the requirements of a standard of performance for new municipal solid waste landfills. [OAR 340-236-0500(1)(b)]
23. Startup, Shutdown and Malfunction: The provisions of this condition apply at all times, including periods of startup, shutdown, or malfunction. During periods of startup, shutdown, and malfunction, the permittee must operate the gas collection system such that all collected gases are vented to a control system designed and operated in compliance with Condition 29.b. In the event the collection or control system is not operating, the gas mover system must be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere must be closed within 1 hour of the collection or control system not operating. [OAR 340-236-0500(3)]
24. General and Continuing Compliance Requirements: 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 DEQ which may include, but is 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)]
25. Emissions: The permittee of a municipal solid waste landfill having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters must either install a collection and control system as provided in Condition 27 or calculate an initial NMOC emission rate for the landfill using the procedures specified in 40 CFR 60.35f(a). The NMOC emission rate must be recalculated annually, except as provided in 40 CFR 60.38f(c)(3). [OAR 340-236-0500(5)]
  - 25.a. Note: The permittee has an NMOC emission rate greater than 34 megagrams per year and is operating a collection and control system to meet the requirements of 40 CFR 60.33f(b) and (c) and is therefore not required to calculate an NMOC emission rate annually.
26. Removal criteria: The collection and control system may be capped, removed, or decommissioned if the following criteria are met: [OAR 340-236-0500(6) and 40 CFR 63.1957(b)]
  - 26.a. The landfill is a closed landfill (as defined in 40 CFR 60.41f and 63.1990). A closure report must be submitted to DEQ as provided in 40 CFR 60.38f(f) and 63.1981(f).
  - 26.b. 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.
  - 26.c. Following the procedures specified in 40 CFR 60.35f(b) and 63.1959f(c), the calculated NMOC emission rate at the landfill is less than 34 megagrams per year on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart.
  - 26.d. For the closed landfill subcategory (as defined in 40 CFR 60.41f), following the procedures specified in 40 CFR 60.35f(b), the calculated NMOC emission rate at the landfill is less than 50 megagrams per year on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart. For the closed landfill subcategory (as defined in 40 CFR 60.41f), the landfill may comply with this subsection in place of Condition 26.c but must still comply with Conditions 26.a and 26.b. [OAR 340-236-0500(6)(d)]

27. Emission standards: The permittee must comply with the requirements in 40 CFR 60.33f(b) (collection system requirement) and 40 CFR 60.33f(c) (control system requirement) and 40 CFR 63.1958, 63.1960 and 63.1961, as described in Conditions 28 through 48. [OAR 340-236-0500(7) and 40 CFR 63.1957(a)]
28. Operational standards for collection and control systems: The permittee must comply with the following operational standards: [OAR 340-236-500(8), 40 CFR 60.33f(b) & (c), 60.34f and 63.1958]
- 28.a. 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:
- 28.a.i. Five (5) years or more if active; or
- 28.a.ii. Two (2) years or more if closed or at final grade.
- 28.b. Operate the collection system with negative pressure at each wellhead except under the following conditions:
- 28.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 as provided in 40 CFR 60.38f(h)(1) and 63.1981(h).
- 28.b.ii. Use of a geomembrane or synthetic cover. The permittee must develop acceptable pressure limits in the design plan.
- 28.b.iii. A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes must be approved by the DEQ as specified in 40 CFR 60.38f(d) and 63.1981(d)(2).
- 28.b.iv. *DEQ has approved the following exemption from positive pressure reporting according to an Alternative Monitoring Plan approval dated September 2, 2020: [OAR 340-236-0500(8)]*
- 28.b.iv.A. *When the oxygen concentration at the well does not decline to acceptable levels after more than one hour of reduced vacuum, the location may be shut off until the gas quality recovers.*
- 28.b.iv.B. *The monthly monitoring required by 40 CFR Part 60, Subpart WWW will be conducted for these wells, but positive pressure or elevated oxygen concentrations will not be considered as exceedances of the operating limits in 40 CFR 60.753. However, the monthly monitoring results must be reported to DEQ. The reports to DEQ must note if and when the wells are shut off in accordance with this approval letter.*
- 28.b.iv.C. *If monthly monitoring indicates that pressure has built up in the well and the oxygen concentration still exceeds 5 percent, the well will be briefly opened to relieve the pressure and may then be shut down until it is monitored the following month.*
- 28.b.iv.D. *The surface monitoring required by 40 CFR Part 60, Subpart WWW will continue to be conducted in this area. Standard remediation steps, including evaluating the need to return the well to full-time service, must be followed if exceedances of the 500 ppm methane surface concentration limits are detected in the immediate vicinity.*
- 28.b.iv.E. *If the monthly monitoring indicates that gas quality has improved (i.e., the oxygen concentration has dropped below 5 percent), the well will be brought back on line until the gas quality declines again. If the oxygen levels can be maintained below the regulatory limit of 5 percent for six consecutive months, this alternate operating procedure is terminated and the well must be operated in accordance with the regulatory requirements.*
- 28.b.iv.F. *Valley Landfills must submit this information to DEQ as part of a design plan change. DEQ must be made aware which well(s) are low gas-producing, low gas quality wells and that they are subject to alternative limits/procedures. DEQ will review the wells' status*

*from the semi-annual reports to ensure that if higher gas quality can be maintained, this alternate operating procedure should be terminated and the wells be operated in accordance with the regulatory requirements.*

- 28.c. Operate each interior wellhead in the collection system as specified in 40 CFR 60.753(c), until the permittee elects to meet the operational standard for temperature in Condition 28.c.i. [40 CFR 63.1958(c)]
- 28.c.i. Operate each interior wellhead in the collection system with a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit).
- 28.c.ii. The permittee may establish a higher operating temperature value at a particular well. A higher operating value demonstration must be submitted to the DEQ 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).
- 28.c.iii. Note: The permittee has elected to meet the landfill gas temperature limit in Condition 28.c.i and is not requesting higher operating temperatures at any wells.
- 28.d. Operate the collection system so that the methane concentration is less than 500 parts per million (ppm) above background at the surface of the landfill. To determine if this level is exceeded, 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. 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. The permittee must: [40 CFR 63.1958(d)]
- 28.d.i. Conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 63.1960(d).
- 28.d.ii. Conduct surface testing at all cover penetrations. Thus, the permittee must monitor any cover penetrations that are within an area of the landfill where waste has been placed and a gas collection system is required.
- 28.d.iii. 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.
- 28.e. Operate the system such that all collected gasses are vented to a control system designed and operated in compliance with Condition 29.b. In the event the collection or control system is not operating: [40 CFR 63.1958(e)]
- 28.e.i. 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 1 hour of the collection or control system not operating; and
- 28.e.ii. 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.
- 28.f. Operate the control system at all times when the collected gas is routed to the system. [40 CFR 63.1958(f)]
- 28.g. If monitoring demonstrates that the operational requirements in Conditions 28.b through 28.d are not met, corrective action must be taken as specified in Conditions 33.c, 33.e, and 35. If corrective actions are taken as specified in 40 CFR 63.1960, the monitored exceedance is not a deviation of the operational

requirements in this Condition. [OAR 340-236-500(8), 40 CFR 60.34f(g), 40 CFR 63.1958(g)]

29. The collection and control system must meet the requirements in Condition 29.a and 29.b. [40 CFR 63.1959(b)(2)(ii) and (iii)]
- 29.a. Collection system. The collection and control system must capture the gas generated within the landfill as required by Conditions 29.a or 29.a.v and 29.b. An active collection system must:
- 29.a.i. 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;
  - 29.a.ii. 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 if active; or 2 years or more if closed or at final grade;
  - 29.a.iii. Collect gas at a sufficient extraction rate; and
  - 29.a.iv. Be designed to minimize off-site migration of subsurface gas.
  - 29.a.v. A passive collection system must:
    - 29.a.v.A. Comply with the provisions specified in Conditions 29.a.i, 29.a.ii, and 29.a.iii; and
    - 29.a.v.B. Be installed 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.
- 29.b. Control system. All the collected gas must be routed to a control system that complies with the requirements in either Condition 29.b.i or 29.b.ii.
- 29.b.i. A non-enclosed flare designed and operated in accordance with the parameters established in 40 CFR 63.11(b) except as noted in 40 CFR 63.1959(e); or
  - 29.b.ii. A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight-percent or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3-percent oxygen. The reduction efficiency or ppmv 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 Condition 31.d.
  - 29.b.iii. 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 in Conditions 29.b.iii.A through 29.b.iii.D.
    - 29.b.iii.A. A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of  $\pm 1$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 0.5$  degrees Celsius, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts.
    - 29.b.iii.B. A device that records flow to the control device and bypass of the control device (if applicable). The owner or operator must:
    - 29.b.iii.C. Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the control device at least every 15 minutes; and
    - 29.b.iii.D. 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.

30. Specifications for active collection systems: The permittee seeking to comply with the collection system requirements of 40 CFR 60.33f(b) and 63.1959(b)(2)(i) must meet the following:  
[OAR 340-236-500(9), 40 CFR 60.40f(a) and 63.1962(a)]
- 30.a. The active collection well, horizontal collector, surface collector, or other extraction device must meet the following requirements unless alternative procedures have been approved by the DEQ. [OAR 340-236-500(9)(a), 40 CFR 60.40f(a)]
- 30.a.i. 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 the entire collection system.
- 30.a.ii. The sufficient density of gas collection devices determined in Condition 30.a.i 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.
- 30.a.iii. The placement of gas collection devices determined in Condition 30.a.i must control all gas producing areas, except as provided by the following paragraphs:
- 30.a.iii.A. Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under 40 CFR 60.39f(d) and 63.1983(d). 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 the DEQ upon request.
- 30.a.iii.B. Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material must be documented and provided to the DEQ upon request. A separate NMOC emissions estimate must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the NMOC emissions estimate for the entire landfill.
- 30.a.iii.C. The NMOC emissions from each section proposed for exclusion must be computed using Equation 1:

$$Q_i = 2kL_oM_i(e^{-k t_i})(C_{NMOC})(3.6 \times 10^{-9}) \quad (Eq.1)$$

Where:

- $Q_i$  = NMOC emission rate from the  $i^{\text{th}}$  section, megagrams per year.  
 $k$  = Methane generation rate constant,  $\text{year}^{-1}$ .  
 $L_o$  = Methane generation potential, cubic meters per megagram solid waste.  
 $M_i$  = Mass of the degradable solid waste in the  $i^{\text{th}}$  section, megagram.  
 $t_i$  = Age of the solid waste in the  $i^{\text{th}}$  section, years.  
 $C_{NMOC}$  = Concentration of NMOC, parts per million by volume.  
 $3.6 \times 10^{-9}$  = Conversion factor.

- 30.a.iii.D. 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 systems, NMOC emissions from each physically separated closed area must be computed using either Equation 3 in 40 CFR 60.35f and 63.1959(c) or Equation 1 above.
- 30.a.iii.E. 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  $k$ ,  $L_0$ , and  $C_{NMOC}$  provided in 40 CFR 60.35f and 63.1959(a)(1) or the alternative values from 40 CFR 60.35f or 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 30.a.iii.A.

- 30.b. The permittee seeking to comply with Condition 29.a must construct the gas collection devices using the following equipment or procedures: [OAR 340-236-0500(9)(b), 40 CFR 63,1962(b) and 40 CFR 60.40f(b)]
- 30.b.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 to prevent excessive air infiltration.
- 30.b.ii. 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.
- 30.b.iii. 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 sampling port. The collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.
- 30.c. The permittee seeking to comply with Condition 29.b must convey the landfill gas to a control system in compliance with 29.b 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 63.1962(c) and OAR 340-236-0500(9)(c)]
- 30.c.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 30.c.ii must be used.
- 30.c.ii. For new collection systems, the maximum flow rate must be in accordance with 40 CFR 63.1960(a)(1).
31. Test methods and procedures: The permittee must calculate the landfill NMOC emission rate or conduct a surface emission monitoring demonstration in accordance with 40 CFR 60.35f. [OAR 340-236-500(10)]
- 31.a. The permittee must calculate the NMOC emission rate for purposes of determining when the system can be capped, removed, or decommissioned as provided in 40 CFR 60.33f(f), using Equation 2: [40 CFR 63.1959(c)]

$$M_{NMOC} = 1.89 \times 10^{-3} Q_{LFG} C_{NMOC} \text{ (Eq.2)}$$

Where:  $M_{\text{NMOC}}$  = Mass emission rate of NMOC, megagrams per year.  
 $Q_{\text{LFG}}$  = Flow rate of landfill gas, cubic meters per minute.  
 $C_{\text{NMOC}}$  = NMOC concentration, parts per million by volume as hexane.

- 31.a.i. The flow rate of landfill gas, QLFG, 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 Method 2E of appendix A of 40 CFR Part 60.
- 31.a.ii. The average NMOC concentration, CNMOC, 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 Method 25 or Method 25C of appendix A 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 Method 25 or Method 25C by six to convert from CNMOC as carbon to CNMOC as hexane.
- 31.a.iii. The permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the EPA.
  - 31.a.iii.A. Within 60 days after the date of calculating the NMOC emission rate for purposes of determining when the system can be capped or removed, the permittee must submit the results according to 40 CFR 60.38f(j)(2) and 40 CFR 63.1981(l)(1).
- 31.b. When calculating emissions for Prevention of Significant Deterioration purposes, the permittee must estimate the NMOC emission rate for comparison to the Prevention of Significant Deterioration major source and significance levels in 40 CFR 51.166 or 40 CFR 52.21 of this chapter using Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42) or other approved measurement procedures. [40 CFR 60.35f(c)]
- 31.c. For the performance test required in Condition 29.b.i, the net heating value of the combusted landfill gas as determined in 40 CFR 60.18(f)(3) is calculated from the concentration of methane in the landfill gas as measured by Method 3C. A minimum of three 30-minute Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under 40 CFR 60.18(f)(4). [40 CFR 60.35f(d)]

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 required, including any associated fuel analyses, according to 40 CFR 60.38f(j)(1).

- 31.d. For the performance test required in Condition 29.b.ii, Method 25 or 25C (Method 25C may be used at the inlet only) of appendix A of 40 CFR Part 60 must be used 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 the DEQ as provided by 40 CFR 60.38f(d)(2). Method 3, 3A, or 3C 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), Method 25A should be used in place of Method 25. Method 18 may be used in conjunction with Method 25A on a limited basis (compound specific, e.g., methane) or Method 3C may be used to determine methane. The methane as carbon should be subtracted from the Method 25A total hydrocarbon value as carbon to give NMOC concentration as carbon. The landfill permittee must divide the NMOC concentration as carbon by 6 to convert the  $C_{\text{NMOC}}$  as carbon to  $C_{\text{NMOC}}$  as hexane. Equation 3 must be used to calculate efficiency: [40 CFR 60.35f(e)]

$$\text{Control Efficiency} = (NMOC_{in} - NMOC_{out}) / (NMOC_{in}) \quad (\text{Eq. 3})$$

Where:

NMOC<sub>in</sub> = Mass of NMOC entering control device.  
NMOC<sub>out</sub> = Mass of NMOC exiting control device.

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 analyses, according to 40 CFR 60.38f(j)(1).

Compliance provisions:

32. The permittee must meet the compliance provisions of 40 CFR 60.36f, as applicable. [OAR 340-236-0500(11)]
33. Except as provided in 40 CFR 60.38f(d)(2) and 40 CFR 63.1981(d)(2), the permittee must use the specified methods in 33.a through 33.e to determine whether the gas collection system is in compliance with 40 CFR 60.33f(b)(2) and 40 CFR 63.1959(b)(2)(ii). [OAR 340-236-0500(11) and 40 CFR 63.1960]
- 33.a. For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with Condition 29.a, Equation 6 in this section must be used. The methane generation rate constant (k) and methane generation potential (L<sub>o</sub>) kinetic factors should be those published in the most recent AP-42 or other site-specific values demonstrated to be appropriate and approved by DEQ. If k has been determined as specified in 40 CFR 60.35f(a)(4), the value of k determined from the test must be used. A value of no 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.

33.a.i. For sites with known year-to-year solid waste acceptance rate:

$$Q_M = \sum_{i=1}^n 2kL_o M_i (e^{-kt_i}) \quad (\text{Eq. 6})$$

Where:

Q<sub>m</sub> = Maximum expected gas generation flow rate, m<sup>3</sup>/yr.

k = Methane generation rate constant, year<sup>-1</sup>.

L<sub>o</sub> = Methane generation potential, m<sup>3</sup>/Mg solid waste.

M<sub>i</sub> = Mass of solid waste in the ith section, Mg.

t<sub>i</sub> = Age of the ith section, years.

- 33.a.ii. If a 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 6 in Condition 33.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 6 in Condition 33.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.
- 33.b. For the purposes of determining sufficient density of gas collectors for compliance with Condition 29.a.ii, the permittee must design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the DEQ, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards. [40 CFR 63.1960(a)(2)]
- 33.c. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with Condition 29.a.iii, the permittee must measure gauge pressure in the gas collection header applied to each individual well monthly. 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 the DEQ for approval. If a positive pressure exists, follow the

- procedures as specified in 40 CFR 60.755(a)(3), except: [40 CFR 63.1960(a)(3)]
- 33.c.i. If a positive pressure exists, action must be initiated to correct the exceedance within 5 days, except for the three conditions allowed under 40 CFR 63.1958(b).
- 33.c.ii. 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 40 CFR 60.39f(e)(3) and 63.1983(e)(3).
- 33.c.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 analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement. The permittee must submit the items listed in 40 CFR 63.1981(h)(7) as part of the next semi-annual report. The permittee must keep records according to 40 CFR 63.1983(e)(4).
- 33.c.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 the DEQ, according to 40 CFR 60.38f(h)(7) and (k) and 40 CFR 63.1981(j). The permittee must keep records according to 40 CFR 60.39f(e)(5) and 40 CFR 63.1983(e)(5).
- 33.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 28.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 63.1960(a)(4)]
- 33.d.i. If a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit) cannot be achieved within 15 calendar 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 40 CFR 60.39f(e)(3) and 63.1983(e)(3).
- 33.d.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 40 CFR 60.38f(h)(7) and 63.1981(h)(7) as part of the next semi-annual report. The permittee must keep records according to 40 CFR 60.39f(e)(4) and 63.1983(e)(4).
- 33.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 the DEQ, according to 40 CFR 60.38f(h)(7) and (k) and 63.1981(h)(7) and (j). The permittee must keep records according to 40 CFR 60.39f(e)(5) and 63.1983(e)(5).
- 33.d.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 40 CFR 63.1961(a)(5)(vi) is greater than or equal to 1,000 ppmv the corrective action(s) for the wellhead temperature standard (62.8 degrees Celsius or 145 degrees Fahrenheit) must be completed within 15 days.
- 33.e. A permittee seeking to demonstrate compliance with Condition 29.a.iv through the use of a collection

system not conforming to the specifications provided in 40 CFR 60.40f and 63.1962 must provide information satisfactory to the DEQ as specified in 40 CFR 60.38f(d)(3) and 63.1981(d)(3) demonstrating that off-site migration is being controlled. [40 CFR 63.1960(a)(5)]

34. For purposes of compliance with Condition 28.a, the permittee must place each well or design component as specified in the approved design plan as provided in 40 CFR 60.38f(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: [OAR 340-236-0500(11) and 40 CFR 63.1960(b)]
  - 34.a. Five (5) years or more if active; or
  - 34.b. Two (2) years or more if closed or at final grade.
35. The permittee must use the following procedures for compliance with the surface methane operational standard listed in Condition 28.d: [OAR 340-236-0500(11) and 40 CFR 63.1958(d) and 63.1960(c)]
  - 35.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 a 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 36.
  - 35.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.
  - 35.c. Surface emission monitoring must be performed in accordance with section 8.3.1 of Method 21 of 40 CFR Part 60 Appendix A-7, except that the probe inlet must be placed within 5 to 10 centimeters of the ground. Monitoring must be performed during typical meteorological conditions.
  - 35.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 Conditions 35.d.i through 35.d.v be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of 40 CFR 60.34f(d) and 63.1958(d).
    - 35.d.i. The location of each monitored exceedance must be marked and the location and concentration recorded. For location, you 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 decimal places.
    - 35.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.
    - 35.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 a third exceedance for the same location, the action specified in Condition 35.d.v must be taken, and no further monitoring of that location is required until the action specified in Condition 35.d.v has been taken.
    - 35.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 Condition 35.d.ii or 35.d.iii must be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 parts per million above 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 Condition 35.d.iii or 35.d.v must be taken.
    - 35.d.v. For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other

collection device must be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the DEQ for approval.

- 35.e. The permittee must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis. [40 CFR 63.1960(c)(5)]
- 36. A permittee seeking to comply with Condition 35 or 40 CFR 60.35f(a)(6) must comply with the following instrumentation specifications and procedures for surface emission monitoring devices: [OAR 340-236-0500(11) and 40 CFR 63.1960(d)]
  - 36.a. The portable analyzer must meet the instrument specifications provided in section 6 of Method 21 of 40 CFR Part 60 Appendix A, except that “methane” replaces all references to “VOC”.
  - 36.b. The calibration gas must be methane, diluted to a nominal concentration of 500 parts per million in air.
  - 36.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 must be used.
  - 36.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.
  - 36.e. The permittee may determine quarterly surface methane concentration in accordance with OTM-51, provided that all of the following conditions are met:
    - 36.e.i. The monitoring is not for tier 4 surface emission monitoring provisions in 40 CFR 60, Subpart Cf, §60.35f(a)(6)
    - 36.e.ii. The permittee must include a copy of EPA’s Alternative Test Letter 150 with each quarterly report presenting SEM results using OTM-51.
    - 36.e.iii. Once OTM-51 is used to perform SEM, the permittee must continue to use the alternative method until approval is received from DEQ for use of a new alternative method. In a request for reverting to EPA Method 21, the permittee must substantiate a claim that a contractor is unable to perform OTM-51 for a given quarter, and DEQ will evaluate an approval to allow reverting back to EPA Method 21 for that quarter.
    - 36.e.iv. If DEQ has not responded to a request for use of Method 21 within 10 days of submittal, the permittee is allowed to proceed with the use of Method 21. Use of any other alternative method will not get an automatic approval and will require DEQ response prior to use.
- 37. The conditions of this permit apply at all times, including periods of startup, shutdown, or malfunction. During periods of startup, shutdown, and malfunction, the permittee must comply with the work practice specified in 40 CFR 60.34f(e) and 63.1958(e) in lieu of the compliance provisions in 40 CFR 60.36f and 63.1960. [OAR 340-236-0500(11) and 40 CFR 63.1960(e)]

Monitoring of Operations:

- 38. The permittee must meet the monitoring requirements of 40 CFR 60.37f, except as provided in 40 CFR 60.38f(d)(2). [OAR 340-236-0500(12)]
- 39. The permittee must install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and: [OAR 340-236-0500(12) and 40 CFR 63.1961(a)]
  - 39.a. Measure the gauge pressure in the gas collection header on a monthly basis as provided in 40 CFR 60.36f(a)(3) and 63.1960(a)(3); and

- 39.b. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as follows:
- 39.b.i. The nitrogen level must be determined using EPA Method 3C of appendix A-2 to part 60, unless an alternative test method is established as allowed by 40 CFR 60.38f(d)(2) and 63.1981(d)(2).
  - 39.b.ii. Unless an alternative test method is established as allowed by 40 CFR 60.38f(d)(2) and 63.1981(d)(2), the oxygen level must be determined by an oxygen meter using EPA Method 3A, 3C to part 60, or ASTM D6522-11 (incorporated by reference, see 40 CFR 60.17 or 40 CFR 63.14). Determine the oxygen level by an oxygen meter using EPA Method 3A or 3C of appendix A-2 to part 60, or ASTM D6522-11 (if the sample location is prior to combustion) except that:
    - 39.b.ii.A. The span must be set between 10 and 12 percent oxygen;
    - 39.b.ii.B. A data recorder is not required;
    - 39.b.ii.C. Only two calibration gases are required, a zero and span;
    - 39.b.ii.D. A calibration error check is not required; and
    - 39.b.ii.E. The allowable sample bias, zero drift, and calibration drift are  $\pm 10$  percent.
  - 39.b.iii. A portable gas composition analyzer may be used to monitor the oxygen levels provided:
    - 39.b.iii.A. The analyzer is calibrated; and
    - 39.b.iii.B. The analyzer meets all quality assurance and quality control requirements for EPA Method 3A of appendix A-2 to part 60 or ASTM D6522-11 (incorporated by reference, see 40 CFR 60.17 or 40 CFR 63.14).
- 39.c. Monitor temperature of the landfill gas on a monthly basis as provided in 40 CFR 60.36f(a)(5) and 40 CFR 63.1960(a)(4). The temperature measuring device must be calibrated annually using the procedure in Section 10.3 of EPA Method 2 of appendix A-1 to part 60 of this chapter. Keep records specified in 40 CFR 63.1983(e).
- 39.d. Where a permittee seeks to demonstrate compliance with the operational standard for temperature in 40 CFR 63.1958(c)(1), unless a higher operating temperature value has been approved by the DEQ under OAR 340-236-0500 or 40 CFR Part 63 Subpart AAAAA, 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:
- 39.d.i. Visual observations for subsurface oxidation events (smoke, smoldering ash, damage to well) within the radius of influence of the well.
  - 39.d.ii. Monitor oxygen concentration as provided in Condition 39.b;
  - 39.d.iii. Monitor temperature of the landfill gas at the wellhead as provided in Condition 39.c.
  - 39.d.iv. Monitor temperature of the landfill gas every 10 vertical feet of the well as provided in Condition 39.e.
  - 39.d.v. Monitor the methane concentration with a methane meter using EPA Method 3C of appendix A-6 to part 60, EPA Method 18 of appendix A-6 to part 60 of this chapter, 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.
  - 39.d.vi. Monitor carbon monoxide concentrations, as follows:
    - 39.d.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 part 60 of this chapter, or an equivalent method with a detection limit of at least 100 ppmv of carbon monoxide in high concentrations of methane; or
    - 39.d.vi.B. Collect and analyze the sample from the wellhead using EPA Method 10 of appendix A-4 to part 60 to measure carbon monoxide concentrations or using EPA approved Alternate Test Method ALT-144 (approved by DEQ on January 8, 2026);
    - 39.d.vi.C. When sampling directly from the wellhead and using EPA Method 10, you must

- sample for 5 minutes plus twice the response time of the analyzer. These values must be recorded. The five 1-minute averages are then averaged to give you the carbon monoxide reading at the wellhead.
- 39.d.vi.D. When collecting samples in a passivated canister or multi-layer foil sampling bag, you 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 you a carbon monoxide value from the wellhead.
- 39.d.vii. The enhanced monitoring described in Condition 39.d must begin 7 calendar days after the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit); and
- 39.d.viii. The enhanced monitoring must be conducted on a weekly basis. If four consecutive weekly carbon monoxide readings are under 100 ppmv, then enhanced monitoring may be decreased to monthly. However, if carbon monoxide readings exceed 100 ppmv again, the landfill must return to weekly monitoring.
- 39.d.ix. The enhanced monitoring can be stopped once a higher operating value is approved, at which time the monitoring provisions issued with the higher operating value should be followed, or once the measurement of landfill gas temperature at the wellhead is less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit).
- 39.e. 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. A permittee seeking to comply with Condition 29.b using an enclosed combustor must calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment: [OAR 340-236-0500(12) and 40 CFR 63.1961(b)]
- 40.a. A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of  $\pm 1$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 0.5$  degrees Celsius, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts.
- 40.b. A device that records flow to the control device and bypass of the control device (if applicable). The permittee must:
- 40.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; and
- 40.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.
41. A permittee seeking to demonstrate compliance Condition 29.b using a device other than a non-enclosed flare or an enclosed combustor or a treatment system must provide information satisfactory to the DEQ as provided in 40 CFR 60.38f(d)(2) and 63.1981(d)(2) describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The DEQ must review the information and either approve it, or request that additional information be submitted. The DEQ may specify additional appropriate monitoring procedures. [OAR 340-236-0500(12) and 40 CFR 63.1961(d)]
42. A permittee seeking to install a collection system that does not meet the specifications in 40 CFR 60.40f and 63.1962 or seeking to monitor alternative parameters to those required by 40 CFR 60.34f through

- 60.37f or 40 CFR 63.1958 through 63.1961 must provide information satisfactory to the DEQ as provided in 40 CFR 60.38f(d)(2) and (3) and in 40 CFR 63.1981(d)(2) and (3) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The DEQ may specify additional appropriate monitoring procedures. [OAR 340-236-0500(12) and 40 CFR 63.1961(e)]
43. A permittee seeking to demonstrate compliance with the 500 parts per million surface methane operational standard in Condition 28.d must monitor surface concentrations of methane according to the procedures provided in Condition 35 and the instrument specifications in Condition 36. If the permittee is complying with the 500-ppm surface methane operational standard in Condition 28.d, 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 decimal places. In the semi-annual report in Condition 54, the permittee must report the location of each exceedance of the 500-ppm methane concentration as provided in Condition 28.d.iii and the concentration recorded at each location for which an exceedance was recorded in the previous month. [OAR 340-236-0500(12) and 40 CFR 63.1961(f)]
  44. A permittee seeking to demonstrate compliance with 40 CFR 63.1959(b)(2)(iii)(C) using a landfill gas treatment system must calibrate, maintain, and operate according to the manufacturer's specifications a device that records flow to the treatment system and bypass of the treatment system (if applicable). The permittee must maintain and operate all monitoring systems associated with the treatment system in accordance with the site-specific treatment system monitoring plan required in 40 CFR 63.1983(b)(5)(ii). The permittee must:
    - 44.a. Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the treatment system at least every 15 minutes; and
    - 44.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. [40 CFR 63.1961(g)]
  45. The monitoring requirements of Conditions 39-41 and 44 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 must complete monitoring system repairs in response to monitoring system malfunctions and to return the monitoring system to operation as expeditiously as practicable. [OAR 340-236-0500(12) and 40 CFR 63.1961(h)]
  46. Compliance is determined using performance testing, collection system monitoring, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data collected under 40 CFR 63.1961(b)(1), (c)(1), and (d) 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 and have deviated from the requirements of 40 CFR Part 63 Subpart AAAAA. Compliance with the emissions standards and the operating standards of 40 CFR 63.1958 is required at all times. [40 CFR 63.1964]
  47. For the purposes of the landfill monitoring, deviations include the items in Conditions 47.a and 47.b. [40 CFR 63.1965]
    - 47.a. A deviation occurs when the control device operating parameter boundaries described in 40 CFR 63.1983(c)(1) are exceeded.
    - 47.b. A deviation occurs when 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 15-minute monitoring periods within the hour.

48. To demonstrate compliance with the 3 hour block average combustion temperature, averages are calculated according to 40 CFR 63.1983(b)(2)(i) for average combustion temperature and 63.1983(c)(1)(i) for 3-hour average combustion temperature for enclosed combustors, except that the data collected during monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments are not to be included in any average computed under 40 CFR Part 63 Subpart AAAA. [40 CFR 63.1975]

Reporting Requirements:

49. The permittee must meet the reporting requirements of 40 CFR 60.38f, as applicable [OAR 340-236-0500(15)]
50. *Design capacity report.* The permittee must submit the initial design capacity report no later than 90 days after the effective date of EPA approval of the state's plan under section 111(d) of the Clean Air Act. The initial design capacity report must contain the information specified in following: [OAR 340-236-0500(15) and 40 CFR 63.1981(a)]
- 50.a. A map or plot of the landfill, providing the size and location of the landfill, and identifying all areas where solid waste may be landfilled according to the permit issued by the state, local, or tribal agency responsible for regulating the landfill.
- 50.b. The maximum design capacity of the landfill. Where the maximum design capacity is specified in the permit issued by DEQ, a copy of the permit specifying the maximum design capacity may be submitted as part of the report. If the maximum design capacity of the landfill is not specified in the permit, the maximum design capacity must be calculated using good engineering practices. The calculations must be provided, along with the relevant parameters as part of the report. The landfill may calculate design capacity in either Mg or m<sup>3</sup> for comparison with the exemption values. If the permittee chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million Mg or 2.5 million m<sup>3</sup>, the calculation must include a site-specific density, which must be recalculated annually. Any density conversions must be documented and submitted with the design capacity report. DEQ may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill.
51. Revised design plan. The permittee must submit a revised design plan to the DEQ for approval as follows: [OAR 340-236-0500(15) and 40 CFR 63.1981(d)]
- 51.a. At least 90 days before expanding operations to an area not covered by the previously approved design plan.
- 51.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 the DEQ.
52. Closure report. The permittee must submit a closure report to the DEQ within 30 days of ceasing waste acceptance. The DEQ may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the DEQ, 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 63.9(b). [OAR 340-236-0500(15) and 40 CFR 63.1981(f)]
53. *Equipment removal report.* The permittee must submit an equipment removal report as provided in 40 CFR 60.757(e). The removal report must be submitted 30 days prior to removal or cessation of operation of the control equipment. [OAR 340-236-0500(15) and 40 CFR 63.1981(g)]

- 53.a. The equipment removal report must contain the following items:
- 53.a.i. A copy of the closure report submitted in accordance with Condition 52; and
  - 53.a.ii. A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired, or information that demonstrates that the GCCS will be unable to operate for 15 years due to declining gas flows. In the equipment removal report, the process unit(s) tested, the pollutant(s) tested, and the date that such performance test was conducted may be submitted in lieu of the performance test report if the report has been previously submitted to the EPA's CDX; and
  - 53.a.iii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year. If the NMOC emission rate reports have been previously submitted to the EPA's CDX, a statement that the NMOC emission rate reports have been submitted electronically and the dates that the reports were submitted to the EPA's CDX may be submitted in the equipment removal report in lieu of the NMOC emission rate reports; or
- 53.b. The DEQ may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.33f(f) and 63.1957(b) have been met.
54. *Semi-annual report.* A permittee seeking to comply with Condition 29 using an active collection system designed in accordance with Condition 29.a must submit to the DEQ semi-annual reports. The permittee must submit the report, following the procedure specified in Condition 55. For enclosed combustion devices and flares, reportable exceedances are defined under 40 CFR 63.1983(c). The semi-annual reports must contain the information in Conditions 54.a through 54.h. [OAR 340-236-0500(15) and 40 CFR 63.1981(h)]
- 54.a. Number of times that applicable parameters monitored under Conditions 28.b, 28.c, and 28.d were exceeded and when the gas collection and control system was not operating under 40 CFR 63.1958(e), including periods of SSM. For each instance, report the date, time, and duration of each exceedance.
    - 54.a.i. To demonstrate compliance with the operational standard for temperature in Condition 28.c.i, the permittee must 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 40 CFR 63.1961(a)(4) were exceeded. For each instance, report the date, time, and duration of each exceedance.
  - 54.b. Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under 40 CFR 63.1961.
  - 54.c. Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating.
  - 54.d. All periods when the collection system was not operating.
  - 54.e. The location of each exceedance of the 500 parts per million methane concentration as provided in Condition 28.d.iii 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 decimal places.
  - 54.f. The date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 63.1960(a)(3) and (4), (b), and (c)(4).

- 54.g. For any corrective action analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i) or (a)(5) and that take more than 60 days to correct the exceedance, the 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.
- 54.h. The permittee required to conduct enhanced monitoring in 40 CFR 63.1961(a)(5) and (6) must include the results of all monitoring activities conducted during the period.
- 54.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.
- 54.h.ii. Include a summary trend analysis for each well subject to the enhanced monitoring requirements to chart the weekly readings over time for oxygen, wellhead temperature, methane, and weekly or monthly readings over time, as applicable for carbon monoxide.
- 54.h.iii. Include the date, time, staff person name, and description of findings for each visual observation for subsurface oxidation event.
55. *Electronic reporting.* The permittee must submit reports electronically according to Conditions 55.a and 55.b. [OAR 340-236-0500(15) and 40 CFR 63.1981(l)]
- 55.a. Within 60 days after the date of completing each performance test (as defined in 40 CFR 60.8), the permittee must submit the results of each performance test according to the following procedures:
- 55.a.i. For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (<https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert>) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternative file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site, once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed 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 ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.
- 55.a.ii. For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the EPA at the appropriate address listed in 40 CFR 60.4.
- 55.b. The permittee must submit reports to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX.) The permittee must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI Web site (<https://www3.epa.gov/ttn/chief/cedri/index.html>). If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the permittee must submit the report to the EPA at the appropriate address listed in 40 CFR 60.4. Once the form has been available in CEDRI for 90 calendar days, the permittee must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted.
56. *Claims of EPA system outage.* The permittee may assert a claim of EPA system outage for failure to

comply timely with the reporting requirement. To assert a claim of EPA system outage, the permittee must meet the following requirements: [40 CFR 63.1981(m)]

- 56.a. 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.
  - 56.b. The outage must have occurred within the period of time beginning 5 business days prior to the date that the submission is due.
  - 56.c. The outage may be planned or unplanned.
  - 56.d. The permittee must submit notification to the EPA in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.
  - 56.e. The permittee must provide to the EPA a written description identifying:
    - 56.e.i. The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;
    - 56.e.ii. A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage;
    - 56.e.iii. Measures taken or to be taken to minimize the delay in reporting; and
    - 56.e.iv. The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.
  - 56.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 EPA.
  - 56.g. In any circumstance, the permittee must submit the report electronically as soon as possible after the outage is resolved.
57. *Claims of force majeure.* 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)]
- 57.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 5 business days prior to the date the submission is due. For the purposes of this section, 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 you 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), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (e.g., large scale power outage).
  - 57.b. The permittee must submit notification to the EPA in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or has caused a delay in reporting.
  - 57.c. The permittee must provide to the EPA:
    - 57.c.i. A written description of the force majeure event;
    - 57.c.ii. A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event;
    - 57.c.iii. Measures taken or to be taken to minimize the delay in reporting; and
    - 57.c.iv. The date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported.
  - 57.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 EPA.

- 57.e. In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs.
58. *Corrective action and the corresponding timeline.* The permittee must submit information regarding corrective actions according to Conditions 58.a and 58.b. [OAR 340-236-0500(15) and 40 CFR 63.1981(j)]
- 58.a. For corrective action that is required according to 40 CFR 63.1960(a)(3) or (4) and is not completed within 60 days after the initial exceedance, the permittee must submit a notification to the DEQ as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance.
- 58.b. For corrective action that is required according to 40 CFR 63.1960(a)(3) or (4) and is expected to take longer than 120 days after the initial exceedance to complete, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the DEQ 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. The DEQ must approve the plan for corrective action and the corresponding timeline.
59. *24-hour high temperature report.* Where the permittee seeks to demonstrate compliance with the operational standard for temperature in 40 CFR 63.1958(c)(1) and a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide 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 reading via DEQ's '[Your DEQ Online](#)' system within 24 hours of the measurement unless a higher operating temperature value has been approved by the DEQ for the well under 40 CFR part 63, subpart AAAA or under 40 CFR part 60, subpart WWW; 40 CFR part 60, subpart XXX; or OAR 340-236-0500 that implements 40 CFR part 60, subpart Cf. [40 CFR 60.38f(n) and 63.1981(k)]
60. *Liquids addition.* The permittee that has employed leachate recirculation or added liquids based on a Research, Development, and Demonstration permit (issued through Resource Conservation and Recovery Act, subtitle D, part 258) within the last 10 years must submit to the DEQ, annually, following the procedure specified in Condition 55.b of this section, the following information: [OAR 340-236-0500(15)]
- 60.a. Volume of leachate recirculated (gallons per year) and the reported basis of those estimates (records or engineering estimates).
- 60.b. Total volume of all other liquids added (gallons per year) and the reported basis of those estimates (records or engineering estimates).
- 60.c. Surface area (acres) over which the leachate is recirculated (or otherwise applied).
- 60.d. Surface area (acres) over which any other liquids are applied.
- 60.e. The total waste disposed (megagrams) in the areas with recirculated leachate and/or added liquids based on on-site records to the extent data are available, or engineering estimates and the reported basis of those estimates.
- 60.f. The annual waste acceptance rates (megagrams per year) in the areas with recirculated leachate and/or added liquids, based on on-site records to the extent data are available, or engineering estimates.
- 60.g. Annual reports must contain items in Conditions 60.a and 60.f for the 365-day period following the 365-day period included in the previous annual report, and the report must be submitted no later than 365 days after the date the previous report was submitted.

- 60.h. Landfills in the closed landfill subcategory are exempt from reporting requirements contained in in Conditions 60.a and 60.f
- 60.i. Landfills may cease annual reporting of items in Conditions 60.a and 60.f once they have submitted the closure report in 40 CFR 60.38f(f).

Recordkeeping:

- 61. The permittee must meet the recordkeeping requirements of 40 CFR 60.39f, as applicable. The permittee must also keep records as specified in the general provisions of 40 CFR part 63 as shown in the table in Exhibit 1 of this permit. [OAR 340-236-0500(16) and 40 CFR 63.1983]
- 62. Except as provided in 40 CFR 60.38f(d)(2) and 63.1981(d)(2), the permittee must keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report that triggered 40 CFR 60.33f(e) and 63.1959(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable. [OAR 340-236-0500(16) and 40 CFR 63.1983(a)]
- 63. Except as provided in 40 CFR 60.38f(d)(2) and 63.1981(d)(2), the permittee must keep up-to-date, readily accessible records for the life of the control system equipment of the data listed in Conditions 63.a and 63.b as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of 5 years. Records of the control device vendor specifications must be maintained until removal. [OAR 340-236-0500(16) and 40 CFR 63.1983(b)]
  - 63.a. Where the permittee seeks to demonstrate compliance with Condition 29.a:
    - 63.a.i. The maximum expected gas generation flow rate as calculated in 40 CFR 60.36f(a)(1) and 63.1960(a)(1).
    - 63.a.ii. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 40 CFR 60.40f(a)(1) and 63.1962(a)(1) and (2).
  - 63.b. Where the permittee seeks to demonstrate compliance with Condition 29.b 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:
    - 63.b.i. The average temperature measured at least every 15 minutes and averaged over the same time period of the performance test.
    - 63.b.ii. The percent reduction of NMOC determined as specified in Condition 29.b.ii achieved by the control device.
- 64. Except as provided in 40 CFR 60.38f(d)(2) and 63.1981(d)(2), the permittee must keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in 40 CFR 60.37f and 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. [OAR 340-236-0500(16) and 40 CFR 63.1983(c)]
  - 64.a. The following constitute exceedances that must be recorded and reported under 40 CFR 60.38f and 63.1981(h). 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 (50 degrees Fahrenheit) below the average combustion temperature during the most recent performance test at which compliance with Condition 29.b was determined.
  - 64.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 40 CFR 60.37f, 63.1961(b)(2)(ii),

- (c)(2)(ii), and (g)(2).
- 64.c. A permittee seeking to comply with Condition 29 using an active collection system designed in accordance with Condition 29.a must keep records of periods when the collection system or control device is not operating.
- 64.d. Where a permittee seeks to demonstrate compliance with the operational standard in 40 CFR 63.1958(e)(1), the date, time, and duration of each startup and/or shutdown period, recording the periods when the affected source was subject to the standard applicable to startup and shutdown.
- 64.e. Where a permittee seeks to demonstrate compliance with the operational standard in 40 CFR 63.1958(e)(1), in the event that an affected unit fails to meet an applicable standard, record the information below in this paragraph:
- 64.e.i. For each failure record the date, time and duration of each failure and the cause of such events (including unknown cause, if applicable).
- 64.e.ii. For each failure to meet an applicable standard; record and retain a list of the affected sources or equipment.
- 64.e.iii. Record actions taken to minimize emissions in accordance with the general duty of 40 CFR 63.1955(c) and any corrective actions taken to return the affected unit to its normal or usual manner of operation.
- 64.f. In lieu of the requirements specified in 40 CFR 63.8(d)(3) of subpart A, the permittee must keep the written procedures required by 40 CFR 63.8(d)(2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of 40 CFR Part 63 Subpart AAAAA, to be made available for inspection, upon request, by the DEQ. If the performance evaluation plan is revised, you must keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the DEQ, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under 40 CFR 63.8(d)(2).
65. Except as provided in 40 CFR 60.38f(d)(2) and 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. [OAR 340-236-0500(16) and 40 CFR 63.1983(d)]
- 65.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 63.1960(b).
- 65.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 40 CFR 60.40f(a)(3)(i) and 63.1962(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in 40 CFR 60.40f(a)(3)(ii) and 63.1962(a)(3)(ii).
66. Except as provided in 40 CFR 63.1981(d)(2), each permittee must keep for at least 5 years up-to-date, readily accessible records of the following: [OAR 340-236-0500(16) and 40 CFR 63.1983(e)]
- 66.a. All collection and control system exceedances of the operational standards in 40 CFR 63.1958, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.
- 66.b. Each owner or operator subject to the control provisions of this subpart must keep records of each wellhead temperature monitoring value of greater than 62.8 degrees Celsius (145 degrees Fahrenheit), each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent, except:
- 66.b.i. Each permittee required to conduct the enhanced monitoring provisions in 40 CFR 63.1961(a)(5), must also keep records of all enhanced monitoring activities.
- 66.b.ii. Each permittee required to submit the 24-hour high temperature report in 40 CFR

- 63.1981(k), must also keep a record of the email transmission.
- 66.c. For any root cause analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i)(A) or (a)(4)(i)(A), keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed.
- 66.d. For any root cause analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i)(B) or (a)(4)(i)(B), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.
- 66.e. For any root cause analysis for which corrective actions are required in 40 CFR 63.1960(a)(3)(i)(C) or (a)(4)(i)(C), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the DEQ.
67. Except as provided in 40 CFR 60.38f(d)(2) and 63.1981(d)(2), the permittee must keep for at least 5 years up-to-date, readily accessible records of all collection and control system monitoring data for parameters measured in 40 CFR 60.37f(a)(1), (2),(3) and 63.1961(a)(1) through (6). [OAR 340-236-0500(16) and 40 CFR 63.1983(g)]
68. Where the permittee seeks to demonstrate compliance with the operational standard for temperature in Condition 28.c, you must keep the following records. [40 CFR 63.1983(h)]
- 68.a. Records of the landfill gas temperature on a monthly basis as monitored in 40 CFR 63.1960(a)(4).
- 68.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 40 CFR 63.1961(a)(5) and (6). Any records required to be maintained by this subpart 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 a delegated air agency or the EPA as part of an on-site compliance evaluation.
69. Any records required to be maintained by this subpart that are submitted electronically via the EPA's CDX may be maintained in electronic format. [OAR 340-236-0500(16)]
70. The permittee reporting leachate or other liquids addition under 40 CFR 60.38f(1) must keep records of any engineering calculations or company records used to estimate the quantities of leachate or liquids added, the surface areas for which the leachate or liquids were applied, and the estimates of annual waste acceptance or total waste in place in the areas where leachate or liquids were applied. [OAR 340-236-0500(16)]

#### OREGON ADMINISTRATIVE RULE CHAPTER 340 DIVISION 239 – LANDFILL GAS EMISSIONS

71. The permittee must comply with the requirements of OAR 340-239-0110 through 340-239-0800. [OAR 340-239-0100(7)]

#### Gas Collection and Control System Requirements

72. *Design Plan and Installation:*

- 72.a. If the permittee proposes to modify the existing gas collection and control system, they must submit an

amended Design Plan to DEQ that includes any necessary updates or addenda, in accordance with OAR 340-239-0700(3)(j). The amended Design Plan must satisfy the requirements described in Condition 72.b. [OAR 340-239-0110(1)(b)]

- 72.b. At a minimum, the Design Plan must meet all of the following requirements: [OAR 340-239-0110(1)(c)]
- 72.b.i. Be prepared and certified by a professional engineer. The following issues must be addressed in the design: Depths of solid waste, solid waste 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 solid waste decomposition heat, and ability to isolate individual components or sections for repair or troubleshooting without shutting down entire collection system.
  - 72.b.ii. Provide for the control of the collected gas through the use of a gas collection and control system meeting the requirements of OAR 340-239-0110(2) or an alternative method approved pursuant to OAR 340-239-0500.
  - 72.b.iii. Demonstrate that the gas collection and control system is designed to handle the maximum expected gas generation flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control system equipment. The maximum expected gas generation flow rate must be calculated using the method in OAR 340-239-0800(5) or an alternative method approved pursuant to OAR 340-239-0500.
  - 72.b.iv. Include any proposed alternatives to the requirements, justification for the need for any proposed alternatives, test methods, procedures, compliance measures, monitoring, and recordkeeping or reporting requirements pursuant to OAR 340-239-0500.
  - 72.b.v. Include a description of potential mitigation measures to be used to prevent the release of methane or other pollutants into the atmosphere during the installation or preparation of wells, piping, or other equipment; during repairs or the temporary shutdown of gas collection system components; or, when solid waste is to be excavated and moved.
  - 72.b.vi. For active landfills, identify areas of the landfill that are closed or inactive.
  - 72.b.vii. The gas collection and control system must be designed to collect gas at an extraction rate to comply with the surface methane emission limits in OAR 340-239-0200, component leak standard in OAR 340-239-0600(2)(c), and be sufficient to meet all operational and performance standards in this permit. The expected gas generation flow rate from the landfill must be calculated pursuant to OAR 340-239-0800(5).
  - 72.b.viii. The gas collection and control system must be designed to maintain a negative pressure at all wellheads in the collection system without causing air infiltration, including any wellheads connected to the system as a result of expansion or excess surface emissions.
  - 72.b.ix. Any areas of the landfill that contain only asbestos-containing waste, or non-decomposable solid waste may be excluded from collection provided that the permittee submits documentation to DEQ containing the nature of the waste, date of deposition, location and amount of asbestos or non-decomposable solid waste deposited in the area. This documentation may be included as part of the Design Plan.
  - 72.b.x. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices necessary to achieve compliance with Condition 73 of this permit.
- 72.c. The permittee must place each well or design component as specified in the approved Design Plan. Following initial construction, the permittee must install each new component no later than 60 days after the date on which the area controlled by the well is required to be controlled. [OAR 340-239-0110(1)(e)]
- 72.d. 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)]
73. *Gas Collection and Control System Operational Standards:*
- 73.a. The permittee must satisfy all of the following requirements when operating a gas collection and control

system: [OAR 340-239-0110(2)(a)]

- 73.a.i. Route all collected gas to a gas control device or devices, and operate the gas collection and control system continuously except as provided in conditions 75 and 76.
- 73.a.ii. Operate the gas collection and control system to comply with 72.b.vii.
- 73.a.iii. Design and operate the gas collection system to draw all the gas toward the gas control device or devices.
- 73.a.iv. 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.
- 73.a.v. 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 hour of the collection or control system not operating.
- 73.a.vi. 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.
- 73.a.vii. 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.
- 73.a.viii. 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 DEQ. If data on actual amounts and age is not available, the permittee must estimate based on known information and provide 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 estimate for the entire landfill, and all calculations, data and documentation used to perform the calculations must be submitted to DEQ. The methane emissions from each section proposed for exclusion must be computed using the methods provided in OAR 340-239-0800(5), specifically using 40 CFR 98.343(a)(1) for methane generation rate.
- 73.a.ix. 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 to prevent excessive air infiltration.
- 73.a.x. 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.
- 73.a.xi. 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 sampling port. The collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.
- 73.a.xii. Landfill gas must be conveyed to a control system in compliance with Condition 73 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:

- 73.a.xii.A. 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 73.a.xii.B must be used; or
  - 73.a.xii.B. For new collection systems, the maximum flow rate must be determined in accordance with OAR 340-239-0800(5).
- 73.b. *Requirements for Enclosed Flares.* The permittee must route the collected gas to an enclosed flare that meets all of the following requirements: [OAR 340-239-0110(2)(b)]
- 73.b.i. Achieves a methane destruction efficiency of at least 99 percent by weight.
  - 73.b.ii. Is equipped with automatic dampers, an automatic shutdown device, a flame arrester, and continuous recording temperature sensors.
  - 73.b.iii. 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.
  - 73.b.iv. The gas control device must be operated within the parameter ranges established in the landfill's Oregon Title V Operating Permit.
- 73.c. *Requirements for Gas Control Devices other than Flares.* The permittee may operate a gas control device other than a flare only if they complies with one of the following requirements: [OAR 340-239-0110(2)(d)]
- 73.c.i. The device is a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts per hour (150 million British thermal units per hour), provided that the landfill gas stream is introduced into the flame zone. The performance test is not required for boilers and process heaters with design heat input capacities equal to or greater than 44 megawatts per hour (150 million British thermal units per hour) that burn landfill gas for compliance with this division;
  - 73.c.ii. Route the collected gas to an energy recovery device, or series of devices that meets all of the following requirements:
    - 73.c.ii.A. Achieves a methane destruction efficiency of at least 99 percent by weight pursuant to OAR 340-239-0800(6). Lean burn internal combustion engines must reduce the outlet methane concentration to less than 3,000 ppmv, dry basis, corrected to 15 percent oxygen.
    - 73.c.ii.B. For new gas control devices, the destruction efficiency or parts per million by volume required according to OAR 340-239-0110(2)(d)(A)(i) 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 OAR 340-239-0800(6) and the DEQ Source Test Manual.
    - 73.c.ii.C. Existing gas control devices must demonstrate compliance with this permit not later than 180 days from the effective date of this rule using the performance test methods specified in OAR 340-239-0800(6) and the DEQ Source Test Manual.
    - 73.c.ii.D. Operate the gas control device within the parameter ranges established during the initial or most recent performance test that demonstrates compliance with the standard in OAR 340-239-0110(2)(d)(A)(i). Until a performance test is performed, operate the gas control device within engineering or manufacturer's established parameter ranges.
  - 73.c.iii. Route the collected gas to a treatment system that processes the collected gas for subsequent sale or use. Venting of treated landfill gas to the ambient air is not allowed. If the treated landfill gas cannot be routed for subsequent sale or beneficial use, then the treated landfill gas must be controlled according to either Condition 73.b or 73.c. All emissions vented to the atmosphere from the gas treatment system are subject to the requirements of Condition 73.b or 73.c. The permittee must prepare a site-specific treatment monitoring plan to include all of the following:
    - 73.c.iii.A. Monitoring records of parameters that are identified in the treatment system

- monitoring plan and that ensure the treatment system is operating properly for each intended end use of the treated landfill gas. At a minimum, records must include records of filtration, de-watering, and compression parameters.
- 73.c.iii.B. Monitoring methods, frequencies, and operating ranges for each monitored operating parameter based on manufacturer's recommendations or engineering analysis for each intended end use of the treated landfill gas.
  - 73.c.iii.C. Documentation of the monitoring methods and ranges, along with justification for their use.
  - 73.c.iii.D. List of responsible staff (by name and job title) for data collection.
  - 73.c.iii.E. Processes and methods used to collect the necessary data.
  - 73.c.iii.F. Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems (CMS).
- 73.d. If the permittee is complying with Condition 73.c by using a landfill gas treatment system they must calibrate, maintain, and operate according to the manufacturer's specifications a device that records flow to the treatment system and bypass of the treatment system (if applicable). The permittee must maintain and operate all monitoring systems associated with the treatment system in accordance with the site-specific treatment system monitoring plan required by Condition 73.c.iii. The permittee must: [OAR 340-239-0110(2)(e)]
- 73.d.i. Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the treatment system at least every 15 minutes;
  - 73.d.ii. Install liners or equivalent non-permeable materials 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; and
  - 73.d.iii. 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.
- 73.e. Performance Test Requirements. The permittee must conduct annual performance tests for any gas control device(s) subject to the requirements of Condition 73 using the test methods identified in OAR 340-239-0800(6). 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 all of the following requirements: [OAR 340-239-0110(2)(f)]
- 73.e.i. An initial performance test must be conducted within 180 days of start up of the gas collection and control system.
  - 73.e.ii. Existing gas control devices must demonstrate compliance with this rule not later than 180 days from the effective date of this rule using the test methods specified in OAR 340-239-0800(6) and the DEQ Source Sampling Manual.
  - 73.e.iii. If a gas control device remains in compliance with standards in Condition 73 after three consecutive performance tests, the permittee may conduct performance tests once every three 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 standard(s) in Condition 73, the performance testing frequency must return to annual.
  - 73.e.iv. The performance tests must be conducted under such conditions as DEQ 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 DEQ. 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 DEQ such records as may be necessary to determine the conditions of performance tests.

74. Wellhead sampling. The permittee 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 OAR 340-239-0800(7): [OAR 340-239-0110(3)]
- 74.a. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in OAR 340-239-0600(3);
  - 74.b. Monitor temperature of the landfill gas on a monthly basis as provided in OAR 340-239-0600(3); and
  - 74.c. Measure the gauge pressure in the gas collection header on a monthly basis as provided in OAR 340-239-0600(2)(d).
75. Well Raising. The permittee is not required to meet the requirements of Conditions 73.a.i, 73.a.ii and 74 for individual wells involved in well raising provided the following conditions are met: [OAR 340-239-0110(4)]
- 75.a. New fill is being added or compacted in the immediate vicinity around the well; and
  - 75.b. Once installed, a gas collection well extension is sealed or capped until the raised well is reconnected to a vacuum source.
76. Repairs and Temporary Shutdown of Gas Collection System Components: The permittee is not required to meet the requirements of Conditions 73.a.i and 73.a.ii for 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 OAR 340-239-0300, or to conduct performance testing, provided the following requirements are met: [OAR 340-239-0110(5)]
- 76.a. Any new gas collection system components required to maintain compliance with this permit must be included in the most recent Design Plan pursuant to Condition 74. The permittee must comply with applicable provisions of the Notice of Construction requirements in OAR chapter 340, division 210 and permit modification requirements of OAR chapter 340, division 216 or 218 prior to the construction, installation and operation of new landfill gas collection system components;
  - 76.b. Methane emissions are minimized during shutdown by shutting down the gas mover system and closing all valves in the collection and control system contributing to venting of the gas to the atmosphere within one hour of the collection or control system not operating.; and
  - 76.c. The permittee must submit a notification to DEQ after any temporary shutdown due to an emergency, catastrophic event or landfill fires in accordance with OAR 340-239-0700(3)(n).

#### Compliance Standards

77. Surface Emission Methane Concentration Limits. The permittee must not allow any location on the landfill surface to exceed either of the following methane concentration limits: [OAR 340-239-0200(1)]
- 77.a. 500 ppmv, other than nonrepeatable, momentary readings, as determined by instantaneous surface emissions monitoring conducted in accordance with OAR 340-239-0800(3)(b);

- 77.b. An average methane concentration limit of 25 ppmv as determined by integrated surface emissions monitoring conducted in accordance with OAR 340-239-800(3)(c).
78. Wellhead Gauge Pressure Requirement: The permittee must operate landfill gas collection and control system wellheads under a negative pressure without causing air infiltration, except as provided in conditions 75 and 76, or under any of the following conditions: [OAR 340-239-0200(2)]
- 78.a. Use of a geomembrane or synthetic cover. The permittee must develop acceptable pressure limits for the wellheads and include them in the Design Plan;
- 78.b. A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows; or
- 78.c. 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 OAR 340-239-700(3)(c).
79. Wellhead Temperature Requirement: [OAR 340-239-0200(3)]
- 79.a. The permittee must operate each landfill gas collection and control system interior wellhead in the collection system with a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit).
- 79.b. The permittee may request a higher operating temperature value at a particular well. The permittee must submit a higher operating value demonstration to DEQ 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).

#### Construction Activities

80. The surface methane monitoring, wellhead pressure and wellhead temperature requirements of conditions 77, 78 and 79 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]

#### Permanent Shutdown and Removal of the Gas Collection and Control System

81. The permittee may permanently shutdown and remove the gas collection and control system only as follows. [OAR 340-239-0400]
- 81.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 requirements are met: [OAR 340-239-0400(1)]
- 81.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 DEQ that due to declining methane rates the permittee will be unable to operate the gas collection and control system for a 15-year period.
- 81.a.ii. The calculated or measured methane generation rate at the landfill is less than 664 metric tons (732 tons) per year on three 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 OAR 340-239-0800(2).
- 81.a.iii. Surface methane concentration measurements of methane do not exceed 200 ppmv.

- 81.a.iv. The permittee submits an Equipment Removal Report to DEQ pursuant to OAR 340-239-0700(3)(b).
- 81.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.
- 81.b. The permittee of the landfill that has capped or removed a gas collection and control system under Condition 81.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 OAR 340-239-0800(3) for at least eight consecutive calendar quarters after the gas collection and control system is capped or removed. The measurements must comply with the following requirements: [OAR 340-239-0400(2)]
  - 81.b.i. The walking grid in OAR 340-239-0800(3)(a)(B) may be reduced to 100-foot spacing so long as the walking grid is offset by 25-feet each quarter so that by the end of one year of monitoring, the entire surface area has been monitored every 25 feet;
  - 81.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 DEQ pursuant to OAR 340-239-0700(3)(a); and
  - 81.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 OAR 340-239-0110 through 340-239-0800.

#### Alternative Compliance Options

- 82. 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 must be submitted in writing to DEQ and receive written approval from DEQ before they may be implemented. Alternative compliance option requests may include, but are not limited to, the following: [OAR 340-239-0500(1)]
  - 82.a. Semi-continuous (batch) operation of the gas collection and control system due to insufficient landfill gas flow rates;
  - 82.b. Alternative wind speed requirements for landfills consistently having winds in excess of the limits specified in this division;
  - 82.c. Alternative walking patterns to address potential safety and other issues, such as: steep or slippery slopes, monitoring instrument obstructions, and physical obstructions;
  - 82.d. Exclusion of construction areas and other dangerous areas from landfill surface inspection; and
  - 82.e. Exclusion of paved roads that do not have any cracks, pot holes, or other penetrations from landfill surface inspection.
- 83. If the permittee wishes to use an alternative compliance option pursuant to condition 82 they must provide information satisfactory to DEQ demonstrating that:
  - 83.a. Off-site migration of landfill gas is being, and will be, effectively controlled; and
  - 83.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. DEQ 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.

#### Monitoring Requirements

84. *Surface Emissions Monitoring Requirements.* The permittee must conduct quarterly instantaneous and integrated surface monitoring of the landfill surface using the procedures specified in OAR 340-239-0800(3). All of the following requirements apply to such monitoring: [OAR 340-239-0600(1)]
- 84.a. *Instantaneous Surface Monitoring.* Any reading exceeding 500 ppmv methane must be recorded as an exceedance and all of the following actions must be taken: [OAR 340-239-0600(1)(a)]
- 84.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 this subsection must be retained in the landfill's files and reported to DEQ as provided in OAR 340-239-0700.
- 84.a.ii. The permittee must take corrective action such as, but not limited to, cover maintenance or repair, or well vacuum adjustments.
- 84.a.iii. The permittee must remonitor the location of the exceedance, and the location must be remonitored within ten days of a measured exceedance. The permittee must comply with all of the following requirements:
- 84.a.iii.A. If the remonitoring 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.
- 84.a.iii.B. If the remonitoring 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.
- 84.a.iii.C. Any location that initially showed an exceedance but has a methane concentration at the 10-day remonitoring of less than 500 ppmv methane, must be re-monitored one month from the 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 than 120 days after detecting the third exceedance.
- 84.a.iii.D. For any location where monitored methane concentration equals or exceeds 500 ppmv, three 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 DEQ for approval pursuant to OAR 340-239-0500.
- 84.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 200 ppmv methane limit after four consecutive quarterly instantaneous surface monitoring periods, may shift to annual instantaneous surface monitoring.
- 84.a.v. A permittee that has shifted to annual instantaneous surface monitoring under Condition 84.a.iv must return to quarterly instantaneous surface monitoring upon any exceedances of the 200 ppmv methane limit that cannot be remediated within 10 days or upon any exceedances detected during a DEQ inspection.
- 84.b. *Integrated Surface Monitoring.* Any integrated surface monitoring reading exceeding the 25 ppmv methane limit specified in OAR 340-239-0200(1)(b) must be recorded as an exceedance and all of the following actions must be taken: [OAR 340-239-0600(1)(b)]

- 84.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 this subsection must be retained in the landfill's files and reported to DEQ as provided in OAR 340-239-0700.
  - 84.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 remonitored. The permittee must comply with all of the following requirements:
    - 84.b.ii.A. If the remonitoring 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.
    - 84.b.ii.B. If the remonitoring in Condition 84.b.ii.A shows a third exceedance, permittee must install a new or replacement well to achieve compliance no later than 120 days after detecting the third exceedance.
  - 84.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 25 ppmv methane limit specified in OAR 340-239-0200(1)(b) after four consecutive quarterly integrated surface monitoring periods, may shift to annual integrated surface monitoring.
  - 84.b.iv. A permittee that has shifted to annual integrated surface monitoring under Condition 84.b.iii must return to quarterly integrated surface monitoring upon the occurrence of any exceedances of the 25 ppmv methane limit specified in OAR 340-239-0200(1)(b) during annual monitoring or detected during any DEQ inspection.
85. *Gas Control System Equipment Monitoring.* The permittee must monitor the gas control system using the following procedures: [OAR 340-239-0600(2)]
- 85.a. For enclosed flares all of the following equipment must be installed, calibrated, maintained, and operated according to the manufacturer's specifications:
    - 85.a.i. A temperature monitoring device equipped with a continuous recorder that has an accuracy of plus or minus ( $\pm$ ) one percent of the temperature being measured expressed in degrees Celsius or Fahrenheit. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts per hour (150 million British thermal units per hour).
    - 85.a.ii. A device that records gas flow to the control device and bypass of the control device (if applicable). The permittee must:
      - 85.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
      - 85.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.
  - 85.b. For a gas control device other than an enclosed flare, the permittee must provide information describing the operation of the gas control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The permittee must maintain, operate, and monitor the device according to the written manufacturer instructions and specifications. Alternative compliance requests must be submitted to DEQ as specified in OAR 340-239-0500. DEQ may specify additional monitoring procedures.
  - 85.c. 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 OAR 340-239-0700(2)(a)(S). Quarterly

component leak testing at landfills having landfill gas-to-energy facilities may be conducted prior to scheduled maintenance or planned outage periods.

- 85.d. 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 OAR 340-239-0200(2), 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.
86. *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 requirements: [OAR 340-239-0600(3)]
- 86.a. If there is any positive pressure reading other than as provided in OAR 340-239-0110(4) or (5), the permittee must take the following actions. Any attempted corrective measure must not cause exceedances of other operational or performance standards:
- 86.a.i. Initiate corrective action within five days of the positive pressure measurement;
  - 86.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 DEQ pursuant to OAR 340-239-0700(3)(k);
  - 86.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 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; and
  - 86.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 DEQ.
- 86.b. If a well exceeds the operating parameter for temperature, action must be initiated to correct the exceedance within five days. Any attempted corrective measure must not cause exceedances of other operational or performance standards, and the permittee must comply with all of the following requirements:
- 86.b.i. If a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit), or as established in OAR 340-239-200(3), 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 OAR 340-239-0700(2).
  - 86.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 OAR 340-239-0700(3)(c)(A) as part of the next semi-annual report. The permittee must keep records according to OAR 340-239-0700(2).
  - 86.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 DEQ, according to OAR 340-239-0700(3)(c)(A) and OAR 340-239-600(3)(a)(C). The permittee must keep records according to OAR 340-239-0700(2).

- 86.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 OAR 340-239-0800(7), 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.
- 86.b.v. If a higher operating temperature has not been approved by DEQ, the enhanced monitoring specified in OAR 340-239-0800(8) is required at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit).
87. *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)]
88. The monitoring requirements of this permit 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)]

#### Recordkeeping and Reporting Requirements

89. The electronic reporting requirements of 40 CFR 60.38f(j), 60.767(i), and 63.1981(i) are incorporated by reference herein. The permittee must comply with the electronic reporting requirements of 40 CFR 40 CFR 60.38f(j), 60.767(i), or 63.1981(i), respectively and as applicable. [OAR 340-239-0700(1)]
90. *Recordkeeping Requirements.* The permittee must maintain the following records for at least five years: [OAR 340-239-0700(2)]
- 90.a. The permittee must maintain the following records for at least five years: [OAR 340-239-0700(2)(a)]
- 90.a.i. All gas collection system downtime exceeding five 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;
- 90.a.ii. All gas control system downtime in excess of one 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;
- 90.a.iii. All instantaneous surface readings of 100 ppmv methane or greater. All exceedances of the limits in OAR 340-239-0100(6)(b) and 340-239-0200, 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 remonitoring and the remonitored concentration in ppmv methane, wind speed during surface sampling, and the installation date and location of each well installed as part of a gas collection system expansion;
- 90.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;
- 90.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;
- 90.a.vi. Monthly solid waste acceptance rate, for active landfills or landfills that have accepted waste within the last five years;
- 90.a.vii. The current amount of waste-in-place including waste composition;
- 90.a.viii. The nature, location, amount, and date of deposition of nondecomposable waste for any

- landfill areas excluded from the collection system;
- 90.a.ix. Results of any performance tests conducted pursuant to OAR 340-239-0110(2)(f);
- 90.a.x. Descriptions of mitigation measures taken to prevent the release of methane or other emissions into the atmosphere:
  - 90.a.x.A. When solid waste was brought to the surface during the installation or preparation of wells, piping, or other equipment;
  - 90.a.x.B. During repairs or the temporary shutdown of gas collection system components; and
  - 90.a.x.C. When solid waste was excavated and moved;
- 90.a.xi. Any construction activities pursuant to OAR 340-239-0300. Records must contain the following information:
  - 90.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;
  - 90.a.xi.B. Construction start and finish dates, projected equipment installation dates, and projected shut down times for individual gas collection system components; and
  - 90.a.xi.C. A description of the mitigation measures taken to minimize methane emissions and other potential air quality impacts;
- 90.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 DEQ;
- 90.a.xiii. The equipment operating parameters specified to be monitored under OAR 340-239-0600(2) 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:
  - 90.a.xiii.A. For enclosed flares, all 3-hour periods of operation during which the average temperature difference was more than 28 degrees Celsius (or 50 degrees Fahrenheit) below the average combustion temperature during the most recent performance test at which compliance with OAR 340-239-0110(2)(b) and OAR 340-239-0110(2)(c) was determined;
  - 90.a.xiii.B. If the permittee uses a boiler or process heater with a design heat input capacity of 44 megawatts per hour (150 million British thermal units per hour) or greater to comply with OAR 340-239-0110(2)(c), all periods of operation of the boiler or process heater (e.g., steam use, fuel use, or monitoring data collected pursuant to other federal, State, local, or tribal regulatory requirements), readily accessible continuous records of the equipment operating parameters specified to be monitored in OAR 340-239-0600(2) and up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded;
  - 90.a.xiii.C. 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;
- 90.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;
- 90.a.xv. A permittee who converts waste-in-place from volume to mass, must keep readily accessible, records of the annual recalculation of site-specific density, design capacity, and the supporting documentation;
- 90.a.xvi. A permittee demonstrating that site-specific surface methane emissions are below 500 ppmv by conducting surface emission monitoring under OAR 340-239-0100(6)(b) must keep for at least five years up-to-date, readily accessible records of all surface emissions monitoring and

information related to monitoring instrument calibrations conducted according to sections 8 and 10 of Method 21 of appendix A of 40 CFR Part 60, including all of the following items:

- 90.a.xvi.A. Calibration records, including:
    - 90.a.xvi.A.1 Date of calibration and initials of operator performing the calibration;
    - 90.a.xvi.A.2 Calibration gas cylinder identification, certification date, and certified concentration;
    - 90.a.xvi.A.3 Instrument scale(s) used;
    - 90.a.xvi.A.4 A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value; and
    - 90.a.xvi.A.5 If the permittee makes their own calibration gas, a description of the procedure(s) used;
  - 90.a.xvi.B. Digital photographs of the instrument setup, including the wind barrier. The photographs must be accurately 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;
  - 90.a.xvi.C. Timestamp of each surface scan reading which must be detailed to the nearest second, based on when the sample collection begins and log for the length of time each sample was taken using a stopwatch (e.g., the time the probe was held over the area);
  - 90.a.xvi.D. Location of each surface scan reading. The permittee must determine the coordinates using an instrument with an accuracy of at least four meters. Coordinates must be in decimal degrees with at least five decimal places;
  - 90.a.xvi.E. Monitored methane concentration (ppmv) of each reading;
  - 90.a.xvi.F. Background methane concentration (ppmv) after each instrument calibration test;
  - 90.a.xvi.G. For readings taken at each surface penetration, the unique identification location label matching the label specified in subparagraph OAR 340-239-0700(2)(a)(P)(iv); and
  - 90.a.xvi.H. Records of the operating hours of the gas collection system for each destruction device;
  - 90.a.xvii. The date of initial placement of waste in newly constructed landfill cells; and
  - 90.a.xviii. Documentation of any component leaks above 250 ppmv methane detected pursuant to OAR 340-239-0600(2)(c) and all repairs performed in response to any component leaks above 500 ppmv.
  - 90.a.xix. The maximum design capacity of the landfill.
- 90.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 years. Records of the control device vendor specifications must be maintained until removal: [OAR 340-239-0700(2)(b)]
- 90.b.i. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in OAR 340-239-0110(1)(a);
  - 90.b.ii. The expected gas generation flow rate as calculated pursuant to OAR 340-239-0800(5);
  - 90.b.iii. The percent reduction of methane achieved by the control device determined pursuant to OAR 340-239-0800(6);
  - 90.b.iv. For a boiler or process heater, the description of the location at which the collected gas vent stream is introduced into the boiler or process heater over the same time period of the performance test;
  - 90.b.v. When the permittee is demonstrating compliance with OAR 340-239-0110(2) 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 per hour (150 million British thermal units

- per hour):
- 90.b.v.A. The average temperature measured at least every 15 minutes and averaged over the same time period of the performance test; and
  - 90.b.v.B. The percent reduction of methane determined as specified in OAR 340-239-0800(6) achieved by the control device;
  - 90.b.vi. An up to date map showing each existing and planned gas collector in the system;
  - 90.b.vii. Where the permittee is demonstrating compliance with OAR 340-239-0110(2) through use of a landfill gas treatment system:
    - 90.b.vii.A. Bypass records. Records of the flow of landfill gas to, and bypass of, the treatment system; and
    - 90.b.vii.B. Site-specific treatment monitoring plan meeting the requirements of OAR 340-239-0110(2)(d)(C).
  - 90.b.viii. 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.
- 90.c. Record Retention: The permittee must maintain copies of the records and reports required by this division and provide them to DEQ within five business days upon request. [OAR 340-239-0700(2)(d)]
91. *Reporting Requirements.* [OAR 340-239-0700(3)]
- 91.a. Closure Notification. The permittee must submit a Closure Notification to DEQ within 30 days of waste acceptance cessation, and:
    - 91.a.i. The Closure Notification must include the last day solid waste was accepted, the anticipated closure date of the landfill, and the estimated waste-in-place; and
    - 91.a.ii. DEQ may request additional information as necessary to verify that permanent closure has taken place in accordance with the requirements of any applicable regulations, requirements, or ordinances in effect at the time of closure.
  - 91.b. Equipment Removal Report. The permittee must submit a gas collection and control system Equipment Removal Report to DEQ 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:
    - 91.b.i. A copy of the Closure Notification submitted pursuant to OAR 340-239-0700(3)(a);
    - 91.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 DEQ that due to declining methane rates the landfill is unable to operate the gas collection and control system for a 15-year period; and
    - 91.b.iii. Surface emissions monitoring results needed to verify that landfill surface methane concentration measurements do not exceed the limits specified in OAR 340-239-0200.
  - 91.c. Semi-Annual Report. The permittee must prepare semi-annual reports for the periods of January 1 through June 30 of each year, unless otherwise approved in writing by DEQ. The Semi-Annual Report will be due on July 30, unless otherwise approved in writing by DEQ. The Semi-Annual Report must contain the following information:
    - 91.c.i. All instantaneous surface readings of 100 ppmv or greater. All exceedances of the limits in OAR 340-239-0100(6)(b), 340-239-0200 and 340-239-0600(2)(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 remonitoring and the remonitored 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;
    - 91.c.ii. For any corrective action analysis for which corrective actions are required in OAR 340-239-0600(3)(a) and 340-239-0600(3)(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;
- 91.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 readings that may have contributed to the known, prevented, or suspected fire;
- 91.c.iv. The number of times that applicable parameters monitored under OAR 340-239-0110(2) or 340-239-0200, were exceeded and when the gas collection and control system was not operating in compliance with OAR 340-0110(2)(a) including periods of startup, shutdown, and malfunction. For each instance, report the date, time, and duration of each exceedance. The permittee demonstrating compliance with the operational standard for temperature OAR 340-239-0600(3)(b), 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:
- 91.c.iv.A. The number of times each of those parameters monitored under OAR 340-239-0600(3)(b), were exceeded. For each instance, report the date, time, and duration of each exceedance; and
- 91.c.iv.B. The number of times the parameters for the site-specific treatment system in OAR 340-239-0110(2)(d)(C) were exceeded;
- 91.c.v. 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 OAR 340-239-0110(2)(c);
- 91.c.vi. 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;
- 91.c.vii. All periods when the collection system was not operating;
- 91.c.viii. The date of installation and the location of each well or collection system expansion;
- 91.c.ix. A permittee required to conduct enhanced monitoring in accordance with OAR 340-239-0800(8) for temperatures exceeding 62.8 degrees Celsius (145 degrees Fahrenheit) must include the results of all monitoring activities conducted during the period;
- 91.c.x. 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; and
- 91.c.xi. For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone.
- 91.d. Annual Report. The permittee must prepare an Annual Report for the period of January 1 through December 31 of each year. Each Annual Report must be submitted to DEQ by February 15 of the following year. The Annual Report must consist of the semi-annual and the following annual reporting requirements:
- 91.d.i. Landfill name, owner and operator, address, and permit number as issued according to division 216 or 218;
- 91.d.ii. Total volume of landfill gas collected (reported in standard cubic feet);
- 91.d.iii. Average composition of the landfill gas collected over the reporting period (reported in percent methane and percent carbon dioxide by volume);
- 91.d.iv. Gas control device type, year of installation, rating, fuel type, and total amount of landfill gas combusted in each control device;
- 91.d.v. The date that the gas collection and control system was installed and in full operation;
- 91.d.vi. The percent methane destruction efficiency of each gas control device(s);
- 91.d.vii. Type and amount of supplemental fuels burned with the landfill gas in each device, if applicable;
- 91.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;
- 91.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;
- 91.d.x. The information required Conditions 90.a.i through 90.a.v, 90.a.vii, 90.a.x through 90.a.xii;
- 91.d.xi. Instrument specifications for all instruments used for monitoring compliance with this permit.
- 91.e. Waste-in-Place Report. The permittee must submit annual Waste-in-Place reports each year. 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 DEQ with the Title V annual report. The report also must include:
- 91.e.i. Landfill name, owner and operator, address, and Title V permit number;
- 91.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;
- 91.e.iii. A description of the known and assumed waste composition in the landfill;
- 91.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.
- 91.f. Liquids Addition Report. If the permittee has employed leachate recirculation or added liquids based on a Research, Development, and Demonstration permit (issued through Resource Conservation and Recovery Act, subtitle D, part 258) within the last 10 years they must submit to DEQ, annually, the following information:
- 91.f.i. Volume of leachate recirculated (gallons per year) and the reported basis of those estimates (records or engineering estimates);
- 91.f.ii. Total volume of all other liquids added (gallons per year) and the reported basis of those estimates (records or engineering estimates);
- 91.f.iii. Surface area (acres) over which the leachate is recirculated (or otherwise applied);
- 91.f.iv. Surface area (acres) over which any other liquids are applied;
- 91.f.v. The total waste disposed (megagrams) in the areas with recirculated leachate, added liquids, or both, based on on-site records to the extent data are available, or engineering estimates and the reported basis of those estimates;
- 91.f.vi. The annual waste acceptance rates (megagrams per year) in the areas with recirculated leachate, added liquids, or both, based on on-site records to the extent data are available, or engineering estimates;
- 91.f.vii. The initial report must contain items in OAR 340-239-0700(2)(g)(A) through 340-239-0700(2)(g)(F) per year for the initial annual reporting period as well as for each of the previous 10 years, to the extent historical data are available in on-site records, and the report must be submitted no later than 12 months after the date of commenced construction, modification, or reconstruction;
- 91.f.viii. Subsequent annual reports must contain items in OAR 340-239-0700(2)(g)(A) through 340-239-0700(2)(g)(F) for the 365-day period following the 365-day period included in the previous annual report, and the report must be submitted no later than 365 days after the date the previous report was submitted; and
- 91.f.ix. Landfills may cease annual reporting of items in paragraphs OAR 340-239-0700(2)(g)(A) through 340-239-0700(2)(g)(F) once they have submitted the Closure Notification in OAR 340-239-0700(3)(a).
- 91.g. Performance Test Report. 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, 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 requirements:

- 91.g.i. The Performance Test Report must include the following information:
  - 91.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;
  - 91.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;
  - 91.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;
  - 91.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;
  - 91.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; and
  - 91.g.i.F. The provisions for the control of off-site migration.
- 91.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 monitored are specified in OAR 340-239-0600(2); and
- 91.h. Collection and Control System Design Plan. The Collection and Control System Design Plan must be prepared and approved by a professional engineer and must meet the following requirements:
  - 91.h.i. The collection and control system as described in the design plan must meet the design requirements in OAR 340-239-0110(1);
  - 91.h.ii. If DEQ does not approve or disapprove the Design Plan, or does not request that additional information be submitted within 90 days of receipt, then the permittee may continue with implementation of the Design Plan with the recognition that the permittee is proceeding at their own risk. In the event that the Design Plan is required to be modified to obtain approval, the permittee must take any steps necessary to conform any prior actions to the approved Design Plan; and
  - 91.h.iii. If the permittee chooses to demonstrate compliance with the emission control requirements of this division using a treatment system as defined in this division, then the permittee must prepare a site-specific treatment system monitoring plan as specified in OAR 340-0110(2)(d)(C).
- 91.i. Amended Design Plan. The permittee who has already been required to submit a design plan under OAR 340-239-0110(2) must submit an Amended Design Plan to DEQ for any event that requires a change to the Design Plan as follows:
  - 91.i.i. At least 90 days before expanding operations to an area not covered by the previously approved Design Plan; and
  - 91.i.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 DEQ.
- 91.j. Corrective Action reports:
  - 91.j.i. For corrective action that is required according to OAR 340-239-0600(3) 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 DEQ 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). The permittee must receive DEQ approval regarding the plan for corrective action and the corresponding timeline.
- 91.j.ii. For corrective action that is required according to OAR 340-239-0600(3) and is not completed within 60 days after the initial exceedance, the permittee must submit a notification to DEQ as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance.
- 91.j.iii. If the permittee cannot fully implement a corrective action described in Condition 91.j.i or 91.j.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.
- 91.k. 24-hour high temperature report. Where the permittee must demonstrate compliance with the operational standard for temperature in OAR 340-239-0600(3)(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 DEQ within 24 hours of the measurement unless a higher operating temperature value has been approved by DEQ for the well.
- 91.l. 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 OAR 340-239-0110(5) 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 OAR 340-239-0110(5), the notification must be submitted within 10 days after the shutdown.
- 91.m. Root Cause Analysis Report. If the permittee cannot fully implement a corrective action required according to OAR 340-239-0600(3) within 120 days after the initial exceedance, the landfill permittee must submit the root cause analysis and additional analysis and reporting according to OAR 340-239-0700(3)(k) 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). 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, methods used, and alternative causes that were analyzed.
- 91.n. Bioreactor Moisture Content Report. If the permittee calculates moisture content to establish the date the bioreactor is required to begin operating the collection and control system, within 90 days after the bioreactor achieves 40-percent moisture content, the permittee must submit a Bioreactor Moisture Content Report that includes the results of the calculation, the date the bioreactor achieved 40-percent moisture content by weight, and the date the permittee will begin collection and control system operation.
- 91.o. All reports must contain certification by a responsible official of the truth, accuracy, and completeness of the report. This certification must state that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

#### Test Methods and Procedures

92. *Hydrocarbon Detector Specifications.* The permittee must ensure that any instrument used for the measurement of methane must be a gas detector, or other equivalent instrument approved by DEQ, 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)]
- 92.a. “Methane” replaces all references to volatile organic compounds (VOC);
  - 92.b. The calibration gas must be methane, diluted to a nominal concentration of 500 parts per million in air;
  - 92.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
  - 92.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.
93. *Surface Emissions Monitoring Procedures.* The permittee must measure the landfill surface concentration of methane using a hydrocarbon detector meeting the requirements of OAR 340-239-0800(1). The landfill surface must be inspected and monitored quarterly using all of the following procedures: [OAR 340-239-0800(3)]
- 93.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 all of the following requirements:
    - 93.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 inches of the landfill surface while traversing the grid.
    - 93.a.ii. The walking pattern must be no more than a 25-foot spacing interval and must traverse each monitoring grid and:
    - 93.a.iii. If the permittee has no exceedances of the limits specified in OAR 340-239-200 (500 ppmv instantaneous surface methane monitoring and the 25 ppmv average integrated surface methane monitoring) after any four 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 OAR 340-239-0200 that cannot be remediated within 10 days or upon any exceedances detected during a DEQ inspection; and
    - 93.a.iv. If the permittee can demonstrate that in the three years before October 4, 2021 (the effective date of OAR 340 division 239) that there were no measured exceedances of the 500 ppmv methane limit specified in OAR 340-239-0200(1)(a) by annual or quarterly monitoring, the permittee may increase the walking pattern spacing to 100-foot intervals. The permittee must return to a 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 DEQ inspection.
    - 93.a.v. 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.
    - 93.a.vi. Monitoring must be performed during typical meteorological conditions.
    - 93.a.vii. Instantaneous Surface Emissions Monitoring Procedures must comply with the following:

- 93.a.vii.A. 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;
  - 93.a.vii.B. Surface areas of the landfill that exceed a methane concentration limit of 500 ppmv must be marked and remediated by the permittee pursuant to OAR 340-239-0600(1)(a);
  - 93.a.vii.C. Surface areas of the landfill that exceed a methane concentration limit of 250 ppmv must be monitored by the permittee in a five foot grid around the location to determine the extents of the methane leak.;
  - 93.a.vii.D. The permittee must record the wind speed during the sampling period;
  - 93.a.viii. 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 OAR 340-239-0800(1) by the permittee. If a landfill would not be subject to quarterly penetration monitoring as otherwise required pursuant to another state or federal regulation such as, including: OAR 340-236-0500, 40 CFR Part 63 Subpart AAAA, 40 CFR 60 Subpart WWW or XXX, and if no methane is detected with the hydrocarbon detector at a specific penetration point for four consecutive quarters, then the permittee may reduce monitoring to annually at that penetration. If any methane concentration is detected during annual monitoring, the permittee must return to quarterly monitoring of the penetration location; and
  - 93.a.ix. The permittee must mark the location of each monitored exceedance and record the location and concentration. The permittee must use an instrument with an accuracy of at least four meters to record the location. The coordinates must be in decimal degrees with at least five decimal places.
- 93.b. The permittee must ensure the Integrated Surface Emissions Monitoring Procedures comply with the following:
- 93.b.i. Integrated surface readings must be recorded and then averaged for each grid;
  - 93.b.ii. Individual monitoring grids that exceed an average methane concentration of 25 ppmv must be identified and remediated pursuant to OAR 340-239-0600(1)(b); and
  - 93.b.iii. The wind speed must be recorded during the sampling period.
94. *Gas Collection and Control System Leak Inspection Procedures.* The permittee must measure leaks using a hydrocarbon detector meeting the requirements of OAR 340-239-0800(1). [OAR 340-239-0800(4)]
95. *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). [OAR 340-239-0800(5)]
96. *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: [OAR 340-239-0800(6)]
- 96.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, or in reducing the outlet methane concentration for lean burn engines to less than 3,000 ppmv, dry basis, corrected to 15 percent oxygen:
    - 96.a.i. U.S. EPA Reference Method 18, Measurement of Gaseous Organic Compound Emissions By Gas Chromatography;
    - 96.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
    - 96.a.iii. U.S. EPA Reference Method 25C, Determination of Nonmethane Organic Compounds in Landfill Gases;

- 96.b. The permittee must use the following equation to calculate destruction efficiency:

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

97. *Wellhead monitoring.* [OAR 340-239-0800(7)]

- 97.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 DEQ.

- 97.b. Unless an alternative test method is established and approved by DEQ, 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:

- 97.b.i. The span must be set between 10 and 12 percent oxygen;
- 97.b.ii. A data recorder is not required;
- 97.b.iii. Only two calibration gases are required, a zero and span;
- 97.b.iv. A calibration error check is not required; and
- 97.b.v. The allowable sample bias, zero drift, and calibration drift are  $\pm 10$  percent.

- 97.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.

- 97.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 DEQ. The device must be calibrated and operated in accordance with the manufacturer's specifications.

- 97.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 temperature points, bracket within 10 percent of all landfill absolute temperature measurements or two fixed points of ice bath and boiling water, corrected for barometric pressure, are used.

98. *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 follows: [OAR 340-239-0800(8)]

- 98.a. Visual observations for subsurface oxidation events (smoke, smoldering ash, damage to well) within the radius of influence of the well;

- 98.b. Monitor oxygen or nitrogen concentration as provided in OAR 340-239-0110(3)(a);

- 98.c. Monitor temperature of the landfill gas at the wellhead as provided in OAR 340-239-0600(3);

- 98.d. Monitor temperature of the landfill gas every 10 vertical feet of the well as provided in OAR 340-239-0600(3);

- 98.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 or EPA Method 18;

- 98.f. Monitor carbon monoxide concentrations, as follows:

- 98.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
- 98.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;
- 98.g. The enhanced monitoring must begin 7 days after the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit);
- 98.h. The enhanced monitoring must be conducted on a weekly basis. If four consecutive weekly carbon monoxide readings are under 100 ppmv, then enhanced monitoring may be decreased to monthly. If monthly carbon monoxide readings exceed 100 ppmv, the landfill must return to weekly monitoring;
- 98.i. The enhanced monitoring can be stopped once a higher operating value is approved, at which time the monitoring provisions issued with the higher operating value 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
- 98.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.
99. Alternative Test Methods. The permittee may use alternative test methods for any of the test methods described in this rule provided that the alternative methods are approved in writing by DEQ pursuant to OAR 340-239-0500. The permittee may conduct the quarterly SEM in accordance with OTM-51, provided that all of the following conditions are met: [OAR 340-239-0800(10)]
- 99.a. Surface sampling patterns must meet the minimum spacing and intervals specified in Conditions 93.a.ii, 93.a.ii.A, and 93.a.ii.B.
- 99.b. 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. 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. 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. 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 93.a.ii.H.
- 99.c. The permittee must include a copy of EPA's Alternative Test Letter 150 with each quarterly report presenting SEM results using OTM-51.
- 99.d. Once OTM-51 is used to perform SEM, the permittee must continue to use the alternative method until approval is received from DEQ for use of a new alternative method.
- 99.d.i. Once OTM-51 is used to perform SEM, the permittee must continue to use the alternative method until approval is received from DEQ for use of a new alternative method.
- 99.d.ii. If DEQ has not responded to a request for use of Method 21 within 10 days of submittal, the permittee is allowed to proceed with the use of Method 21. Use of any other alternative method will not get an automatic approval and will require DEQ response prior to use.
- 99.e. Each quarterly SEM report must include a map or maps of the monitored area which detail the following:
- 99.e.i. Areas of the landfill surface which have been excluded from the SEM according to OAR 340-239-0500, as approved by DEQ;
- 99.e.ii. The 50,000 square foot grids established according to Condition 93.a.;
- 99.e.iii. The flight path of the UAS during the SEM event;
- 99.e.iv. All exceedances of 100 ppmv which were detected by the UAS;
- 99.e.v. All exceedances of the following surface emission methane concentration limits:
- 99.e.v.A. 500 ppmv, as determined by instantaneous surface emissions monitoring.

99.e.v.B.            25 ppmv, as determined by integrated surface emission monitoring.

- 100. Sulfur Sampling and Analysis: The permittee must collect and analyze LFG at the inlet to ENCLFL-1 for sulfur compounds on a quarterly basis, according to the following requirements: [OAR 340-212-0120(1) and OAR 340-218-0050(3)(a)(C)]
  - 100.a. A sampling plan must be submitted at least 30 days prior to the first quarter sampling event, but it may include all four quarter sampling events for a year, with the first sampling event within six months of permit issuance.
  - 100.b. The sample will be collected in a silco-glass-lined SUMMA canister and sent to an accredited laboratory, unless otherwise approved by DEQ.
  - 100.c. Unless DEQ approves an alternative sampling method, the permittee must conduct the sampling according to EPA’s ASTM D5504-20, *Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence*. This sample will be analyzed for reduced sulfur compounds, including hydrogen sulfide (H<sub>2</sub>S), carbon disulfide, carbonyl sulfide, dimethyl sulfide, ethyl mercaptan, methyl mercaptan, and total reduced sulfur.
  - 100.d. Using the data collected, the permittee must calculate the total reduced sulfur concentration in ppmv, in the LFG inlet to the enclosed flare.
  - 100.e. Sampling results must be submitted to DEQ within 60 days of the sampling event.
  - 100.f. If the average total reduced sulfur concentration of the four quarterly sampling events is less than or equal to 273 ppm, the sampling frequency can be reduced to once sampling event per year. If the average quarterly or annual result is greater than 273 ppm total reduced sulfur, the sampling must continue on or revert to a quarterly basis.
  - 100.g. A tabulation of all test results for the year must be submitted with the annual report required by Condition 149. [OAR 340-214-0114(2)]

**Table 4.            Summary of Requirements for Emissions Units TIP-2 and TIP-3**

Applicable Requirement	Requirement Condition Number	Pollutant/Parameter	Limit/Standard	Monitoring Requirement	Monitoring Condition Number
340-208-0110(3)(a)	101	Visible emissions	20% opacity (6 min. block avg)	NA	103
340-226-0210(2)(b)& (c)	102	PM	0.10 gr/dscf (avg. of 3 test runs)	NA	103

**Visible Emissions Standard**

- 101. Applicable Requirement: The permittee must comply with the following visible emission limit for emission units TIP-2 and TIP-3: [OAR 340-208-0110(3)(a)]
  - 101.a. For TIP-2 and TIP-3, any visible emissions may not equal or exceed an average of 20 percent opacity; and
  - 101.b. The visible emissions standards in this condition are based on the average of 24 consecutive observations recorded at 15-second intervals, or more frequently as allowed under Condition 101.b.ii which comprise a six-minute block. Six-minute blocks need not be consecutive in time and in no case may two blocks overlap. For each set of 24 observations, the six-minute block average is calculated by summing the opacity of the 24 observations and dividing the sum by 24. Six-minute block average are measured by:
    - 101.b.i. EPA Method 9; or
    - 101.b.ii. A continuous opacity monitoring system (COMS) installed and operated in accordance with the DEQ Continuous Monitoring Manual or 40 CFR part 60; or
    - 101.b.iii. An alternative monitoring method approved by DEQ that is equivalent to EPA Method 9.

**PM Emission Standard**

102. The permittee must not cause or allow the emissions of particulate matter in excess of 0.10 gr/dscf from emissions units TIP-2 and TIP-3. [OAR 340-226-0210(2)(b) & (c)]

**Visible Emissions and PM Emissions Monitoring**

103. The permittee must conduct visible emission monitoring and respond to complaints for emissions units TIP-2 and TIP-3 according to Conditions 7 and 10. [OAR 340-218-0050(3)(a)(C)]

**Table 5. Summary of Requirements for Emissions Unit PIR, UPR-1, UPR-2 and CDC**

Applicable Requirement	Requirement Condition Number	Pollutant/Parameter	Limit/Standard	Monitoring Requirement	Monitoring Condition Number
340-208-0210(1)	104	Visible emissions	Minimize fugitive emissions	Inspection and Monitoring	105
340-218-0050(3)(a)(C)	106	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	Minimize emissions from roads	Work Practices	106.a-106.d

**Visible Emissions Standard**

104. The permittee must not allow or permit 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. [OAR 340-208-0210(1)]

**Visible Emission Monitoring**

105. The permittee must conduct visible emission monitoring and respond to complaints for emissions units PIR, UPR-1, UPR-2, and CDC according to Conditions 7 and 10. [OAR 340-218-0050(3)(a)(C)]

**NAAQS Compliance Requirements**

106. The permittee must limit particulate emissions from roads in accordance with the following requirements: [OAR 340-218-0050(3)(a)(C)]

- 106.a. Limit traffic speed on facility roads to 15 miles per hour via posted signs;
- 106.b. Watering paved and unpaved roads as needed during dry periods to minimize airborne particulate;
- 106.c. Limiting operating hours to 7 a.m. through 6 p.m. Mondays through Saturdays, except in case of emergencies.
- 106.d. Any emergency operations outside the normal operating hours must be recorded.

**40 CFR Part 61 – National Emission Standards for Hazardous Air Pollutants  
 Subpart M – National Emission Standard for Asbestos [Federally Enforceable Only]**

107. Standard for active waste disposal sites: The permittee of an active waste disposal site that receives asbestos-containing waste material from a source covered under 40 CFR 61.149, 61.150 or 61.155 must meet the requirements of Conditions 108 thru 117: [40 CFR 61.154]

108. The permittee must not allow any visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of Conditions 110 and 111 must be met. [40 CFR 61.154(a)]

109. Unless a natural barrier adequately deters access by the general public, the permittee must install either warning signs and fencing maintained as follows, or the requirements of Condition 110.a must be met. [40 CFR 61.154(b)]
- 109.a. Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:
- 109.a.i. Be posted in such a manner and location that a person can easily read the legend; and
  - 109.a.ii. Conform to the requirements of 51 cm × 36 cm (20" × 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and
  - 109.a.iii. Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

<b>Legend</b>	<b>Notation</b>
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block.
Do Not Create Dust	1.9 cm ( ¾ inch) Sans Serif, Gothic or Block.
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

- 109.b. The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.
- 109.c. Upon request and supply of appropriate information, the EPA will determine whether a fence or a natural barrier adequately deters access by the general public.
110. Rather than meet the no visible emission requirement of Condition 108, at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period must: [40 CFR 61.154(c)]
- 110.a. Be covered with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, or
  - 110.b. Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent must be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the EPA. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.
111. Rather than meet the no visible emission requirement of Condition 108, the permittee may use an alternative emissions control method that has received prior written approval by the EPA according to the procedures described in 40 CFR 61.149(c)(2). [40 CFR 61.154(d)]
112. For all asbestos-containing waste material received, the permittee must: [40 CFR 61.154(e)]
- 112.a. Maintain waste shipment records, using a form similar to that shown in Figure 4 of 40 CFR Part 61, and include the following information:
    - 112.a.i. The name, address, and telephone number of the waste generator.
    - 112.a.ii. The name, address, and telephone number of the transporter(s).
    - 112.a.iii. The quantity of the asbestos-containing waste material in cubic meters (cubic yards).
    - 112.a.iv. The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the local, State, or EPA

Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report.

- 112.a.v. The date of the receipt.
- 112.b. As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator.
- 112.c. Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.
- 112.d. Retain a copy of all records and reports required by this paragraph for at least 2 years.
113. The permittee must maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area. [40 CFR 61.154(f)]
114. Upon closure, the permittee must comply with all the provisions of 40 CFR 61.151. [40 CFR 61.154(g)]
115. The permittee must submit to the EPA, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities. [40 CFR 61.154(h)]
116. The permittee must furnish upon request, and make available during normal business hours for inspection by the EPA, all records required under this section. [40 CFR 61.154(i)]
117. The permittee must notify the EPA in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the EPA at least 10 working days before excavation begins and in no event will excavation begin earlier than the date specified in the original notification. Include the following information in the notice: [40 CFR 61.154(j)]
- 117.a. Scheduled starting and completion dates.
- 117.b. Reason for disturbing the waste.
- 117.c. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the EPA may require changes in the emission control procedures to be used.
- 117.d. Location of any temporary storage site and the final disposal site.

**Standard for Air Emissions from Emergency Generator (EGEN)**

NESHAP SUBPART ZZZZ– NESHAP FOR RECIPROCATING INTERNAL COMBUSTION ENGINES (RICE)

Operation and Maintenance Requirements

118. For each emergency stationary CI RICE, the Permittee must meet the following requirements, except during periods of startup, shutdown and malfunction: [40 CFR 63.6603(a), 40 CFR Subpart ZZZZ Table 2d]
- 118.a. change oil and filter every 500 hours of operation or annually, whichever comes first;
  - 118.b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
  - 118.c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
119. During periods of startup the Permittee must minimize the engine's time spent at idle and minimize the engine's startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR 63.6603(a), 40 CFR Subpart ZZZZ Table2d]

Monitoring, installation, collection, operation, and maintenance requirements.

120. The permittee must operate and maintain the engine and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6625(e)]
121. The permittee must install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]
122. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times. [40 CFR 63.6625(h)]
123. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Condition 118. The oil analysis must be performed at the same frequency specified for changing the oil in Condition 118. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the permittee is not required to change the oil. If any of the limits are exceeded, the permittee must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the permittee must change the oil within 2 business days or before commencing operation, whichever is later. The permittee must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63.6625(i)]

Compliance requirements

124. The permittee must be in compliance with the emission limitations and operating limitations at all times. [40 CFR 63.6605(a)]
- 124.a. The requirements of the general provisions of 40 CFR Part 63 are included in Exhibit 1 of this permit.
125. 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 you to make any further efforts to reduce emissions if required levels have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]

#### Demonstrating continuous compliance

126. The permittee must operate the engine according to the requirements in Conditions 126.a through 126.c. In order for the engine to be considered an emergency stationary RICE, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in nonemergency situations for 50 hours per year, as described in Conditions 126.a through 126.c, is prohibited. If not operating the engine according to the requirements in Conditions 126.a through 126.c, the engine will not be considered an emergency engine and must meet all requirements for non-emergency engines. [40 CFR 63.6640(f)]
- 126.a. There is no time limit on the use of the engine in emergency situations. [40 CFR 63.6640(f)(1)]
- 126.b. The permittee may operate the engine for any combination of the purposes in Conditions 126.b.i for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by Conditions 126.b.i counts as part of the 100 hours per calendar year allowed by this Condition. [40 CFR 63.6640(f)(2)]
- 126.b.i. The engine 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 DEQ 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 the engine beyond 100 hours per calendar year. [40 CFR 63.6640(f)(2)(i)]
- 126.c. The engine may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in Condition 126.b. Except as follows, the 50 hours per year for nonemergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR 63.6640(f)(4)]

#### Recordkeeping and Reporting Requirements

127. The permittee must keep the following records: [40 CFR 63.6655(a)]
- 127.a. A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status. [40 CFR 63.6655(a)(1)]
- 127.b. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. [40 CFR 63.6655(a)(2)]
- 127.c. Records of all required maintenance performed on the air pollution control and monitoring equipment. [40 CFR 63.6655(a)(4)]

- 127.d. Records of actions taken during periods of malfunction to minimize emissions in accordance with Condition 125 including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.6655(a)(5)]
- 127.e. Records of the maintenance conducted on the engine must be kept in order to demonstrate the permittee operated and maintained the engine and after-treatment control device (if any) according to the maintenance plan for any of the following stationary RICE. [40 CFR 63.6655(e)]
- 127.f. If the engine does not meet the standards applicable to non-emergency engines, the permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. [40 CFR 63.6655(f)]

### Insignificant Activities Requirements

- 128. DEQ acknowledges that insignificant emissions units (IEUs) identified by rule as either categorically insignificant activities or aggregate insignificant emissions as defined in OAR 340-200-0020 exist at facilities required to obtain an Oregon Title V Operating Permit. IEUs must comply with all applicable requirements. In general, the requirements that could apply to IEUs are incorporated as follows:
  - 128.a. OAR 340-208-0110 (20% opacity)
  - 128.b. OAR 340-228-0210 (0.10 gr/dscf corrected to 12% CO<sub>2</sub> or 50% excess air for fuel burning equipment)
  - 128.c. OAR 340-226-0210 (0.10 gr/dscf for non-fugitive, non-fuel burning equipment)
  - 128.d. OAR 340-226-0310 (process weight limit for non-fugitive, non-fuel burning process equipment).
  - 128.e. The permittee must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to the following: [40 CFR 63.11116(a), (b), (d) and OAR 340-244-0240, federally enforceable]
    - 128.e.i. Minimize gasoline spills;
    - 128.e.ii. Clean up spills as expeditiously as practicable;
    - 128.e.iii. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
    - 128.e.iv. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.
    - 128.e.v. The permittee is not required to submit the notifications or reports as specified in 40 CFR 63.11124 and 63.11126, or subpart A, but the permittee must have records available within 24 hours of a request by DEQ to document gasoline throughput.
    - 128.e.vi. Portable gasoline containers that meet the requirements of 40 CFR Part 59, subpart F, are considered acceptable for compliance with Condition 128.e.iii.
  - 128.f. In addition to the measures specified in Condition 128.e, the permittee must take the following measures to minimize vapor releases: [OAR 340-244-0240, state only enforceable]
    - 128.f.i. Do not top off or overfill vehicle tanks. If a person can confirm that a vehicle tank is not full after the nozzle clicks off (such as by checking the vehicle's fuel tank gauge), the person may continue to dispense fuel using best judgment and caution to prevent a spill;
    - 128.f.ii. Post a sign at the gasoline dispensing facility (GDF) instructing a person filling up a motor vehicle to not top off the vehicle tank;
    - 128.f.iii. Ensure that cargo tanks unloading at the GDF comply with Conditions 128.e.i through 128.e.iii, 128.f.i, and 128.f.ii.
    - 128.f.iv. The permittee must only load gasoline into storage tanks at the facility by utilizing submerged filling, as defined in OAR 340-244-0030. The submerged fill pipe must be no more than 12 inches from the bottom of the storage tank.
- 129. Unless otherwise specified in this permit or an applicable requirement, DEQ is not requiring any testing, monitoring, recordkeeping, or reporting for the applicable emissions limits and standards that apply to

IEUs. However, if testing were performed for compliance purposes, the permittee would be required to use the test methods identified in and perform the testing in accordance with DEQ’s Source Sampling Manual.

**PLANT SITE EMISSION LIMIT**

130. The permittee must not cause or allow plant site emissions to exceed the following limits for any 12 consecutive calendar month period: [OAR 340-222-0035 through OAR 340-222-0041]

Pollutant	Plant Site Emission Limit (Tons/yr)
PM	73
PM <sub>10</sub>	26
PM <sub>2.5</sub>	12
CO	119
NO <sub>x</sub>	34
SO <sub>2</sub>	42
VOC	216
NMOC	229
TRS	24
H <sub>2</sub> S	23
GHG (CO <sub>2</sub> e)	699,300
GHG (CO <sub>2</sub> e excluding biogenic emissions)	544,900

131. **Monitoring Requirement:** The permittee must determine compliance with the Plant Site Emission Limits established in Condition 130 of this permit by conducting monitoring and calculations for each 12-month period in accordance with the following procedures, test methods, and frequencies: [OAR 340-218-0050(3)]

131.a. The permittee must monitor and maintain records of the following process parameters:

**Table 6. PSEL Monitoring**

Emissions Unit(s)	Process Parameter	Units	Measurement Frequency	Measurement Method
LF	Total solid waste in place	Mg or tons	Monthly/Annually	Records
LF	Solid waste accepted at landfill	Mg or tons	Monthly/Annually	Records
LF	Landfill gas generated	MMCF/month, MMCF/yr	Annually	Records/EPA’s LandGEM report
LF	Landfill gas collected and sent to IC engines at PNGC (02-9503-TV-01)	MMCF/month, MMCF/yr,	Monthly/Annually	Flowmeter Records
LF	Total reduced sulfur concentration of collected landfill gas	ppmv	Quarterly/Annually	ASTM D5504-12
PIR	Vehicle miles traveled on paved roads	VMT	Monthly/Annually	Records
UPR-1	Vehicle miles traveled on unpaved public roads	VMT	Monthly/Annually	Records
UPR-2	Vehicle miles traveled on unpaved industrial roads	VMT	Monthly/Annually	Records
TIP-2	Number of hours operated	Hours	Monthly/Annually	Records

TIP-3	Number of hours operated	Hours	Monthly/Annually	Records
TIP-2	Fuel usage	MGal	Monthly/Annually	Records
TIP-3	Fuel usage	MGal	Monthly/Annually	Records
PCS	Petroleum contaminated soil received	Tons	Monthly/Annually	Records
CDC	Cell Development & Closure	Hours	Monthly/Annually	Records
LF with ENCL-FL	Landfill gas collected and enclosed flare (ENCL-FL)	MMCF/month, MMCF/yr	Monthly/Annually	Flowmeter Records

131.b. Emission factors for calculating pollutant emissions:

**Table 7. Emission Factors**

Emission Units(s)	Pollutant	Emission Factor	Emission Factor Units	Emission Factor Verification Testing	
				Yes/no	Test Method
LF-Fug	CO	13.29	lb/MMCF fugitive landfill gas	No	NA
	VOC	93.5%	Of NMOC	No	NA
	NMOC	LandGEM	lb/MMCF fugitive landfill gas	No	NA
	TRS	23.68	lb/MMCF fugitive landfill gas	No	NA
	H <sub>2</sub> S	21.98	lb/MMCF fugitive landfill gas	No	NA
	GHG (CO <sub>2</sub> e)	LandGEM	lb CO <sub>2</sub> e/MMCF fugitive landfill gas	No	NA
LF (controlled by ENCL-FL)	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	9.35	lb/MMCF LFG combusted	No	NA
	SO <sub>2</sub>	44.7	lb/MMCF LFG combusted	Yes	ASTM D5504-20
	NO <sub>x</sub>	33.4	lb/MMCF LFG combusted	Yes	EPA Method 7E
	CO	111.32	lb/MMCF LFG combusted	Yes	EPA Method 10
	VOC	1.17	lb/MMCF LFG combusted	No	NA
	NMOC	1.17	lb/MMCF LFG combusted	No	NA
	TRS	0.07	lb/MMCF LFG combusted	Yes	NA
	H <sub>2</sub> S	0.07	lb/MMCF LFG combusted	Yes	NA
	GHG (CO <sub>2</sub> e)	55,949	lb/MMCF LFG combusted	No	NA
PIR	PM	0.148	lb/VMT	No	NA
	PM <sub>10</sub>	0.030	lb/VMT	No	NA
	PM <sub>2.5</sub>	0.007	lb/VMT	No	NA
UPR-1	PM	0.172	lb/VMT	No	NA
	PM <sub>10</sub>	0.062	lb/VMT	No	NA
	PM <sub>2.5</sub>	0.006	lb/VMT	No	NA
UPR-2	PM	0.535	lb/VMT	No	NA
	PM <sub>10</sub>	0.151	lb/VMT	No	NA
	PM <sub>2.5</sub>	0.015	lb/VMT	No	NA
TIP-2	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.074	lb/hr	No	NA
	CO	1.29	lb/hr	No	NA
	NO <sub>x</sub>	1.48	lb/hr	No	NA
	SO <sub>2</sub>	0.46	lb/hr	No	NA
	VOC	0.57	lb/hr	No	NA
	GHG (CO <sub>2</sub> e)	22,575	lb/MGal	No	NA
TIP-3	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.006	lb/hr	No	NA
	CO	1.426	lb/hr	No	NA
	NO <sub>x</sub>	0.114	lb/hr	No	NA

Emission Units(s)	Pollutant	Emission Factor	Emission Factor Units	Emission Factor Verification Testing	
				Yes/no	Test Method
	SO <sub>2</sub>	0.356	lb/hr	No	NA
	VOC	0.436	lb/hr	No	NA
	GHG (CO <sub>2</sub> e)	22,575	lb/MGal	No	NA
CDC	PM	0.957	lb/hr	No	NA
	PM <sub>10</sub>	0.173	lb/hr	No	NA
	PM <sub>2.5</sub>	0.100	lb/hr	No	NA
PCS	VOC/ NMOC	0.033	lb/ton PCS	No	NA

\* Emissions calculated using refuse in place and EPA's LandGEM model.

131.c. For the emissions unit LF-Fug listed in Table 6, except for NMOC, VOC and GHG, the permittee must determine annual and 12-month rolling emissions by multiplying the fugitive landfill gas quantity by the emission factor listed in Table 7.

$$E = (\text{LFG generated, as calculated annually from LandGEM}) * (1 - \text{CE}) * \text{EF} * K$$

where:

E = Emissions, tons

LFG generated = LandGEM annual generation rate (MMCF) determined by January 31<sup>st</sup> of each year, divided by 12 for the next 12 monthly calculations

CE = Collection efficiency, as determined annually by January 31<sup>st</sup> of each year and used for the next 12 monthly calculations using Table HH-3, 40 CFR Part 98

EF = Emission factor, pounds/units

K = conversion constant: 1 ton/2000 lbs

131.d. For NMOC and VOC emissions from emissions unit LF-Fug listed in Table 6, the permittee must determine annual and 12-month rolling emissions within as follows. Calculations must be completed within 30 days of the end of each month.:

$$E = (P, \text{ as calculated annually from LandGEM}) * (1 - \text{CE}) * K$$

where:

$$E_{\text{VOC}} = E_{\text{NMOC}} * 0.935$$

E = Emissions, tons

P = LandGEM report of annual pollutant emissions of NMOCs determined by January 31<sup>st</sup> of each year, divided by 12 for the next 12 monthly calculations

CE = Collection efficiency, as determined annually by January 31<sup>st</sup> of each year and used for the next 12 monthly calculations using Table HH-3, 40 CFR Part 98

K = conversion constant: 1 ton/2000 lbs

$E_{\text{VOC}}$  = VOC Emissions from LF-Fug

$E_{\text{NMOC}}$  = NMOC Emissions from LF-Fug, as calculated above

131.a. For GHG emissions from emissions unit LF-Fug listed in Table 6, the permittee must determine annual and 12-month rolling emissions within as follows. Calculations must be completed within 30 days of the end of each month.:

$$E_x = (P, \text{ as calculated annually from LandGEM}) * (1 - \text{CE})$$

$$\begin{aligned}E_{ox} &= E_{CH_4} * 0.10 \\E_{CH_4} &= E - E_{ox} \\E_{soil} &= E_{ox} * 16.04 / 44.01 \\E_{pt} &= LF \text{ to ENCL-FL} * 1e06 * .40 * 44 / (35.3147 * 8.21e-05 * 298 * 10000) \\E_{CO_2} &= E + E_{pt} + E_{soil} \\GHG &= (E_{CH_4} * GWP + E_{CO_2} * GWP) * 1.102\end{aligned}$$

where:

$E_x$  = Fugitive Emissions from LandGEM, metric tons, of pollutant x  
 $P$  = LandGEM report of annual pollutant emissions of CO<sub>2</sub> and CH<sub>4</sub> as determined by January 31<sup>st</sup> of each year, divided by 12 for the next 12 monthly calculations, in metric tons  
 $CE$  = Collection efficiency, as determined annually by January 31<sup>st</sup> of each year and used for the next 12 monthly calculations using Table HH-3, 40 CFR Part 98  
 $E_{ox}$  = Methane oxidized in the soil  
 $E_{soil}$  = CO<sub>2</sub> produced from soil oxidation of methane  
 $E_{pt}$  = CO<sub>2</sub> that passes through the enclosed flare  
 $GWP$  = Global Warming potential for GHG pollutants of 28 for methane and 1 for carbon dioxide

- 131.b. For the emissions unit LF (controlled by ENCL-FL) listed in Table 6, the permittee must determine monthly and 12-month rolling emissions by multiplying the process parameter by the emission factor listed in Table 7 for all pollutants. Calculations must be completed within 30 days of the end of each month.

$$E = LF \text{ to ENCL-FL (MMCF)} * EF * K$$

where:

$E$  = Emissions, tons  
 $EF$  = Emission factor, pounds/units  
 $K$  = conversion constant: 1 ton/2000 lbs

- 131.c. For the emissions units PIR, UPR-1, UPR-2, TIP-2, TIP-3, and PCS listed in Table 6, the permittee must calculate monthly and 12-month rolling emission by multiplying the Process Parameter by the emission factor listed in Table 7 for each pollutant. Calculations must be completed within 30 days of the end of each month.

$$E = MP * EF * K$$

where:

$E$  = Emissions, tons  
 $MP$  = Monitored parameter, units/month or units/year  
 $EF$  = Emission factor, pounds/units  
 $K$  = conversion constant: 1 ton/2000 lbs

- 131.d. The emission factors listed in Condition 131.b. are not enforceable limits unless otherwise specified in this permit. Compliance with PSEs must only be determined by the calculations contained in Conditions 131.c. through 131.c of this permit using the measured process parameters recorded during the reporting period and the emission factors contained in Condition 131.b. The emission factors listed in Condition 131.b should be used starting the 11 months prior to issuance of this permit, for demonstrating compliance with the PSEs in Condition 130, as of the date of permit issuance.

132. The permittee must determine compliance with Condition 130 (Plant Site Emission Limits) by summing the emissions calculated in Condition 131 for each emissions unit for each month and each 12-month rolling period, and adding the Aggregate Insignificant emissions of 1 ton per year by pollutant (for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, CO, NO<sub>x</sub>, VOC and SO<sub>2</sub>) and 2756 ton per year for GHG and comparing the resulting emissions to the Plant Site Emission Limits in Condition 130.

#### **EMISSION FEES**

133. Emission fees will be based on the Plant Site Emissions Limits, unless permittee elects to report actual emissions for one or more permitted processes/pollutants. [OAR 340-220-0090]

#### **COMPLIANCE SCHEDULE**

134. The permittee must provide additional controls for EU LF in accordance with the following schedule [OAR 340-218-0040(3)(n)(C)(iii)]:
- 134.a. By no later than twelve (12) months after the date of permit issuance, the permittee must submit an application for construction approval for additional emission control equipment for EU LF to ensure that the permittee has capacity to control 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..
  - 134.b. By no later than eighteen (18) months after construction approval is issued for the equipment in Condition 134.a, the permittee must initiate the installation of emission control equipment and/or on-site construction or process modification work. The permittee must notify DEQ in writing within thirty (30) days that the above has been accomplished.
  - 134.c. By no later than eighteen (18) months after approval to construct is issued for the equipment in Condition 134.a, the permittee must complete the installation of emission control equipment and/or on-site construction or process modification work. The permittee must notify DEQ in writing within thirty (30) days that the above has been accomplished.
  - 134.d. By no later than 180 days after completion of construction listed in Condition 134.c, the permittee must demonstrate that the additional pollution control equipment is capable of operating at its maximum operating capacity in compliance with Conditions 29.b.ii and 73.c by conducting a source test according to test requirements in Conditions 31.d and
  - 134.e. By no later than 15 days after a deadline listed in Conditions 134.a through 134.d, the permittee must submit an explanation of why any dates in the schedule of compliance were not or will not be met and any preventive or corrective measures adopted, via DEQ's '[Your DEQ Online](#)' system. [OAR 340-218-0080(5)]

#### **GENERAL TESTING REQUIREMENTS**

135. Unless otherwise specified in this permit, the permittee must conduct all testing in accordance with DEQ's Source Sampling Manual. [OAR 340-212-0120] [40 CFR 60.8]
- 135.a. Unless otherwise specified by a state or federal regulation, the permittee must submit a source test plan to DEQ 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. Permittee should be aware, if significant variations are requested, it may require more than 30 days for DEQ to grant approval and may require EPA approval in addition to approval by DEQ.
  - 135.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.

- 135.c. Unless otherwise specified by permit condition or DEQ approved source test plan, all compliance source tests must be performed as follows:
  - 135.c.i. At least 90% of the design capacity for new or modified equipment;
  - 135.c.ii. At least 90% of the maximum operating rate for existing equipment; or
  - 135.c.iii. At least 90% of the normal maximum for existing equipment. For purposes of this permit, the normal maximum operating rate is defined as 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.
- 135.d. Each source test must consist of at least three (3) test runs and the emissions results must be reported as the arithmetic average of all valid test runs. If for reasons beyond the control of the permittee a test run is invalid, DEQ may accept two (2) test runs for demonstrating compliance with the emission limit or standard.
- 135.e. Source test reports prepared in accordance with DEQ's Source Sampling Manual must be submitted to DEQ within 60 days of completing any required source test, unless a different time period is approved in the source test plan submitted prior to the source test.
- 135.f. The permittee must submit all source test plans, reports, and related materials in the '[Your DEQ Online](#)' system.

## **GENERAL MONITORING AND RECORDKEEPING REQUIREMENTS**

### **General Monitoring Requirements**

- 136. All continuous monitoring systems (CMS) shall be operated, maintained, and provide data according to the specifications in DEQ's Continuous Monitoring Manual (April 2015), with the following exception. The permittee is allowed to calibrate continuous monitoring parameters annually unless federal rules or the manufacture of the equipment specify a more frequent calibration period. Then calibrations must be completed on the more frequent period. [OAR 340-218-0050(3)(a)(C)]
- 137. The permittee must not knowingly render inaccurate any required monitoring device or method. [OAR 340-218-0050(3)(a)(E)]
- 138. The permittee must use the same methods to determine compliance as those used to determine actual emissions for fee purposes and can be no less rigorous than the requirements of OAR 340-218-0080. [OAR 340-218-0050(3)(a)(F)]
- 139. The permittee must comply with the monitoring requirements on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(a)(G)]

### **General Recordkeeping Requirements**

- 140. The permittee must maintain the following general records of testing and monitoring required by this permit: [OAR 340-218-0050(3)(b)(A)]
  - 140.a. The date, place as defined in the permit, and time of sampling or measurements;
  - 140.b. The date(s) analyses were performed;
  - 140.c. The company or entity that performed the analyses;
  - 140.d. The analytical techniques or methods used;

- 140.e. The results of such analyses;
  - 140.f. The operating conditions as existing at the time of sampling or measurement; and
  - 140.g. The records of quality assurance for continuous monitoring systems (including but not limited to quality control activities, audits, calibration drifts).
141. 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) will 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 is specified. Upon discovering a required record is missing, the permittee must document the reason for the missing record. In addition, any missing record that can be recovered from other available information will not be considered a missing record. [OAR 340-214-0110, 340-214-0114, and 340-218-0050(3)(b)]
142. The permittee must comply with the recordkeeping requirements on the date of permit issuance unless otherwise specified in the permit or an applicable requirement. [OAR 340-218-0050(3)(b)(C)]
143. 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 from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. All existing records required by the previous Air Contaminant Discharge Permit or Oregon 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)]

## REPORTING REQUIREMENTS

### General Reporting Requirements

144. Excess Emissions Reporting: The permittee must report all excess emissions as follows: [OAR 340-214-0300 through 340-214-0360]
- 144.a. Immediately (within 24 hours of the event) notify DEQ of an excess emission event by Your DEQ Online, phone, email, or facsimile; and
  - 144.b. Within 15 days of the excess emissions event, submit a written report that contains the following information via DEQ's '[Your DEQ Online](#)' system: [OAR 340-214-0340(1)]
    - 144.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;
    - 144.b.ii. The date and time the permittee notified DEQ of the event;
    - 144.b.iii. The equipment involved;
    - 144.b.iv. Whether the event occurred during startup, shutdown, maintenance, or as a result of a breakdown, malfunction, or emergency;
    - 144.b.v. Steps taken to mitigate emissions and corrective action taken, including whether the approved procedures for a planned startup, shutdown, or maintenance activity were followed;
    - 144.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);
    - 144.b.vii. The final resolution of the cause of the excess emissions; and

- 144.b.viii. Where applicable, evidence supporting any claim that emissions in excess of technology-based limits were due to any emergency pursuant to OAR 340-214-0360.
- 144.c. If there is an ongoing excess emission caused by an upset or breakdown, the permittee must immediately take action to minimize emissions by reducing or ceasing operation of the equipment or facility, unless doing so could result in physical damage to the equipment or facility, cause injury to employees, or result in higher emissions associated with shutdown and subsequent start up than those emissions resulting from continued operation. The permittee may:
- 144.c.i. Cease operation of the equipment or facility within 8 hours of the beginning of the period of excess emissions;
  - 144.c.ii. Request continue operation by submitting to DEQ via DEQ's '[Your DEQ Online](#)' system a written request to continue operation within 8 hours of the beginning of the period of excess emissions;
  - 144.c.iii. Continue operation only if approved by DEQ in accordance with OAR 340-214-0330(4)(b). Otherwise, the permittee must cease operation within one hour of receiving DEQ's disapproval of continued operation; and
  - 144.c.iv. Report excess emissions under OAR 340-214-0340 within 5 days of the date of the event;
- 144.d. 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 DEQ by calling the Oregon Emergency Response System (OERs). The current number is 1-800-452-0311.
- 144.e. 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 DEQ via DEQ's '[Your DEQ Online](#)' system for prior authorization, as required in OAR 340-214-0310 and 340-214-0320. New or modified procedures must be received by DEQ 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.
- 144.f. Once DEQ approves startup/shutdown procedures, the permittee must notify DEQ 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 144.a.
- 144.g. The permittee must continue to maintain a log of all excess emissions in accordance with OAR 340-214-0340(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 via DEQ's '[Your DEQ Online](#)' system. [OAR 340-218-0050(3)(c)]
145. Permit Deviations 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" means within 15 days of the deviation. Deviations that cause excess emissions, as specified in OAR 340-214-0300 through 340-214-0360 must be reported in accordance with Condition 144. [OAR 340-218-0050(3)(c)(B)]
146. All required reports must be certified by a responsible official consistent with OAR 340-218-0040(5); [OAR 340-218-0050(3)(c)(D)]
147. Reporting requirements must commence on the date of permit issuance unless otherwise specified in the permit. [OAR 340-218-0050(3)(c)(E)]
148. Submit all reports for EPA requirements to:

US Environmental Protection Agency  
Enforcement and Compliance Assurance Division  
Region 10 (20-C04)  
1200 Sixth Avenue, Suite 155  
Seattle, WA 98101

### Semi-annual and Annual Reports

149. The permittee must submit one (1) electronic copy of reports of any required monitoring at least every 6 months via DEQ's '[Your DEQ Online](#)' system. Six month periods are January 1 to June 30, and July 1 to December 31. If the report due date falls on a weekend or holiday, the permittee may submit their report on the next business day. One paper copy of the report must be submitted to the EPA. 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)(d)]
- 149.a. The first semi-annual report is due on July 30 and must include the semi-annual compliance certification, OAR 340-218-0080, and the semi-annual report for OAR 340 Division 239, as listed in Condition 91.c.
- 149.b. The annual report is due on February 15 and must consist of the following:
- 149.b.i. the emission fee report; [OAR 340-220-0100]
  - 149.b.ii. a summary of the excess emissions upset log; [OAR 340-214-0340]
  - 149.b.iii. For every month, calculations of the previous 12 month's pollutant emissions for which PSEs have been established. These should be determined on a rolling 12-consecutive calendar month basis; [OAR 340-222-0080(5)]
  - 149.b.iv. Annual emissions of hazardous air pollutants for the calendar year; [OAR 340-218-0050(3)(d)] and
  - 149.b.v. Annual LandGEM report;
  - 149.b.vi. Annual report for OAR 340 Division 239 as listed in Condition 91.d;
  - 149.b.vii. Waste in Place report as listed in Condition 91.e;
  - 149.b.viii. Summary of quarterly sulfur contents of the landfill gas samples from Condition 100, and their annual average methane
  - 149.b.ix. A list of well additions and/or changes for the calendar year and a map of well locations.
  - 149.b.x. The second semi-annual compliance certification; [OAR 340-218-0080]
150. The semi-annual compliance certification must include the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable): [OAR 340-218-0080(6)(c)]
- 150.a. The identification of each term or condition of the permit that is the basis of the certification;
- 150.b. The identification of the method(s) or other means used by the permittee for determining the compliance status with each term and condition during the certification period, and whether such methods or other means provide continuous or intermittent data. Such methods and other means must include, at a minimum, the methods and means required under OAR 340-218-0050(3). If necessary, the permittee also must identify any other material information that must be included in the certification to comply with section 113(c)(2) of the FCAA, which prohibits knowingly making a false certification or omitting material information;
- 150.c. Certification of compliance with the monitoring conditions in the permit is sufficient to meet this requirement, except when the permittee must certify compliance with new applicable requirements that are incorporated by reference into the permit. When certifying compliance with new applicable

requirements that are not yet in the permit, the permittee must provide the information required by this condition.

- 150.d. The status of compliance with terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification must be based on the method or means designated in Condition 150.b of this rule. The certification must identify each deviation and take it into account in the compliance certification. The certification must also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance, as defined under OAR 340-200-0020 and 40 CFR part 64, occurred; and
  - 150.e. Such other facts as the Department may require to determine the compliance status of the source.
151. Greenhouse Gas Registration and Reporting: If the calendar year emission rate of greenhouse gases (CO<sub>2</sub>e) is greater than or equal to 2,756 tons (2,500 metric tons), the permittee must register and report its greenhouse gas emissions with DEQ in accordance with OAR 340-215. The greenhouse gas report must be certified by the responsible official consistent with OAR 340-218-0040(6). [OAR 340-215-0030(2) and 340-215-0040(1)]
    - 151.a. In addition to reporting to DEQ, the permittee must also report GHG emissions to EPA using methodology in 40 CFR Part 98. [40 CFR Part 98]
  152. Notwithstanding any other provision contained in any applicable requirement, the permittee may use monitoring as required under OAR 340-218-0050(3) and incorporated into the permit, in addition to any specified compliance methods, for the purpose of submitting compliance certifications. [OAR 340-218-0080(6)(e)]

**NON-APPLICABLE REQUIREMENTS**

153. The following State and Federal air quality requirements are not applicable to this facility for the reasons stated. [OAR 340-218-0110]

Applicable Requirement	Section	Reason Code	Applicable Requirement	Section	Reason Code
Division 202	All rules	I	Division 228	0100 through 0130	F
Division 206	0050	C		0200	E
Division 208	0510 through 0610	D		0300	B
Division 209	All rules	I	Division 230	All rules	B
Division 210	0120	B	Division 232	All rules	C
Division 212	0210 through 0280	J	Division 234	All Rules	B
Division 214	0210 through 0220	C	Division 236	0310-0440	B
Division 215	0032	I	Division 240	All rules	C
	0110 through 0125	B			
Division 216	All	G, H	Division 242	All rules	C
Division 218	0090, 0100	B	Division 244	0200, 0210	B
Division 220	0130 through 0170	H		0234 through, 0250	B
Division 222	0042, 0090	C, H	Division 245	9015 through 9080	B
Division 224	0045 through 0060	C	Division 248	0110-0275	B
	0070	G	Division 256	All rules	E
	0245 through 0260	C	Division 258	All rules	B
	0500 through 0540	G	Division 260	All rules	B
Division 225	0045, 0060	C	Division 264	All rules	B
Division 226	0320, 0400	H	Division 268	All rules	B
			NSPS	Subpart X	G

Reason code definitions:

- A this pollutant is not emitted by the facility
- B the facility is not in this source category
- C the facility is not in a special control area
- D the facility is not in this county
- E the facility does not have this emissions unit
- F the facility does not use this fuel type
- G the rule does not apply because no changes have been made at the facility that would trigger these procedural requirements
- H this method/procedure is not used by the facility
- I this rule applies only to DEQ and regional authorities
- J there are no emissions units with add-on control devices or the pre-controlled potential emissions are less than 100 tons per year or the emissions units with add-on control devices and pre-controlled emissions greater than 100 tons per year are subject to emissions standards promulgated after November of 1990

## GENERAL CONDITIONS

### G1. General Provision

Terms not otherwise defined in this permit have the meaning assigned to such terms in the referenced regulation.

### G2. Reference materials

Where referenced in this permit, the versions of the following materials are effective as of the dates noted unless otherwise specified in this permit:

- a. Source Sampling Manual; November 15, 2018.
- 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

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 Oregon 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 this 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 is supplemental to, and does 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. [OAR 340-208-0400] This condition is enforceable only by the State.

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. [OAR 340-214-0120]

G7. Certification [OAR 340-214-0110, 340-218-0040(5), 340-218-0050(3)(c)(D), and 340-218-0080(2)]

Any document submitted to DEQ 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 DEQ a material error or omission in these records, reports, plans, or other documents.

G8. Open Burning [OAR Chapter 340, Division 264]

The permittee is prohibited from conducting open burning, except as may be allowed by OAR 340-264-0020 through 340-264-0200.

G9. Asbestos [40 CFR Part 61, Subpart M (federally enforceable), OAR Chapter 340-248-0005 through 340-248-0180 (state-only enforceable) and 340-248-0205 through 340-248-0280]

The permittee must comply with OAR Chapter 340, Division 248, 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 is 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. DEQ, 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 alters or affects 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 DEQ 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 DEQ.

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 DEQ, 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 an Oregon 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 state 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]

- a. The permittee must pay an annual base fee and an annual emission fee for particulates, sulfur dioxide, nitrogen oxides, and volatile organic compounds.
- b. The permittee must submit payment to the Department of Environmental Quality, via DEQ's '[Your DEQ Online](#)' system within 30 days of date DEQ 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 DEQ. Payment must be made regardless of the dispute. User-based fees will be charged for specific activities

(e.g., computer modeling review, ambient monitoring review, etc.) requested by the permittee.

**i. ANNUAL FEES**

Checks may also be submitted to DEQ. Checks for annual invoices must be made payable to ‘Department of Environmental Quality’, include the remittance portion with invoice number, and be mailed to:

DEQ Financial Services – LBX4244  
PO Box 4244  
Portland, OR 97208-4244

**ii. OTHER PAYMENTS**

Checks for non-annual invoice payments must include the ‘Your DEQ Online’ submittal ID number, follow the instructions on the submittal receipt, and be made payable to ‘Department of Environmental Quality’, and mailed to:

DEQ Financial Services – LBX3615  
PO Box 3615  
Portland, OR 97208-3615

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 OAR 340-200-0020.
- b. A contemporaneous notification, if required under OAR 340-218-0140(2)(b), must be submitted to DEQ via DEQ’s [‘Your DEQ Online’](#) system 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 does 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 DEQ via DEQ's '[Your DEQ Online](#)' system and the EPA in accordance with OAR 340-218-0140(3)(b).
- c. The permit shield of Condition G11 does 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 via DEQ's '[Your DEQ Online](#)' system 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 via DEQ's '[Your DEQ Online](#)' system.

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 via DEQ's '[Your DEQ Online](#)' system.

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 DEQ prior to construction or modification of any stationary source or air pollution control equipment in accordance with OAR 340-210-0205 through OAR 340-210-0250.

G21. New Source Review Modification [OAR 340-224-0010]

The permittee may not begin construction of a major source or a major modification of any stationary source without having received an Air Contaminant Discharge Permit (ACDP) from DEQ and having satisfied the requirements of OAR 340, Division 224.

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 OAR 340-214-0110]

The permittee must furnish to DEQ, within a reasonable time, any information that DEQ 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 DEQ copies of records required to be retained by the permit or, for information claimed to be confidential, the permittee may furnish such records to DEQ 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 DEQ.
- 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 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 expires 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 DEQ requests an earlier submittal, via DEQ's [‘Your DEQ Online’](#) system. If more than 12 months is required to process a permit renewal application, DEQ 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 will 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 [OAR 340-200-0020 and 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 [OAR 340-200-0020 and 340-218-0120(2)]

The permittee must have available at facility at all times a copy of the Oregon Title V Operating Permit and must provide a copy of the permit to DEQ or an authorized representative upon request.

G30. Air Quality Modeling Analysis for New Source Review [ORS 468A.025, ORS 468A.040, ORS 468A.050, OAR 340-202-0050, OAR 340-214-0110 and OAR 340-224-0030 ]

The permittee may be required to submit an updated air quality modeling analyses to DEQ via DEQ's '[Your DEQ Online](#)' system if the permittee that obtained approval of a project under OAR chapter 340, division 224 seeks to obtain approval for a revision to the project according to the permit application requirements in OAR chapter 340, division 224 and OAR chapter 340, division 216 or 218, whichever is applicable, prior to initiating the revision. If construction has commenced, the permittee must temporarily halt construction until a revised permit is issued. The following are considered revisions to the project that would require approval:

- G30.a. A change that would increase permitted emissions;
- G30.b. A change that would require a re-evaluation of the approved control technology; or
- G30.c. A change that would increase air quality impacts.

ALL INQUIRIES SHOULD BE DIRECTED TO:

Department of Environmental Quality  
Air Quality Division  
Western Region-Salem Office  
4026 Fairview Industrial Drive SE  
Salem, OR 97302  
503-229-5554

# Exhibit 1

<b>Part 63 citation</b>	<b>Description</b>	<b>Applicable to subpart AAAA</b>	<b>Applicable to subpart ZZZZ</b>	<b>Explanation</b>
40 CFR 63.1	Applicability: General applicability of NESHAP in this part	Yes	Yes	
40 CFR 63.2	Definitions	Yes	Yes	
40 CFR 63.3	Units and abbreviations	Yes	Yes	
40 CFR 63.4	Prohibited activities and circumvention	Yes	Yes	
40 CFR 63.5	Construction/reconstruction	Yes	Yes	
40 CFR 63.6(a), (b), and (c)	Compliance with standards and maintenance requirements	Yes	Yes	
40 CFR 63.6(e)(1)(i)-(ii)	Operation and maintenance requirements	No	No	See 40 CFR 63.1955(c) for general duty requirements.
63.6(e)(3)(i)-(ix)	SSM plan	No	No	
63.6(f)(1)	Exemption of nonopacity emission standards during SSM	No	No	
40 CFR 63.6(f)(2) and (3)	Compliance with nonopacity emission standards	Yes	Yes	
40 CFR 63.6(g)	Use of an alternative nonopacity standard	Yes	Yes	
40 CFR 63.6(h)	Compliance with opacity and visible emission standards	No	No	Subpart AAAA and Subpart ZZZZ do not contain opacity or visible emission standards.
40 CFR 63.6(i)	Extension of compliance with emission standards	Yes	Yes	
40 CFR 63.6(j)	Exemption from compliance with emission standards	Yes	Yes	
40 CFR 63.7	Performance testing	Yes	Yes	Except that <a href="#">63.7(b)(1)</a> & (2) and (c) only apply as specified in 40 CFR <a href="#">63.6645</a>
40 CFR 63.7(e)(1)	Conditions for performing performance tests	No	No	40 CFR 63.1959(f) specifies the conditions for performing performance tests for Subpart AAAA. Subpart ZZZZ specifies conditions for conducting performance tests at <a href="#">§ 63.6620</a> .
40 CFR 63.8(a) and (b)	Monitoring requirements— Applicability and conduct of monitoring	Yes	Yes, except (a)(4)	Subpart ZZZZ contains specific requirements for monitoring at 40 CFR <a href="#">63.6625</a> .
40 CFR 63.8(c)(1)	Operation and Maintenance of continuous emissions monitoring system	Yes	Yes	
40 CFR 63.8(c)(1)(i)	Operation and Maintenance Requirements	No	No	Unnecessary due to the requirements of 40 CFR 63.8(c)(1) and the requirements for a quality control plan for monitoring equipment in 40 CFR 63.8(d)(2).

<b>Part 63 citation</b>	<b>Description</b>	<b>Applicable to subpart AAAA</b>	<b>Applicable to subpart ZZZZ</b>	<b>Explanation</b>
40 CFR 63.8(c)(1)(ii)	Operation and Maintenance Requirements	No	Yes	
40 CFR 63.8(c)(1)(iii)	SSM plan for monitors	No	No	
40 CFR 63.8(c)(2)-(8)	Monitoring requirements	Yes	Yes, except (c)(5)	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
40 CFR 63.8(d)	Quality control	Yes, except (d)(3)	Yes	See 40 CFR 63.1983(c)(8).
40 CFR 63.8(e)-(f)	Performance Evaluation of CMS and use of Alternate Monitoring Methods	-	Yes	Except for <a href="#">§ 63.8(e)(5)(ii)</a> , which applies to COMS. Except that 40 CFR <a href="#">63.8(e)</a> , <a href="#">63.8(f)(4)</a> & <a href="#">(6)</a> only apply as specified in 40 CFR <a href="#">63.6645</a> .
40 CFR 63.8(g)	Reduction of Monitoring Data	-	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at 40 CFR <a href="#">63.6635</a> and <a href="#">63.6640</a> .
40 CFR 63.9	Notifications	Yes <sup>2</sup> , except 63.9(f)	Yes, except 63.9(f)	Subpart AAAA and ZZZZ do not prescribe opacity or visible emission standards. Except that 40 CFR <a href="#">63.9(b)-(h)</a> only apply as specified in 40 CFR <a href="#">63.6645</a> .
40 CFR 63.10(a)	Recordkeeping and reporting—general	Yes	Yes	
40 CFR 63.10(b)(1)	General recordkeeping	Yes	Yes	Except that the most recent 2 years of data do not have to be retained on site for Subpart ZZZZ.
40 CFR 63.10(b)(2)(i)	Startup and shutdown records	No	No	See 40 CFR 63.1983(c)(6) for recordkeeping for periods of startup and shutdown.
40 CFR 63.10(b)(2)(ii)	Recordkeeping of failures to meet a standard	No	No	See 40 CFR 63.1983(c)(6)-(7) for recordkeeping for any exceedance of a standard.
40 CFR 63.10(b)(2)(iii)	Recordkeeping of maintenance on air pollution control equipment	Yes	No	
40 CFR 63.10(b)(2)(iv)-(v)	Actions taken to minimize emissions during SSM	No	No	See 40 CFR 63.1983(c)(7) for recordkeeping of corrective actions to restore compliance.
40 CFR 63.10(b)(vi)	Recordkeeping for CMS malfunctions	Yes	Yes	
40 CFR 63.10(b)(vii)-(xiv)	Other Recordkeeping of compliance measurements	Yes	Yes	
40 CFR 63.10(c)	Additional recordkeeping for sources with CMS	No	Yes	See 40 CFR 63.1983 for required CMS recordkeeping.

<b>Part 63 citation</b>	<b>Description</b>	<b>Applicable to subpart AAAA</b>	<b>Applicable to subpart ZZZZ</b>	<b>Explanation</b>
40 CFR 63.10(d)	Reporting	Yes, except 63.10(d)(5)	Yes, except 63.10(d)(3) and (5)	All exceedances must be reported in the semi-annual report required by 40 CFR 63.1981(h) for Subpart AAAA. Subpart ZZZZ does not contain opacity or VE standards.
40 CFR 63.10(e)	Additional reporting for CMS	Yes	Yes, except (e)(2)(ii), (e)(3) & (4)	Excess emissions and exceedance reporting is specified in 40 CFR <a href="#">63.6650</a> for Subpart ZZZZ. Subpart ZZZZ does not require COMS.
40 CFR 63.10(f)	Waiver of recordkeeping or reporting	Yes	Yes	
40 CFR 63.11	Control device requirements/flares	Yes	No	40 CFR 60.18 is required before September 27, 2021. However, 40 CFR 60.18 and 63.11 are equivalent.
40 CFR 63.12	State authority and delegations	Yes	Yes	
40 CFR 63.13	Addresses	Yes	Yes	
40 CFR 63.14	Incorporation by reference	Yes	Yes	
40 CFR 63.15	Availability of information and confidentiality	Yes	Yes	

<sup>2</sup>If an permittee has complied with requirements that are parallel to the requirements of the part 63 citation of this table under 40 CFR part 60, subpart WWW or subpart XXX, or a state or federal plan that implements 40 CFR part 60, subpart Cc or Cf, then additional notification for that requirement is not required.



State of Oregon  
Department of  
Environmental  
Quality

## TITLE V OPERATING PERMIT REVIEW REPORT

Valley Landfills, Inc.  
28972 Coffin Butte Road  
Corvallis, OR 97330

SIC	4953		
NAICS	562212	EPA ICIS- Air ID	OR000000410030 9502
Source Categories			

### Compliance and Emissions Monitoring Requirements:

Unassigned emissions		COMS	
Emission credits		CEMS	
Compliance schedule	Y	CPMS	ENCL-FL temperature
Source test [variable]	ENCL-FL	Ambient monitoring	

### Reporting Requirements

Annual report (due date)	February 15	Monthly report (due dates)	
Emission fee report (due date)	February 15	Excess emissions report	Y
SACC (due date)	July 30	Other reports (type)	GHG
Quarterly report (due dates)			

### Air Programs

NSPS (list subparts)	A	Title V	Y
NESHAP (list subparts)	A, AAAA, ZZZZ	ACDP (SIP)	
CAM	Y	Major HAP source	Y
Regional Haze (RH)		Federal major source	
Synthetic Minor (SM)		NSR (by Pollutant)	Type B for PM, PM <sub>10</sub> , NMOC, H <sub>2</sub> S, TRS, SO <sub>2</sub>
Part 68 Risk Management		PSD	
CFC		Acid Rain	
RACT			
TACT			

**TABLE OF CONTENTS**

INTRODUCTION .....4  
PERMITTEE IDENTIFICATION.....8  
FACILITY DESCRIPTION .....8  
EMISSION LIMITS AND STANDARDS, TESTING, MONITORING AND  
RECORDKEEPING .....13  
PLANT SITE EMISSION LIMITS .....18  
HAZARDOUS AIR POLLUTANTS .....21  
CLEANER AIR OREGON RISK ASSESSMENT .....22  
TOXICS RELEASE INVENTORY .....22  
GENERAL BACKGROUND INFORMATION.....22  
COMPLIANCE HISTORY .....22  
SOURCE TEST RESULTS .....24  
PUBLIC NOTICE.....25  
ATTACHMENTS: EMISSION DETAIL SHEETS, LANDGEM REPORT, AIR QUALITY  
ANALYSIS MEMO .....26  
EMISSIONS DETAIL SHEETS .....27

LIST OF ABBREVIATIONS USED IN THIS REVIEW REPORT

AQMA	Air Quality Management Area	NSPS	New Source Performance Standard
ASTM	American Society of Testing and Materials	NSR	New Source Review
BDT	bone dry ton	O <sub>2</sub>	oxygen
CEMS	continuous emissions monitoring system	OAR	Oregon Administrative Rules
CFR	Code of Federal Regulations	ORS	Oregon Revised Statutes
CH <sub>4</sub>	methane (greenhouse gas)	O&M	operation and maintenance
CMS	continuous monitoring system	Pb	lead
CO	carbon monoxide	PCD	pollution control device
CO <sub>2e</sub>	carbon dioxide equivalent	PEMS	predictive emissions monitoring system
COMS	continuous opacity monitoring system	PM	particulate matter
DEQ	Oregon Department of Environmental Quality	PM <sub>10</sub>	particulate matter less than 10 microns in size
dscf	dry standard cubic feet	PM <sub>2.5</sub>	particulate matter less than 2.5 microns in size
EF	emission factor	PSD	Prevention of Significant Deterioration
EPA	United State Environmental Protection Agency	PSEL	Plant Site Emission Limit
EU	emissions unit	SO <sub>2</sub>	sulfur dioxide
FCAA	Federal Clean Air Act	ST	source test
GCCS	gas collection and control system	VE	visible emissions
GHG	greenhouse gas	VMT	vehicle mile traveled
gr/dscf	grains per dry standard cubic feet	VOC	volatile organic compound
HAP	hazardous air pollutant		
ID	identification code		
I&M	inspection and maintenance		
LFG	landfill gas		
MB	material balance		
Mlb	1000 pounds		
MM	million		
N <sub>2</sub> O	nitrous oxide (greenhouse gas)		
NA	not applicable		
NESHAP	National Emission Standard for Hazardous Air Pollutants		
NMOC	non-methane organic compounds		
NO <sub>x</sub>	oxides of nitrogen		

## INTRODUCTION

1. The proposed permit is a renewal of an existing Title V permit which was issued on October 30, 2009. The source submitted a timely permit renewal application on September 30, 2013. Therefore, the current permit remains in effect until final action is taken on the renewal application. An updated application was received on October 12, 2018 which reflected the source's most recent operation scenario and emission calculations were again updated on June 12, 2024. In response to comments during the public notice period, the application was updated to incorporate the revised 2024 AP-42 guidance and LandGEM 3.1 model output for emission calculations, with additional application materials received August 14, 2025 and October 13, 2025. In addition to renewal of the Title V permit, this permit action includes a minor modification for replacement of the flares, and a significant modification for increased NMOC, PM, and PM<sub>10</sub> PSELS due to landfill growth and updated emission calculations from roads.
2. Valley Landfills, Inc./Coffin Butte Landfill has been determined to be an existing source for the purposes of Cleaner Air Oregon in accordance with OAR 340-245-0020 because the air quality permit application was submitted and deemed complete, or construction had commenced on this facility prior to November 16, 2018. As an existing source, the permittee is required to perform a risk assessment in accordance with OAR 340-245-0050, and demonstrate compliance with the Risk Action Levels for an "Existing Source" in OAR 340-245-8010 Table 1 when called in by DEQ. Valley Landfills, Inc./Coffin Butte Landfill has not been called in and therefore, has not performed a risk assessment.
3. In accordance with OAR 340-218-0120(1)(f), this review report is intended to provide the legal and factual basis for the draft permit conditions. In most cases, the legal basis for a permit condition is included in the permit by citing the applicable regulation. In addition, the factual basis for the requirement may be the same as the legal basis. However, when the regulation is not specific and only provides general requirements, this review report is used to provide a more thorough explanation of the factual basis for the draft permit conditions.
4. The following table shows a summary of off-permit changes, 502(b)(10) changes, administrative amendments, and minor modifications that occurred since the last permit renewal:

Date	Permit revision or notification	Brief explanation
2/27/2014	Minor modification	Added a new flare (FL1)
5/11/2015	Administrative amendment	Changed the facility contact.
8/1/2017	Approval to construction	Granted approval for an installation of a second tipper.
2/5/2020	Landfill Gas Collection and Control System Design Plan updated	Appendix E to the design plan was updated to modify their alternative monitoring plan to the NSPS requirements.*

Date	Permit revision or notification	Brief explanation
6/5/2022	Approval to Construct	Granted approval to add a tipper, TIP-3.
Application date 2/21/2023	Significant Modification	Increase in NMOC, PM, and PM <sub>10</sub> PSELs for landfill growth and updated emissions from roads. Included in this permit action
11/9/2023	Approval to Construct	Granted approval to replace FL-1 and FL-2 with a new enclosed flare (ENCL-FL)
Application date 12/1/2023	Minor Modification	Replacing FL-1 and FL-2 in the permit with ENCL-FL. Included in this permit action

\*Appendix E to the design plan was submitted to EPA for review because DEQ does not have an authority to approve alternative monitoring plans unless they are minor modifications. EPA's Region 10 issued their responses to the requests collaborating with EPA's Office of Air Quality Planning and Standards and Office of Enforcement and Compliance Assurance. DEQ's response letter was sent on September 2, 2020. The response letter is attached to this review report.

5. Permit condition changes:

Condition Number	Topic	Changes
1	Permit applicability	No change
2	Federal and state requirements	Updated list of state only requirements
3	40 CFR Part 63 Subpart M	Added to note Asbestos NESHAP rules are Federal only
4	Emission Unit and Pollution Control Device Identification	<ul style="list-style-type: none"> <li>• Reclassified Landfill Gas Control System (Control) as a pollution control device (LFGCES-1) instead of Emission Unit, and designated the landfill as an emissions unit (LF), with LFGCES-1 and ENCL-FL as the pollution control devices from Cells 1-6.</li> <li>• Renamed F-LFG2 as LF-Fug for fugitive landfill gas emissions unit from Cells 1-6.</li> <li>• Replaced FL-1 and FL-2 with ENCL-FL, as a pollution control device.</li> <li>• Deleted Municipal solid waste landfill, Cell 0 (F-LFG-1) which was moved into Cell 5, a lined landfill cell.</li> <li>• Added Tipper 2 (TIP-2) and Tipper 3 (TIP-3).</li> <li>• Change the table format to a conventional paragraph format to be consistent with other DEQ's Title V permits.</li> </ul>

Condition Number	Topic	Changes
		<ul style="list-style-type: none"> <li>Reclassified Generator as a categorical insignificant activity instead of aggregate and renamed it “emergency generator (EGEN).”</li> <li>Added Cell Development and Closure (CDC) as an emissions unit, moving it from Aggregate Insignificant.</li> <li>Deleted the wastewater treatment system operation because it is no longer used as a wastewater treatment system. Instead, leachate is hauled to local wastewater treatment facilities.</li> </ul>
5	General	Added general requirement to operate pollution control devices
6-7	Fugitive Emissions	<ul style="list-style-type: none"> <li>Updated the reference to OAR 340-208-0210(1) due to rule changes.</li> <li>Deleted modified EPA Method 9 tests because the DEQ no longer requires modified Method 9</li> </ul>
8-10	Nuisance	<ul style="list-style-type: none"> <li>No change</li> </ul>
16	40 CFR Part 68.	Added general requirements for Risk Management Plan if subject to the Accidental Release Prevention Program
17-19	ENCL-FL PM	Included PM and opacity limits for the flare, and added source test requirements to demonstrate compliance with grain loading and opacity limits, and emission factor verification test for PM, SO <sub>2</sub> and CO.
20	ENCL-FL NO <sub>x</sub> NAAQS Compliance	Added source test requirements for the flare to verify NO <sub>x</sub> emissions included in the air quality analysis.
21-70	NSPS and NESHAP and OAR 340-236-500	<ul style="list-style-type: none"> <li>Converted from the table format to a traditional paragraph format.</li> <li>Deleted detailed NSPS General Provisions (Subpart A) conditions and referenced it to the rule.</li> <li>Deleted the monthly reporting requirement (Condition 13.5 and 13.10 of the current permit)</li> <li>Deleted NSPS Subpart WWW and replaced with OAR 340-236-500 requirements.</li> <li>Added updated NESHAP Subpart AAAA requirements.</li> <li>Added optional OTM-51 use for surface emission monitoring.</li> </ul>
71-100	OAR 340 Division 239 Requirements	<ul style="list-style-type: none"> <li>Added conditions to incorporate the new state only requirements for methane emissions from landfills, and included optional OTM-51 use for surface emission monitoring</li> </ul>
101	Sulfur sampling	<ul style="list-style-type: none"> <li>Added flare inlet sulfur sampling to verify SO<sub>2</sub>, TRS and H<sub>2</sub>S emissions</li> </ul>

Condition Number	Topic	Changes
102-104	TIP-2 and TIP-3	<ul style="list-style-type: none"> <li>Updated to TIP-2 and TIP-3 and noted no monitoring required</li> </ul>
105-106	Roads and Cell Development and Closure	<ul style="list-style-type: none"> <li>Changed roads to fugitive emission requirements since opacity and PM emission standards do not apply to fugitive emissions.</li> <li>Added Cell Development and Closure to conditions requiring control of fugitive emissions.</li> </ul>
107	NAAQS	<ul style="list-style-type: none"> <li>Added work practice requirements to limit PM<sub>10</sub> and PM<sub>2.5</sub> emissions from roads.</li> </ul>
108-118	40 CFR Part 63 Subpart M	<ul style="list-style-type: none"> <li>Added Federally Enforceable Only Asbestos conditions</li> </ul>
119-128	40 CFR Part 63, Subpart ZZZZ	<ul style="list-style-type: none"> <li>Added NEHSAP Subpart ZZZZ for Reciprocating Internal Combustion Engines (RICE)</li> </ul>
129-130	Insignificant Activities	<ul style="list-style-type: none"> <li>Changed the grain loading limit to 0.10 gr/dscf.</li> <li>Added gasoline dispensing rules.</li> </ul>
131-133	Plant Site Emission Limits	<ul style="list-style-type: none"> <li>Updated PSELS for all pollutants and emission factors, including emission factors for TRS, H<sub>2</sub>S and GHG.</li> <li>Deleted F-LFG1 and renamed F-LFG2 to LF-Fug.</li> <li>Changed the process parameter for PIR and UPR-1 and UPR-2 to vehicle miles traveled instead of number of total vehicles traveled.</li> <li>Added TIP-2 and TIP-3, replacing TIP.</li> <li>Added ENCL-FL, replacing Open Flare.</li> <li>Added TRS and H<sub>2</sub>S PSELS from revised calculations</li> <li>Combined F-LFG1 with F-LFG2 and renamed LF-Fug.</li> <li>Replaced emission factors with LandGEM where applicable.</li> <li>Added a requirement to use LandGEM to calculate VOC, NMOC, and GHG emissions from LF and LF-Fug.</li> <li>Added SO<sub>2</sub> emissions calculations from ENCL-FL.</li> </ul>
134	Emission Fees	<ul style="list-style-type: none"> <li>Added general requirement on Emission Fees.</li> </ul>
135	Compliance Schedule	<ul style="list-style-type: none"> <li>Added a compliance schedule requiring installation of additional landfill gas collection and control equipment.</li> </ul>
136-153	General Testing, Recordkeeping and Reporting Requirements	<ul style="list-style-type: none"> <li>Updated the general testing, monitoring and recordkeeping and reporting requirements, as well as the specific reporting requirements.</li> </ul>
154	Non-Applicable Requirements	<ul style="list-style-type: none"> <li>Updated the Non-Applicable Requirements table</li> </ul>

Condition Number	Topic	Changes
G1-G30	General Requirements	<ul style="list-style-type: none"> <li>Updated General Requirements</li> </ul>

## PERMITTEE IDENTIFICATION

6. Coffin Butte Landfill is a municipal solid waste landfill located at 28972 Coffin Butte Road in Corvallis and is owned and operated by Valley Landfills, Inc. The landfill began accepting municipal solid waste in 1953. The facility received an initial Title V permit in 2000. Subsequent permit renewals occurred in 2005 and 2009.

## FACILITY DESCRIPTION

7. The Coffin Butte Landfill accepts municipal solid waste (MSW) and asbestos-containing materials (ACM) for disposal, petroleum contaminated soils and recyclable materials for storage and transfer. The major activities at the facility include the receipt, disposal and management of MSW. Although the total contiguous area owned by Republic Services is approximately 700 acres, only about 178 acres encompass the closed and active portions of the MSW landfill. Another 5 acres is used for the closed and active ACM disposal area.

The facility under prior ownership operated Cell Zero from 1953-1977. Cell One was opened in 1978 and the newer cells are lined. The material in Cell Zero was moved to a lined cell, and Cell Zero no longer exists. The landfill provides daily cover to the working face of the landfill and has used petroleum contaminated soils and ash from a municipal solid waste combustion facility as part of the daily cover material. The landfill has a design capacity of approximately 39.7 million tons at a projected closure date of 2041.

In 1975, VLI began filling Cells 1 and 1A, with most waste being placed in Cell 1 beginning in 1977. Cell 1A (approximately 4 acres) primarily handled waste from Teledyne Wah Chang and was not used for disposal after 1988. Cell 1 (approximately 30 acres) has a clay bottom liner and leachate collection system that conveyed the leachate to an adjacent holding pond. Placement of waste in Cell 1 stopped in early 1993, when cell 2B was constructed. Cell 1A has gone through final closure, and Cell 1 has been closed along the southern, central, and western parts. A “piggyback” liner system was constructed over the east side of Cell 1 as part of the development of Cell 3D. The lower half was constructed in 2006, and the upper half constructed in 2008. Final stages of filling Cell 2 ended in 2004 with final cover constructed along its southern flank in summer 2003. Cell 3 has also been filled, and final closure construction has occurred over a portion of the south face of Cell 3. Cell 4 was constructed in summer 2011 with operations moving into the northern half of that cell in fall 2011. In summer 2012, the remaining features of Cell 4 were completed, including moving the primary and secondary leachate sumps to their locations on the southern perimeter of the cell. Cell 5A was excavated north of Cell 4 in summer 2012 with construction completed in 2013. Cell 5B was subsequently completed in the summer of 2017, Cell 5C during the summer of 2019, Cell 5D was completed in 2021 and Cell 5E was completed in 2023. Cell 6A was constructed in 2024 and is where current filling operations are taking place. Cell 6, the final cell of the currently approved landfill, and started

accepting waste in 2025. See the Attached map showing the landfill cell locations, which is also the area of land use approval for municipal solid waste disposal.

This permit does not include municipal solid waste disposal on the area south of Coffin Butte Road that is the subject of an expansion proposal with Benton County. DEQ cannot include that area in this permit until and if a Land Use Compatibility Statement (LUCS) is approved by Benton County, and the permittee must submit a significant permit modification application to add that area to the Title V air permit.

For the current landfill, solid waste in Cells 1/1A and the Closed Landfill is generally inferred to rest on bedrock, which in places was lined with clay (e.g., in Cell 1). Cells 2 through 6 are constructed with composite liners and leak detection systems, with Cells 3 through 6 also designed with underdrains.

Landfill gas (LFG) generated from the decomposition of the MSW is actively collected by a series of horizontal and vertical gas extraction wells, piping, and control valves and routed to the adjacent power generation plant that began operation in 1994. The plant is owned and operated by Pacific Northwest Generating Co. under a separate air permit (No. 02-9503). Excess LFG is burned in the enclosed flare which replaced the two open flares at the facility in 2024 and is owned by the landfill.

Leachate and gas condensates generated in the landfill and condensates from the gas collection system are collected in leachate ponds and disposed via tanker truck to the City of Salem wastewater treatment plant and potentially to other offsite disposal locations. The facility attempted to build an on site treatment plant but it was not successful. The WWTP is removed from the permit because it has been mothballed for years and there is no plan to reconstruct the plant.

The landfill is open Monday through Saturday from 8 am to 5 pm.

## EMISSIONS UNIT AND POLLUTION CONTROL DEVICE IDENTIFICATION

8. The emissions units at this facility are the following:
  - 8.a. Municipal solid waste landfill (LF) controlled by Landfill gas collection and extraction system (LFGCES-1) and an enclosed flare (ENCL-FL).

Landfill gas generation rate is projected by EPA's model, "LandGEM" based on waste acceptance rates. A copy of the most recent LandGEM report is attached to this review. The LandGEM version 3.1 July 2025 model was used for calculation of landfill gas generation rate and fugitive emissions from the landfill. Because the revised LandGEM model more closely matches the GHG reporting requirements in 40 CFR Part 98 Subpart HH, changes to model variables were included in the revision. The model requires two runs, one for time periods prior to 2010 and one for waste accumulation from 2010 forward, as required by the LandGEM instructions. The permittee chose to extend the model through 2035, using the bulk waste option and used the following variables in running the model:

Variable	Pre-2010 run	2010 and later
k (rate of decay)	0.057	0.067
DOC (g C/g waste)	0.20	0.170
NMOC Concentration (ppm)	600	550
Methane content (fraction)	0.5	0.5

Because the landfill has an impervious membrane over the areas of landfill with interim cover, the moderate rate of decay was used for the 2010 and later model run to reflect reduced precipitation infiltrating into the landfill, rather than the fast rate of decay.

Collected landfill gas is sent to generators for energy recovery operated by a 3<sup>rd</sup> party. Excess LFG is sent to the enclosed flare, installed in August 2024, to be burned. The GCCS is equipped with three skid blowers, each rated at 1500 scfm. An enclosed flare was installed in 2024 to comply with Division 239 requirements and replaced FL-1 and FL-2. The following table shows the flare’s specifications.

EU ID	Manufacturer	Model	Max. Flow (scfm)	Max. input heat rate (MMBtu/hr)	CO emissions (lb/MMSCF)	NO <sub>x</sub> emissions (lb/MMSCF)	NMOC Destruction Efficiency
ENCL-FL	John Zink	ZTOF	3390	92.7	111.32	33.4	98%

8.b. Municipal solid waste landfill fugitive emissions (LF-Fug) consist of the fugitive landfill gas emissions that are not captured via the GCCS. 40 CFR 98 Subpart HH, Table HH-3 is used to calculate the collection efficiency of the GCCS and will be used for compliance with the PSEL. Using values that were updated in the January 2025 rule revision, the Table HH-3 values from 2022-2024 were averaged to determine the collection efficiency, with the average collection efficiency calculated to be 81%. The permittee chose to use a much more conservative collection efficiency of 65% for PSEL calculations to account for years where cells are in transition from intermediate to final cover that may result in time periods with lower calculated collection efficiency. Because LandGEM calculates total landfill gas produced on an annual basis, the fugitive emissions use the LandGEM total LFG generated annually for the prior year, multiplied by the uncontrolled portion of LFG and divided by 12 for each month of the year.

8.c. Vehicle traffic on paved roads (PIR): This emissions unit includes vehicle traffic emissions on paved roads at the facility. The facility conducted a site-specific silt analysis on June 30, 2020. The following table shows the summary of the test results.

Sample	Dry Net Weight of minus 200 Sieve (g)	Sampling Surface Dimensions (l*w)	Sampling Surface Dimension (m <sup>2</sup> )	Site Specific sL (g/m <sup>2</sup> )
PIR-1	15.9	22	2.04	7.79

PIR-2	6.1	22	2.04	7.89
Average				7.84

According to the facility, the average weight of the vehicles on PIR is 15 tons. The particulate matter emissions from this emissions unit are based on 160,500 vehicles a year and 1.12 miles per round-trip. The facility paved some additional roads, increasing the round trip miles. Using the Western Regional Air Partnership’s (WRAP) Fugitive Dust Handbook, speed limitation to 15 miles per hour and frequent water application provides a total of 85% control.

- 8.d. Vehicle traffic on unpaved roads (UPR-1 and UPR-2): This emission unit includes vehicle traffic emissions on two sections of unpaved roads in the facility, one of which has public vehicles (UPR-1) and the other is used for industrial vehicles (UPR-2). The unpaved roads are controlled by limiting vehicle speed to 15 miles per hour and water application. According to the samples collected on June 30, 2020, UPR-1 and UPR-2 had the following silt contents:

UPR-1		UPR-2	
Sample	Percent Silt	Sample	Percent Silt
UPR-1A	7.9%	UPR-2A	6.9%
UPR-1B	7.1%	UPR-2B	8.6%
		UPR-2C	8.5%
Average	7.5%	Average	8.0%

The facility reported 42,500 vehicles/yr on UPR-1 with 0.175 miles per roundtrip and 118,000 vehicles/yr on UPR-2 with 1.52 miles per roundtrip. The facility paved some of the UPR-1 roads in 2022, reducing the round trip miles. Using the Western Regional Air Partnership’s (WRAP) Fugitive Dust Handbook, speed limitation to 15 miles per hour results in 66.7% control and frequent water application provides 55% control, for a total of 85% control.

- 8.e. Tippers (TIP-2 and TIP-3): Tippers are used to place waste into cells. They are stationed near the active cells, and are moved as the cells fills up. They are equipped with diesel engines. TIP-2, installed in 2017, is equipped with a Caterpillar C6.6 225 HP engine and runs about 3,500 hours/yr, replacing Tipper 1. TIP-3, installed in 2022 to replace TIP-1, is equipped with a Caterpillar C4.4 173.5 hp engine and is expected to run 3,500 hours/yr. Both engines run on diesel and TIP-2 meets EPA Tier 3 engine standards and TIP-3 meets EPA Tier 4 engine standards.
- 8.f. Petroleum contaminated soils (PCS) are received to be used for daily cover at the landfill. The facility estimates receiving 75,000 tons of PCS a year.
- 8.g. The following table shows aggregate insignificant activities/emissions at this facility:

Aggregate Insignificant Emissions			
Pollutant	Activity	Reference	Emissions (tons/yr)
PM	portable light plant		0.003
	Tipping & dump truck drops	AP-42, 13.2.4-1	0.189
	Total:		<b>0.192</b>
PM <sub>10</sub>	portable light plant		0.003
	Tipping & dump truck drops	AP-42, 13.2.4-1	0.089
	Total:		<b>0.092</b>
PM <sub>2.5</sub>	portable light plant		0.003
	Tipping & dump truck drops	AP-42, 13.2.4-1	0.014
	Total:		<b>0.017</b>
CO	portable light plant		0.008
	trash pumps		0.059
	Total:		<b>0.067</b>
SO <sub>2</sub>	portable light plant		<b>0.003</b>
NO <sub>x</sub>	portable light plant		0.471
	trash pumps		0.002
	Total:		<b>0.473</b>
VOC/NMOC	leachate collection pond		0.23
	portable light plant		0.003
	trash pumps		0.003
	Total:		<b>0.236</b>
GHG	portable light plant		13.55
	trash pumps		2.82
	Total:		<b>16.37</b>

9. Categorically insignificant activities include the following:

- 9.a. Constituents of a chemical mixture present at less than 1% by weight of any chemical or compound regulated under OAR Chapter 340, Divisions 200 through 268, excluding Divisions 248 and 262, or less than 0.1% by weight of any carcinogen listed in the U.S. Department of Health and Human Service's Annual Report on Carcinogens when usage of the chemical mixture is less than 100,000 pounds/year
- 9.b. Evaporative and tail pipe emissions from on-site motor vehicle operation
- 9.c. Distillate oil, kerosene, and gasoline fuel burning equipment rated at less than or equal to 0.4 million Btu/hr
- 9.d. Natural gas and propane burning equipment rated at less than or equal to 2.0 million Btu/hr
- 9.e. Office activities
- 9.f. Janitorial activities
- 9.g. Personal care activities
- 9.h. Groundskeeping activities including, but not limited to building painting and road and parking lot maintenance
- 9.i. On-site recreation facilities
- 9.j. Instrument calibration
- 9.k. Maintenance and repair shop
- 9.l. Air cooling or ventilating equipment not designed to remove air contaminants generated by or released from associated equipment

- 9.m. Refrigeration systems with less than 50 pounds of charge of ozone depleting substances regulated under Title VI, including pressure tanks used in refrigeration systems but excluding any combustion equipment associated with such systems
- 9.n. Temporary construction activities
- 9.o. Accidental fires
- 9.p. Air vents from air compressors
- 9.q. Routine maintenance, repair, and replacement such as anticipated activities most often associated with and performed during regularly scheduled equipment outages to maintain a plant and its equipment in good operating condition, including but not limited to steam cleaning, abrasive use, and woodworking
- 9.r. Electric motors
- 9.s. Storage tanks, reservoirs, transfer and lubricating equipment used for ASTM grade distillate or residual fuels, lubricants, and hydraulic fluids
- 9.t. On-site storage tanks not subject to any New Source Performance Standards (NSPS), including underground storage tanks (UST), storing gasoline or diesel used exclusively for fueling of the facility's fleet of vehicles
- 9.u. Pressurized tanks containing gaseous compounds
- 9.v. Storm water settling basins
- 9.w. Fire suppression and training
- 9.x. Emergency generators and pumps used only during loss of primary equipment or utility service due to circumstances beyond the reasonable control of the owner or operator, or to address a power emergency, provided that the aggregate horsepower rating of all stationary emergency generator and pump engines is not more than 3,000 horsepower. If the aggregate horsepower rating of all stationary emergency generator and pump engines is more than 3,000 horsepower, then no emergency generators and pumps at the source may be considered categorically insignificant
- 9.y. Ash piles maintained in a wetted condition and associated handling systems and activities

EGEN is part of Categorically Insignificant Activities and is a 33.5 hp diesel engine and used for emergency power at the scale house. Because it was installed prior to 2006, it is subject to NESHP ZZZZ and those conditions are included in the Insignificant Activities section of the permit.

## **EMISSION LIMITS AND STANDARDS, TESTING, MONITORING AND RECORDKEEPING**

## 10. Oregon Administrative Rules (OAR)

- 10.a. OAR 340-208-0210(1): The Permittee must minimize fugitive emissions. A weekly monitoring of excess fugitive emissions is required. This rule is applicable facility-wide, and specifically to fugitive emissions units PIR, UPR-1, UPR-2 and CDC.
- 10.b. OAR 340-208-0300 and OAR 340-208-0450: Nuisance and particulate matter conditions. Both conditions are monitored by compliant investigations. These rules are state-enforceable only and are applicable facility-wide.
- 10.c. OAR 340-248-0280(10) and 340-248-0280(11): Coffin Butte Landfill has a dedicated disposal area for asbestos containing material (ACM). ACM waste is subject to disposal and cover standards of these rules as well as recordkeeping and notification requirements. These rules are state-enforceable only.
- 10.d. OAR 340-208-0110(3): These regulations are applicable to the flare (ENCL-FL), with an opacity limit of 20%, and TIP-2 and TIP-3, as they only apply to non-fugitive emission sources. Because the flare burns landfill gas, little visible emissions are expected as long as the facility complies with the monitoring requirements specified in OAR 340-236-500 and NESHAP Subpart AAAA and one source test in conjunction with the PM and emission factor verification test. Monitoring was added with weekly EPA Method 22 surveys, followed by EPA Method 9 test if any visible emissions are noted in the survey. Because TIP-2 and TIP-3 are EPA Certified Tier 3 and Tier 4 engines, PM emissions are calculated to be below 1 ton/year, no monitoring is required.
- 10.e. OAR 340-215: These regulations require annual reporting of greenhouse gas emissions and are state-only requirements. These regulations refer to reporting methodology in 40 CFR Part 98; however, DEQ has not adopted the 2024 revision to 40 CFR Part 98 which included revised GWPs. Currently, the GWPs from the prior rule issuance will be used in DEQ reporting and calculations.
- 10.f. OAR 340-226-0210(2): Particulate emissions are limited to 0.10 gr/dscf for ENCL-FL and TIP-2 and TIP-3. DEQ has included a source test once during the permit term to demonstrate compliance with this limit for ENCL-FL and also included emission factor verification test for CO and SO<sub>2</sub>. Because TIP-2 and TIP-3 are EPA Certified Tier 3 and Tier 4 engines, PM emissions are calculated to be below 1 ton/year, no monitoring is required.
- 10.g. OAR 340-226-0130: TACT is required for existing sources that have the following emissions:
- EU emits any criteria pollutant > 10 tpy or > 5 tons/year PM;
  - EU is not subject to Major NSR/PSD or type A State NSR (division 224), NSPS (division 238), rules for areas with unique air quality needs (division 240), or applicable standards in incinerator rules (division 230), wood

products rules (division 234), specific industry rules (division 236) for new or modified sources;

- DEQ determines that proposed air pollution control devices and emission reduction processes do not represent TACT.

Because Division 236 applies to the facility for NMOC emissions, that pollutant is not subject to TACT. For other pollutants from the landfill, a flare is considered TACT for control of landfill emissions.

- 10.h. OAR 340-236-0500: Emission Standards for Municipal Solid Waste Landfills. DEQ submitted a state plan for existing MSW landfills in response to the August 29, 2016, promulgation of Federal Emission Guidelines Cf and NSPS Subpart WWW for MSW landfills. EPA approved the plan and published it in the Federal Register on October 8, 2020, stating the effective date of the plan was November 9, 2020. Because the facility is considered an existing source, this plan is replacing the NSPS Subpart WWW rule. If the facility expands the current capacity of the landfill, they will be subject to NSPS Subpart XXX. This rule is applicable facility-wide.

Because the facility's NMOC emission rate is above the 34 MG threshold, the facility is required to install a gas control and collection system that meets the standards specified in 40 CFR 60.40f. They are required to meet the monitoring requirements as specified in 40 CFR 60.37f. One clarification is that 40 CFR 60.34f(c) has a well temperature upper limit of 131°F while 40 CFR 63.1958(c)(1) sets the upper limit at 145°F; however 40 CFR 60.34f directs that once permittee to complies with 40 CFR 63.1958, they cannot return to the compliance provisions of 40 CFR 60.34f. Therefore, the well temperature limit is set at 145°F.

- 10.i. OAR 340-239: The state only regulations apply to methane emissions from landfills, and require quarterly surface emission monitoring, annual performance testing of landfill gas control devices, wellhead monitoring, and reporting.

## 11. New Source Performance Standards (NSPS)

Even though the facility is currently not subject to any NSPS requirements, per OAR 340-236-0500, they are required to control the landfill gas with an enclosed flare that meets the control requirements and testing outlined in 40 CFR 60.33f(c)(1), as referenced in OAR 340-236-0500. When Flare 2 was installed in 2015, it was not tested within 180 days of startup. DEQ issued a Warning Letter with an Opportunity to Correct on December 28, 2018. Responding to the letter, the facility conducted a performance test on March 4, 2019 and demonstrated compliance with 40 CFR 60.33f(c)(1). The landfill has replaced Flare 2 with ENCL-FL, which was tested for and demonstrated compliance with OAR 340-236-0500 and 40 CFR 60.33f(c)(2).

Note: The landfill was previously subject to NSPS Subpart WWW and emission guidelines in 40 CFR Part 60 Subpart Cf; however, the state rules in OAR 340-236-0500 were accepted by EPA to meet the emission guidelines and the NSPS, removing applicability of NSPS Subpart WWW. The landfill is not currently subject to any other requirements under the NSPS. However, if the landfill expands its current design capacity, they will be subject to NSPS Subpart XXX as a modified source.

The facility operates Tippers 2 and 3, the trash pumps, and the light plant that are considered non-road engines, so are not subject to the NSPS Subpart JJJJ for stationary internal combustion engines.

12. National Emission Standard for Hazardous Air Pollutants (NESHAP) and other Federal rules:

12.a. Part 61, Subpart M: The facility is subject to this subpart because the landfill operates an Asbestos Containing Materials waste site. This rule is federally enforceable only as Oregon DEQ has not adopted this Subpart.

12.b. Part 63, Subpart AAAA: Per §63.1935(a), the landfill (LF) is subject to NESHAP Subpart AAAA because:

- the landfill has accepted waste since November 8, 1987; and
- the landfill has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m<sup>3</sup>) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to §63.1959.

The most recent revision of the rule, effective on February 14, 2022, includes operation and compliance requirements for MSW landfills to be consistent with new EG rules in NSPS Subparts WWW and XXX. Even though Oregon DEQ's state plan (OAR 340-236-500) has been approved by EPA to meet the requirements of NSPS WWW and emission guidelines in 40 CFR Part 60 Subpart Cf, the facility is also subject to the requirements of NESHAP Subpart AAAA.

12.c. 40 CFR Part 63, Subpart ZZZZ (RICE NESHAP): The facility has a 33.5 HP emergency generator near the scale house. The following are the generator's specifications.

Katolight Generator  
 Model: D25FGP4  
 Serial: LM312272-E45959  
 Equipment ID GEN995959  
 Standby Service Engine model 3.1542  
 Engine Plate: Perkins England, CM35007  
 Diesel Fuel 25 KW

The emergency generator located near the scale house and used for an emergency purposes only. Even though it is considered as a categorically insignificant activity per OAR 340-200-0020(23)(uu), the generator is subject to NESHAP Subpart ZZZZ.

All the federal regulations applicable to the generator were added to the permit. The date of the installation is unknown, but it has been in operation before 2006.

- 12.d. CAM (40 CFR Part 64): The facility is not subject to CAM for the reasons listed. The only emissions unit with a control device is LF with control by ENCL-FL; however, the only pollutants controlled by the flare are NMOC, VOC, H<sub>2</sub>S and TRS. For NMOC and VOC, the pre-control emissions are greater than 100 tons/year; however, there are no limits or standards for VOC, so CAM does not apply. A NESHAP regulates NMOC emissions and provides sufficient monitoring, so NMOC emissions from the flare are exempt from CAM. Pre-control emissions for those pollutants assuming 99.2% control of NMOC and VOC and 99.7% control of TRS and H<sub>2</sub>S by the flare are as follows:

CAM Analysis for ENCL-FL

Pollutant	Pre-Control Emissions (tons/yr)	Limit or Standard?	NESHAP
NMOC	130	Yes	Yes
VOC	130	No	
TRS	21	No	
H <sub>2</sub> S	20	No	

Other pollutants emitted by the flare but with no pollution control are PM, PM<sub>10</sub>, PM<sub>2.5</sub>, CO, NO<sub>x</sub>, and SO<sub>2</sub>; because they have no pollution control, CAM does not apply.

- 12.e. Accidental Release Prevention (40 CFR Part 68): This facility is not subject to Part 68, risk management plan, because no chemical that is subject to this regulation is held at the facility at above the threshold.
- 12.f. Greenhouse Gas Reporting (40 CFR Part 98): Because the landfill has methane generation in amounts greater than 25,000 metric tons/year as CO<sub>2</sub>e and is in a source category in 40 CFR Part 98, Table A-3, they must report GHG emissions annually to EPA using methodology in 40 CFR Part 98, Subpart HH. Note that at the time of permitting, the Global Warming Potentials in 40 CFR Part 98 have been revised; however DEQ has not yet adopted the rule revision and reporting to DEQ's GHG program will use the prior rule version.
13. Insignificant activities: Aggregate insignificant activities are listed in Section 8.f. Since there are no controls, no visible emissions, and the emissions are less than one ton per year, DEQ does not believe monitoring, recordkeeping, or reporting is necessary for assuring compliance with the standards.
14. The facility is subject to the following updated federal standards or requirements that, at time of permit issuance, have not been adopted by the Environmental Quality Commission. For any violations of the following specific regulation, the permittee may be subject to enforcement action by EPA, but not DEQ. DEQ retains the authority to modify the permit if the EQC adopts these regulations.

<b>Applicable Federal Standards Not Yet Adopted by EQC</b>			
<b>40 CFR Part</b>	<b>Subpart</b>	<b>Federal Register Citation</b>	<b>Promulgation Date</b>
63	A – General Provisions	85 FR 73854	11/19/2020
63	A – General Provisions	86 FR 13821	3/11/2021
63	A – General Provisions	85 FR 78463	12/04/2020
63	A – General Provisions	87 FR 31186	05/23/2022
63	A – General Provisions	88 FR 18412	03/29/2023
63	A – General Provisions	89 FR 16424	03/06/2024
63	A – General Provisions	89 FR 23319	04/03/2024
63	A – General Provisions	89 FR 24171	04/05/2024
63	A – General Provisions	89 FR 38564	05/07/2024
63	A – General Provisions	89 FR 41691	05/13/2024
63	A – General Provisions	89 FR 43151	05/16/2024
63	A – General Provisions	89 FR 55731	07/05/2024
63	A – General Provisions	89 FR 57752	07/16/2024
63	A – General Provisions	89 FR 73307	09/10/2024
63	A – General Provisions	89 FR 94907	11/29/2024
63	A – General Provisions	90 FR 1040	01/07/2025

## PLANT SITE EMISSION LIMITS

15. Provided below is a summary of the baseline emissions rate, netting basis, and plant site emission limits.

Pollutant	Baseline Emission Rate (tons/yr)	Netting Basis		Plant Site Emission Limit (PSEL)		
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)
PM	1	1	1	24	73	49
PM <sub>10</sub>	0.4	0	0	14	26	12
PM <sub>2.5</sub>	NA	NA	3	NA	12	NA
CO	1	2	1	99	119	20
NO <sub>x</sub>	0	0	0	39	34	-5
SO <sub>2</sub>	0	0	0	39	42	3
VOC	10	4	10	39	216	177
NMOC	11	11	11	49	229	180
TRS	2	NA	2	NA	24	NA
H <sub>2</sub> S	2	NA	2	NA	23	NA
GHG (CO <sub>2</sub> e)	182,900	NA	182,900	NA	699,300	NA
GHG (CO <sub>2</sub> e excluding biogenic)	NA	NA	NA	NA	544,900	NA

16. The baselines for the criteria pollutants were established in the previous permit but were recalculated with a revised LandGEM version 3.1 report including Cell zero that was present during the baseline period (1977). GHG emission baseline was established based on the 2010 GHG reporting to DEQ, in accordance with OAR 340-222-0048(1)(b).
17. In accordance with prior OAR 340-222-0041 rule requirements, the previous levels for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, SO<sub>2</sub>, CO, VOC and NMOC reflect the generic PSEL levels since the anticipated emissions were greater than DEQ's de minimis levels but less than the significant emission rate (SER) for these pollutants. PSEL rules have been modified to eliminate the generic PSEL concept so the proposed PSELs are set at the facility's potential to emit. While DEQ typically sets the PSEL at the permit term for PSEL development at landfills, the permittee chose to permit through 2035 to account for continued waste accumulation and landfill gas generation.
18. The baseline has been updated to use current road emission equations for particulate matter emissions and provide LandGEM estimates of CO, NMOC emissions during baseline based on waste in Cell Zero at that time. These updates also change the netting basis for those pollutants. Also included in the baseline emission rate are now TRS and H<sub>2</sub>S emissions, using current concentration measurements in LFG. The VOC netting basis also changed because AP-42 guidance changed from calculating VOC as 39% of NMOC to 93.5% of NMOC.
19. A PM<sub>2.5</sub> PSEL is added during this permit action, as well as PM<sub>2.5</sub> netting basis calculated in accordance with OAR 340-222-0046(2)(b). According to OAR 340-222-0046(2)(b), DEQ can increase the PM<sub>2.5</sub> netting basis so that the PM<sub>2.5</sub> PSEL does not exceed the PM<sub>2.5</sub> netting basis by more than the SER when it is initially established. In this case, the PM<sub>2.5</sub> netting basis was calculated as zero, but it was increased to 3 tons/year. In accordance with OAR 340-222-0048(3), no baseline emission rate is established for PM<sub>2.5</sub>.
20. A GHG PSEL is added during this permit action, as well as a baseline emission for GHG. There are two GHG PSELs, one that includes biomass CO<sub>2</sub> and one that does not include biomass CO<sub>2</sub>. The biomass deferral was vacated for federal law (New Source Review and Prevention of Significant Deterioration) only, not state law (Plant Site Emission Limits). The GHG PSEL is based on the GWP contained on April 25, 2024 edition of 40 CFR Part 98. EPA changed the GWP for methane and nitrous oxide.
  - 20.a. The GHG baseline emission rate, netting basis and PSEL that all include biomass CO<sub>2</sub> are for tracking whether PSD is triggered for anyway sources (sources that trigger NSR/PSD for other regulated pollutants).
  - 20.b. The GHG PSEL that does not include biomass CO<sub>2</sub> is for PSEL purposes only. There is no baseline emission rate or netting basis for GHGs that do not include biomass CO<sub>2</sub> because the baseline emission rate and netting basis are the mechanism for tracking increases that may trigger NSR/PSD.
21. TRS and H<sub>2</sub>S PSELs are added during this permit action, based on testing conducted on landfill gas composition both at the landfill (in 2019) and at PNGC in 2020 (permit number 02-9503-TV-01) which combusts the landfill gas in engines for power generation. Based on those results, the emissions of TRS and H<sub>2</sub>S are higher than those calculated using the

default concentrations in the LandGEM program, and they are above de minimis levels so required PSELS. Because the permittee did not have access to the PNGC sulfur test data prior to this permit action, the previously calculated emissions of TRS and H<sub>2</sub>S were below the de minimis values. Additional sulfur sampling of the inlet gas to the flare is added to this permit to verify the sulfur emissions.

22. Increases in PSELS that are greater than or equal to the SER over the netting basis trigger State Type B NSR, and an air quality analysis was required.

#### SIGNIFICANT EMISSION RATE

23. The proposed PSELS are greater than or equal to the significant emission rate (SER) over the netting basis for PM, PM<sub>10</sub>, SO<sub>2</sub>, VOC, CO, NMOC, TRS, and H<sub>2</sub>S as shown below and an air quality analysis for those pollutants with NAAQS is required. Although the GHG PSEL is greater than the SER over the netting basis, GHGs are not subject to State NSR per OAR 340-224-0010(2)(c).
24. Because the PM, PM<sub>10</sub>, CO, VOC, SO<sub>2</sub>, NMOC, TRS, and H<sub>2</sub>S PSELS are equal to or greater than the netting basis by more than the SER, the facility triggered Type B NSR and an air quality analysis was required for those pollutants that have an NAAQS. In addition, any other pollutant with a short term standard was required to be included in the modeling, so short term emissions of PM<sub>2.5</sub> and NO<sub>x</sub> were included in the modeling. The air quality analysis review report is included with this document as an attachment.
25. The air quality analysis indicated that the emissions were below the NAAQS for all pollutants; however, PM<sub>2.5</sub> and NO<sub>x</sub> were relatively close to the NAAQS, additional permit requirements were added to the permit to ensure NAAQS compliance. Work practice requirements including posted 15 miles per hour speed limits and watering to minimize fugitive emissions were included for onsite paved and unpaved roads. Source test requirements to verify NO<sub>x</sub> emissions from the flare were added to the permit.
26. A MERPS analysis was conducted for VOC emissions to demonstrate compliance with the ozone NAAQS, because VOC is an ozone precursor.
27. Because there are no air quality standards for PM, NMOC, TRS, and H<sub>2</sub>S, no air quality analysis is required for those pollutants, and no further action is needed to meet the Type B NSR requirements.
28. The increases in SO<sub>2</sub> since the baseline period are all from physical changes, since the facility did not operate any combustion devices in the baseline period. Therefore, the increases in SO<sub>2</sub> are considered a major modification. The increases in CO emissions from physical changes are greater than the SER, so that is also considered a major modification. In this case, since the facility is not a Federal Major Source (>250 tons/year of any regulated pollutant except GHG), and the facility is located in an attainment area, the major modification only triggers State Type B NSR.

Pollutant	SER	Netting Basis	Requested PSEL	Requested increase over netting basis	Increase due to increased utilization of existing equipment	Increase due to physical or operational changes
PM	25	1	73	72	63	9
PM <sub>10</sub>	15	0	26	26	17	9
PM <sub>2.5</sub>	10	3	12	9	0	9
CO	100	1	119	118	13	105
NO <sub>x</sub>	40	0	34	34	0	34
SO <sub>2</sub>	40	0	42	42	0	42
VOC	40	10	216	206	202	4
NMOC	50	11	229	218	216	2
TRS	10	2	24	22	22	0
H <sub>2</sub> S	10	2	23	21	21	0
GHG (including biogenic)	75,000	182,900	699,300	516,400	462,900	53,500

## HAZARDOUS AIR POLLUTANTS

29. A table showing estimated hazardous air pollutants (HAPs) from Coffin Butte Landfill is attached to this review, and a summary of the highest pollutants included below. The calculation is based on the maximum emissions in the permitting period through 2035, and assuming the collection efficiency of the GCCS is 65%, although calculated collection efficiency has been greater than 80%. The facility is a major source of HAPs, with total HAP emissions greater than 25 tons/year, but the highest single HAP emissions are less than 10 tons/year.

HAP Pollutant	Potential Emissions (tons/year)
Hydrogen Chloride	3.4
Ethylbenzene	1.2
Dichloromethane	2.9
Formaldehyde	1.5
Hexane	1.4
Perchloroethylene	1.5
Toluene	8.5
Vinyl chloride	1.1
Xylene	3.0
All Others	5.0
Total	29.5

## **CLEANER AIR OREGON RISK ASSESSMENT**

30. The Cleaner Air Oregon Toxic Air Contaminant emissions inventory for this source can be found on this website: <https://www.deq.state.or.us/msd/profilerReports/traacs.asp?id=02-9502-TV-01>
31. Coffin Butte Landfill has not been called in and therefore, has not performed a risk assessment.

## **TOXICS RELEASE INVENTORY**

32. The Toxics Release Inventory (TRI) is a federal program that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment, over which DEQ has no regulatory authority. It is a resource for learning about toxic chemical releases and pollution prevention activities reported by certain industrial facilities. Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) created the TRI Program. In general, [chemicals covered by the TRI Program](#) are those that cause:
  - 32.a. Cancer or other chronic human health effects;
  - 32.b. Significant adverse acute human health effects; or
  - 32.c. Significant adverse environmental effects.
33. There are currently over 650 chemicals covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual TRI reports on each chemical.
34. Coffin Butte Landfill is not covered by the TRI program because:
  - 34.a. It is not one of the specific industry sectors required to report under the TRI program.

## **GENERAL BACKGROUND INFORMATION**

35. The source is located in an area that is in attainment with all National Ambient Air Quality Standards (NAAQS) and is not located within 100 km (62 miles) of any Class I area. The facility is located within 30 km of the Salem SKATS.
36. A Land Use-Compatibility Statement signed by Benton County on March 6, 1997, granted unconditional approval.
37. Other permits issued by the Department of Environmental Quality for this source include an NPDES Permit and a Solid Waste Disposal Permit.

## **COMPLIANCE HISTORY**

38. DEQ issued a Warning Letter with Opportunity to Correct (2018-WLOTC-1084) on September 29, 2015 for Title V recordkeeping violations.

39. DEQ issued a Warning Letter with Opportunity to Correct (2018-WLOTC-2801) on August 1, 2017, for installing a new tipper without a Notice of Approval to Construct. Corrective action required the permittee to submit an application for Notice of Approval to Construct which was submitted on July 19, 2017.
40. DEQ issued a Warning Letter with Opportunity to Correct (2018-WLOTC-4139) on December 20, 2018. It was discovered that the facility had not conducted an initial performance test on Flare 2 within 180 days of the startup. The test was required to be in compliance with 40 CFR 60.18. The facility conducted a performance test on March 4, 2019, and demonstrated compliance with §60.18.
41. DEQ issued another Warning Letter with Opportunity to Correct (2024-WLOCTC-9427) on July 10, 2024, for not testing Flare 1 or Flare 2 for methane destruction as required by division 239. The facility replaced Flares 1 and 2 with ENCL-FL. Testing of ENCL-FL occurred October 23, 2024, and again on November 7, 2024, with both tests demonstrating compliance with OAR 340-239-0110(2)(b) showing methane destruction efficiency greater than 99%. Due to operational problems during the October 23, 2024 test, repairs were conducted on the control panel and control logic after the test; so a re-test was conducted in November 2024.
42. A Pre-Enforcement Notice (2025-PEN-9928) was issued on June 25, 2025, for exceedances of the NMOC PSEL starting in September 2024, and occurring monthly since that time. The PEN notes that the permittee submitted a significant modification application in February 2023, requesting an increase in the NMOC PSEL due to additional waste accumulation and decomposition, which caused increasing NMOC emissions.
43. A Pre-Enforcement Notice (2025-PEN-10025) was issued on November 6, 2025, for surface emission monitoring deficiencies, failure to remonitor and take corrective actions, failure to install and operate a gas collection and control system designed to handle the maximum expected gas generation flow rate, failure to amend the Design Plan, failure to operate the control system at all times when collected gas is routed to the system, failure to conduct monthly monitoring at each wellhead, and failure to maintain the landfill cover and conduct monthly inspections.. DEQ is requesting corrective actions that include a fugitive dust and cover integrity study and plan, a revised Design Plan for the gas collection and control system, and implementation of drone usage for surface emission monitoring,
44. Complaints over the last five years have been as follows:

Year	Number of Complaints Received	Type
2020	6	Odor
2021	15	Odor
2022	19	Odor
2023	9	Odor
2024	67	Odor (66), dust (1)

All complaints are investigated to determine if any operational malfunctions have occurred. The facility conducts a daily driving survey for odors surrounding the facility.

45. The last inspection conducted at this facility occurred on August 22, 2024, in conjunction with an EPA inspection on June 21, 2024. The facility was determined to be out of compliance with the Title V permit for exceeding the NMOC PSEL, with a reference to EPA's ongoing investigation and the surface emission monitoring exceedances noted by EPA during its inspection. In October 2025, EPA formally requested that DEQ take the lead on any appropriate enforcement actions resulting from its inspections and follow up information requests.

Previous inspections are listed below:

Inspection Date	Status	Compliance Action
6/23/2022	Out of Compliance	2025-PEN-10025
7/17/2019	In Compliance	NA
7/20/2017	Out of Compliance	2017-WLOTC-2801 (see above)
8/6/2015	In Compliance	NA

## SOURCE TEST RESULTS

46. The facility conducted an initial compliance test on Flare-2 on March 4, 2019. It was determined to be in compliance with 40 CFR 60.18. That flare has been removed from service and replaced with ENCL-FL.
47. DEQ requested Coffin Butte Landfill to conduct sampling of LFG to measure sulfur contents. In the past few years, it was discovered emissions from LFG generators operated by Pacific Northwest Generating Co. (PNGC) had much higher sulfur dioxides (SO<sub>2</sub>) emissions than EPA's AP-42 default concentration based on the site specific emission tests. Because PNGC's LFG originated from the Coffin Butte Landfill, it is assumed that the LFG in Valley landfill shares the same sulfur contents. In general, most SO<sub>2</sub> emissions are caused by combustions of H<sub>2</sub>S contained in LFG. Therefore, DEQ requested Coffin Butte Landfill to conduct a test measuring total reduced sulfur (TRS) including H<sub>2</sub>S in the inlet LFG.
48. Coffin Butte Landfill conducted LFG sampling on August 6, 2019 responding to DEQ's request. However, the TRS concentration was much lower than expected. The average of three sampling was 7.47 ppm whereas default H<sub>2</sub>S concentration in LandGEM is 36 ppmv. However, the sampling conducted by PNGC shows an average of 300 ppmv of H<sub>2</sub>S. Because both permittee's samples were collected at the same location, and PNGC's sampling was more robust than Valley landfills, the SO<sub>2</sub> emissions were calculated by averaging sampling results conducted by PNGC and the landfill. The sampling results from PNGC is attached to this review. The landfill sulfur test results from 8/6/2019 are listed below:

Pollutant	Average Concentration (ppm)
Hydrogen Sulfide	3.48
Methyl Mercaptan	1.38
Dimethyl sulfide	2.33
Dimethyl trisulfide	1.42
TRS	7.47

Note: All other measured sulfur compounds were below method detection limits for all three runs.

49. During the last permit renewal period in 2009, DEQ received a comment concerning emission factors for paved roads (PIR). The current permit uses AP-42’s default silt loading rate to calculate the PM emissions from PIR. DEQ agreed that the emission factor may not be representative of silt loading of this landfill and requested the facility to sample their silt content. The silt test was conducted on June 30, 2020, and the facility collected samples for both unpaved and paved roads. The following table shows the laboratory analysis of the samples.

Sample	Percent Silt
PIR-1	7.79%
PIR-2	7.89%
UPR-1A	7.9%
UPR-1B	7.1%
UPR-2A	6.9%
UPR-2B	8.6%
UPR-2C	8.5%

50. Annual source testing is required for the Enclosed Flare that has been installed to replace the two open flares at the facility. The annual testing will be conducted to demonstrate compliance with the 99 percent removal efficiency required by OAR 340 Division 239. Two initial tests were completed in 2024, with results listed below. While both tests demonstrated compliance with the 99% methane destruction efficiency requirement, operational concerns during the October 22, 2024, test caused repairs to the control panel wiring and control logic to prevent temperature fluctuations, with a re-test on November 7, 2024, after the repairs were completed.

Pollutant or Test	Date	Test Result	Date	Test Result
NMOC Inlet ppm*	10/22/2024	239	11/7/2024	138
NMOC Exhaust ppm*		>3.04		<0.42
NMOC Exhaust* lb/MMSCF		>9.13		<1.16
Methane Inlet ppm		531,333		509,000
Methane Exhaust ppm		>181.2		<20.01
Methane Exhaust lb/MMCF		>101.18		<10.43
Methane Destruction Efficiency, %		<99.54%		>99.95%

\*NMOC results presented as hexane

**PUBLIC NOTICE**

51. This permit was originally put on public notice from November 15, 2024, to June 6, 2025, with a public hearing held on May 20, 2025. The comment period was re-opened and extended due to rescheduling of the public hearing, with the comment period open from April 18 to June 6, 2025. After the comment period and hearing, DEQ reviewed the comments and modified the permit, resulting in the need for a second public comment period.
52. The permit will be put on notice after permit revisions from comments on March 23, 2026 to May 15, 2026. Comments may be submitted in writing during the comment period. DEQ has scheduled a public hearing on May 12, 2026, based on a request by the permittee. A proposed permit will be sent to EPA for a 45-day review period. DEQ may request and EPA may agree to an expedited review of 5 days if there were no substantive or adverse comments during the comment period.
53. If EPA does not object in writing, any person may petition the EPA within 60 days after the expiration of EPA's 45-day review period to make such objection. Any such petition must be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided for in OAR 340-218-0210, unless the petitioner demonstrates it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period.

**Attachments:**

Emission Detail Sheets

Sulfur Sampling Data

Alternate Monitoring Plan Response Letter from DEQ

LandGEM Report

Air Quality Analysis Memo

Facility map with landfill cells identified

Public Comments received November 15, 2024, through June 6, 2025, and response to comments

EMISSIONS DETAIL SHEETS Requested PSEL

Emission Unit	ID	Pollutant	Annual Production	Units	Emission Factor	Units	Reference	Emissions (tons/yr)
Landfill, Enclosed flare	ENCL-FL	PM	1781.78	MMCF LFG/yr	9.35	lbs/MMSCF LFG	AP 42 2.4-5 @55% methane in LFG (2025)	8.33
		PM <sub>10</sub>			9.35	lbs/MMSCF LFG	AP 42 2.4-5 @55% methane in LFG (2025)	8.33
		PM <sub>2.5</sub>			9.35	lbs/MMSCF LFG	AP 42 2.4-5 @55% methane in LFG (2025)	8.33
		CO			111.32	lbs/MMSCF LFG	manufacturer spec.	99.17
		NO <sub>x</sub>			33.4	lbs/MMSCF LFG	manufacturer spec.	29.76
		VOC			1.17	lbs/MMSCF LFG	Source test & AP-42 2.4	1.04
		SO <sub>2</sub>			44.7	lbs/MMSCF LFG	Site specific Samples 2019-20*	39.83
		NMOC			1.17	lbs/MMSCF LFG	Source test 2024	1.04
		H <sub>2</sub> S			0.07	lbs/MMSCF LFG	site specific sampling, 99.7% control, AP-42 2.4-3 (2025)	0.06
		TRS			0.07	lbs/MMSCF LFG		0.06
		CO <sub>2</sub> e			44908.39	lb CO <sub>2</sub> e/MMSCF LFG	40% CO <sub>2</sub> in LFG, pass through	40,008
		CO <sub>2</sub> e			55949.17	lb CO <sub>2</sub> e/MMSCF LFG	40 CFR Part 98, Subpart C	49,845
		Landfill, Fugitive			LF-Fug	CO	2,062	MMCF LFG
VOC	93.5		% of NMOC	AP42 2.4.4.1		211.08		
NMOC	LandGEM		lb/MMCF LFG	LandGEM 3.1		225.75		
TRS	23.68		lb/MMCF LFG	LandGEM 3.1 & site specific sampling		24.41		
H <sub>2</sub> S	21.98		lb/MMCF LFG			22.66		
CO <sub>2</sub> e	LandGEM		lb CO <sub>2</sub> e/MMSCF LFG	LandGEM 3.1 and 40 CFR Part 98 Subpart HH		605,801		
Paved Roads	PIR		PM	179760		VMT		
		PM <sub>10</sub>	179760	VMT	0.030	lb/VMT	AP-42 13.2.1 85% Control	2.65
		PM <sub>2.5</sub>	179760	VMT	0.007	lb/VMT	AP-42 13.2.1 85% Control	0.65
Unpaved Roads 1 (PV)	UPR-1	PM	7450	VMT	0.172	lb/VMT	AP-42 13.2.2 85% Control	0.64
		PM <sub>10</sub>	7450	VMT	0.062	lb/VMT	AP-42 13.2.2 85% Control	0.23
		PM <sub>2.5</sub>	7450	VMT	0.006	lb/VMT	AP-42 13.2.2 85% Control	0.02
Unpaved Roads 2	UPR-2	PM	179360	VMT	0.535	lb/VMT	AP-42 13.2.2 85% Control	47.97
		PM <sub>10</sub>	179360	VMT	0.151	lb/VMT	AP-42 13.2.2 85% Control	13.54
		PM <sub>2.5</sub>	179360	VMT	0.015	lb/VMT	AP-42 13.2.2 85% Control	1.35
Tipper 3 (173.5 hp)	TIP3	PM	3500	hrs/yr	0.006	lb/hr	EPA Tier 4 Std.	0.01
		PM <sub>10</sub>	3500	hrs/yr	0.006	lb/hr	EPA Tier 4 Std.	0.01
		PM <sub>2.5</sub>	3500	hrs/yr	0.006	lb/hr	EPA Tier 4 Std.	0.01
		CO	3500	hrs/yr	1.426	lb/hr	EPA Tier 4 Std.	2.50
		VOC	3500	hrs/yr	0.436	lb/hr	AP-42 3.3.1	0.76
		SO <sub>2</sub>	3500	hrs/yr	0.356	lb/hr	AP-42 3.3.1	0.62
		NO <sub>x</sub>	3500	hrs/yr	0.114	lb/hr	EPA Tier 4 Std.	0.20
		CO <sub>2</sub> e	34.48	Mgal	22,575.13	lb/Mgal	40 CFR Part 98	389.14
Tipper 2 (225 hp)	TIP2	PM	3500	hrs/yr	0.074	lb/hr	EPA Tier 3 Std.	0.13
		PM <sub>10</sub>	3500	hrs/yr	0.074	lb/hr	EPA Tier 3 Std.	0.13
		PM <sub>2.5</sub>	3500	hrs/yr	0.074	lb/hr	EPA Tier 3 Std.	0.13
		CO	3500	hrs/yr	1.29	lb/hr	EPA Tier 3 Std.	2.26
		VOC	3500	hrs/yr	0.57	lb/hr	AP-42 3.3.1	0.99
		SO <sub>2</sub>	3500	hrs/yr	0.46	lb/hr	AP-42 3.3.1	0.81
		NO <sub>x</sub>	3500	hrs/yr	1.48	lb/hr	EPA Tier 3 Std.	2.59
		CO <sub>2</sub> e	43.4	Mgal	22575.1	lb/Mgal	40 CFR Part 98	489.88
Cell Development & Closure	CDC	PM	3,120	hrs/yr	0.957	lb/hr	AP-42 11.9	1.49
		PM <sub>10</sub>	3,120	hrs/yr	0.173	lb/hr	AP-42 11.9	0.27
		PM <sub>2.5</sub>	3,120	hrs/yr	0.100	lb/hr	AP-42 11.9	0.16
Petroleum Contaminated Soils	PCS	VOC	75,000	tpy at 3% PCS	525	ppm	Company Estimate	1.18
		NMOC	75,000	tpy at 3% PCS	525	ppm	Company Estimate	1.18
Aggregate Insignificant	AI	PM					See Aggregate Insignificant Details	1
		PM <sub>10</sub>						1
		PM <sub>2.5</sub>						1
		CO						1
		SO <sub>2</sub>						1
		NO <sub>x</sub>						1
		VOC						1
		NMOC						1
CO <sub>2</sub> e						2756		

\*Based on the PNGC and facility sampling results

Aggregate Insignificant Emissions			
Pollutant	Activity	Reference	Emissions (tons/yr)
PM	portable light plant		0.003
	Tipping & dump truck drops	AP-42, 13.2.4-1	0.189
	Total:		<b>0.192</b>
PM <sub>10</sub>	portable light plant		0.003
	Tipping & dump truck drops	AP-42, 13.2.4-1	0.089
	Total:		<b>0.092</b>
PM <sub>2.5</sub>	portable light plant		0.003
	Tipping & dump truck drops	AP-42, 13.2.4-1	0.014
	Total:		<b>0.017</b>
CO	portable light plant		0.008
	trash pumps		0.059
	Total:		<b>0.067</b>
SO <sub>2</sub>	portable light plant		<b>0.003</b>
	portable light plant		0.471
	trash pumps		0.002
Total:		<b>0.473</b>	
VOC	leachate collection pond		0.23
	portable light plant		0.003
	trash pumps		0.003
	Total:		<b>0.236</b>
GHG	portable light plant		13.55
	trash pumps		2.82
	Total:		<b>16.37</b>

Baseline Emissions

ID	Pollutant	Annual Production	Units	Emission Factor	Units	Reference	Emissions (tons/yr)
LF	CO	4,682,616	m3/yr LFG	140	ppmv	LandGEM 3.1	0.8
	VOC			93.5	% of NMOC	AP-42	10.4
	TRS			273	ppmv	LandGEM 3.1	2.0
	H <sub>2</sub> S			254	ppmv	LandGEM 3.1	1.8
	NMOC					LandGEM 3.1	11.1
UPR-2	PM	7630	VMT	3.566	lb/VMT	AP-42 13.2.2 90	1.36
	PM <sub>10</sub>	7630	VMT	1.007	lb/VMT	AP-42 13.2.2 90	0.38

GHG Baseline 2010

Emission Unit	Annual Rate	Energy Content	Pollutant	Emission Factor	Emissions	GWP	CO2e	CO2e
	(mmcf)	(mmbtu/mmcf)		(kg/mmbtu)	(metric ton)		(metric ton)	(ton)
Flare	188	485	CH <sub>4</sub>	0.0032	0.292	28	8	9
	188	485	CO <sub>2</sub>	52.07	4747.743	1	4,748	5,233
	188	485	N <sub>2</sub> O	0.00063	0.057	265	15	17
Landfill*			CH <sub>4</sub>		4908	28	137,416	151,157
			CO <sub>2</sub>		16455	1	16,455	18,101
pass through CO2 through flare			CO2		3830	2	7,659	8,425
Total (excluding biogenic CO2)								151,183
Total								182,942

\*Note: Using 65% collection efficiency, resulting in 35% fugitive emissions and 10% soil oxidation for methane for LandGEM 2010 results. CO<sub>2</sub> generated from soil oxidation is added to CO<sub>2</sub> fugitive.

### HAP Emissions

Gas / Pollutant	All LFG (short tons/year)	LF Fug. Fugitive Emissions @35% (short tons/year)
1,1,1-Trichloroethane	0.43	0.152
1,1,2,2-Tetrachloroethane	1.25	0.437
1,1-Dichloroethane	1.61	0.562
1,1-Dichloroethene	0.13	0.046
1,2-Dichloroethane	0.27	0.096
1,2-Dichloropropane	0.14	0.048
Acrylonitrile	2.26	0.791
Benzene	1.00	0.351
Carbon disulfide	0.30	0.105
Carbon tetrachloride	0.00	0.001
Carbonyl sulfide	0.20	0.070
Chlorobenzene	0.19	0.067
Chloroethane	0.57	0.199
Chloroform	0.02	0.008
Dichlorobenzene	0.21	0.073
Dichloromethane	8.04	2.815
Ethylbenzene	3.30	1.156
Ethylene dibromide	0.00	0.000
Hexane	3.85	1.346
Hydrogen Chloride		0.000
Mercury (total)	3.93E-04	1.38E-04
Methyl isobutyl ketone	1.29	0.450
Perchloroethylene	4.15	1.452
Toluene	24.30	8.504
Trichloroethylene	2.49	0.871
Vinyl chloride	3.09	1.080
Xylenes	8.61	3.015
Total HAP		23.70

Reference: AP-42 2.4-1

Hazardous Air Pollutant	Concentration in LFG (ppm)	MW	Emissions to Flare (tons/yr)	Flare Control Efficiency	Flare (ENCL-FL) HAP Emissions (tons/yr)
1,1,1-Trichloroethane	0.48	133.4	0.15	98%	2.91E-03
1,1,2,2-Tetrachloroethane	1.1	167.85	0.42	98%	8.39E-03
1,1-Dichloroethane	2.4	98.95	0.54	98%	1.08E-02
1,1-Dichloroethene	0.2	96.94	0.04	98%	8.81E-04
1,2-Dichloroethane	0.41	98.96	0.09	98%	1.84E-03
1,2-Dichloropropane	0.18	112.98	0.05	98%	9.24E-04
Acrylonitrile	6.3	53.06	0.76	99.7%	2.28E-03
Benzene	1.9	78.11	0.34	99.7%	1.01E-03
Carbon disulfide	0.58	76.13	0.10	99.7%	3.01E-04
Carbon tetrachloride	4.00E-03	153.84	1.40E-03	98%	2.80E-05
Carbonyl sulfide	0.49	60.07	0.07	99.7%	2.01E-04
Chlorobenzene	0.25	112.56	0.06	98%	1.28E-03
Chloroethane	1.3	64.52	0.19	98%	3.81E-03
Chloroform	0.03	119.39	8.14E-03	98%	1.63E-04
Dichlorobenzene	0.21	147	0.07	98%	1.40E-03
Dichloromethane	14	84.94	2.70	98%	5.40E-02
Ethylbenzene	4.6	106.16	1.11	99.7%	3.33E-03
Ethylene dibromide	0.001	187.88	4.27E-04	98%	8.54E-06
Hexane	6.6	86.18	1.29	99.7%	3.88E-03
Hydrogen chloride	42	36.5		0%	3.42
Mercury (total)	2.90E-04	200.61	1.32E-04	0%	1.32E-04
Methyl isobutyl ketone	7.1	100.16	1.62	99.7%	4.85E-03
Perchloroethylene	3.7	165.83	1.39	98%	2.79E-02
Toluene	39	92.13	8.16	99.7%	0.02
Trichloroethene	2.8	131.38	0.84	98%	1.67E-02
Vinyl chloride	7.3	65.5	1.09	98%	2.17E-02
Xylene	12	106.16	2.89	99.7%	8.68E-03
Total HAP					3.619

Note: Control Efficiency from AP-42 2.4-3, Concentrations from LandGEM 3.1

Notes	Flow (MMCF/yr.)
Flare LFG	1781.78
Fugitive LFG	2061.65

Tipper HAP Emissions

Pollutant Name	EF Values (lb/Mgal)	Emissions (tons/yr)
1,3-Butadiene	0.2174	0.0085
2-Methyl naphthalene	1.23E-02	0.0005
Acenaphthene	7.35E-04	2.86E-05
Acenaphthylene	8.10E-04	3.15E-05
Acetaldehyde	0.7833	0.0305
Acrolein	0.0339	0.0013
Ammonia	0.8	0.0312
Anthracene	4.52E-04	1.76E-05
Antimony and compounds	3.18E-04	1.24E-05
Arsenic and compounds	2.77E-04	1.08E-05
Barium and compounds	3.74E-04	1.46E-05
Benz[a]anthracene	4.85E-05	1.89E-06
Benzene	0.1863	0.0073
Benzo[a]pyrene	1.44E-05	5.60E-07
Benzo[b]fluoranthene	4.44E-05	1.73E-06
Benzo[e]pyrene	3.29E-05	1.28E-06
Benzo[g,h,i]perylene	2.19E-05	8.52E-07
Benzo[k]fluoranthene	1.31E-05	5.08E-07
Beryllium and compounds	4.77E-06	1.86E-07
Cadmium and compounds	8.08E-05	3.15E-06
Chlorobenzene	2.00E-04	7.79E-06
Chromium VI	6.31E-05	2.46E-06
Chrysene	6.70E-05	2.61E-06
Cobalt and compounds	1.58E-05	6.13E-07
Copper and compounds	5.02E-04	1.96E-05
Dibenz[a,h]anthracene	1.04E-06	4.04E-08
Diesel particulate matter	16.98	0.6610
Ethyl benzene	0.0109	0.0004
Fluoranthene	3.70E-04	1.44E-05
Fluorene	2.18E-03	0.0001
Formaldehyde	2.71	0.1056
Hexane	0.0269	0.0010
Hydrochloric acid	0.19	0.0073
Indeno[1,2,3-cd]pyrene	1.07E-05	4.17E-07
Lead and compounds	3.64E-04	1.42E-05
Manganese and compounds	4.20E-04	1.64E-05
Mercury and compounds	1.51E-05	5.88E-07
Naphthalene	2.64E-02	0.0010
Nickel and compounds	1.82E-04	7.10E-06
Perylene	1.18E-06	4.59E-08
Phenanthrene	4.54E-03	1.77E-04
Phosphorus and compounds	8.40E-03	3.27E-04
Propylene	4.70E-01	0.0183
Pyrene	1.25E-03	4.87E-05
Selenium and compounds	3.76E-04	1.47E-05
Silver and compounds	4.80E-05	1.87E-06
Thallium and compounds	2.40E-04	9.35E-06
Toluene	0.11	0.0041
Xylene (mixture), including m-xylene, o-xylene, p-xylene	0.04	0.0017
Zinc and compounds	5.23E-03	0.0002

Hazardous Air Pollutant	Total HAP (tons/year)
1,1,1-Trichloroethane	0.154
1,1,2,2-Tetrachloroethane	0.445
1,1-Dichloroethane	0.573
1,1-Dichloroethene	0.047
1,2-Dichloroethane	0.098
1,2-Dichloropropane	0.049
Acrylonitrile	0.793
Benzene	0.360
Carbon disulfide	0.105
Carbon tetrachloride	0.001
Carbonyl sulfide	0.070
Chlorobenzene	0.068
Chloroethane	0.202
Chloroform	0.009
Dichlorobenzene	0.074
Dichloromethane	2.869
Ethylbenzene	1.159
Ethylene dibromide	4.53E-04
Formaldehyde	1.46
Hexane	1.351
Hydrogen chloride	3.417
Mercury (total)	2.70E-04
Methyl isobutyl ketone	0.455
Perchloroethylene	1.480
Toluene	8.533
Trichloroethene	0.888
Vinyl chloride	1.102
Xylene	3.024
All Other	0.753
Total HAP	29.535

Reference: CAO RICE Emission Factors

Engine	Fuel use (GA/hr)	Hr/yr	GA/yr
TIP3	9.85	3500	34475
TIP2	12.4	3500	43400
		Total	77875

### Sulfur Sampling of Landfill Gas: Data Summary

Date	Sample	Source	TRS (ppmv)	H2S (ppmv)
8/6/2019	Landfill test	Coffin Butte	7.5	3.48
5/1/2020	P2002404-001	PNGC	179.139	170
5/8/2020	P2002537-001	PNGC	200.76	190
5/15/2020	P2002668-001	PNGC	382.52	360
6/19/2020	P2003429-001	PNGC	328.27	310
6/19/2020	P2003429-002	PNGC	398.08	380
7/10/2020	P2003844-001	PNGC	416.68	390
7/10/2020	P2003844-002	PNGC	435.888	410
7/30/2020	P2004233-001	PNGC	277.435	260
7/30/2020	P2004233-002	PNGC	250.132	230
8/21/2020	P2004692-001	PNGC	195.436	180
8/21/2020	P2004692-002	PNGC	285.47	270
9/21/2020	P2005281-001	PNGC	162.997	130
9/21/2020	P2005281-002	PNGC	415.424	380
10/28/2020	P2006119-002	PNGC	161.014	140
Average			273	254
Max			436	410

## DEQ Response Letter to Alternative Monitoring Plan Submittal



Oregon

Kate Brown, Governor

Department of Environmental Quality  
Western Region Salem Office  
4026 Fairview Industrial Drive SE  
Salem, OR 97302  
(503) 378-8240  
FAX (503) 373-7944  
TTY 711

September 2, 2020

Mr. Ian MacNab  
Valley Landfills, Inc.  
28972 Coffin Butte Rd  
Corvallis, OR 97330-9592

Subject: Approval of Alternative Monitoring Plan  
NSPS Subpart WWW, GCCS Design Plan

Dear Mr. MacNab,

Please find the attached response letter for your Alternative Monitoring Plan. This letter is DEQ's response to Valley Landfills' requested alternatives to testing, monitoring, recordkeeping and reporting requirements in NSPS Subpart WWW under §60.752(b)(2)(i)(B). If you have any questions, please contact me at [puram.yuki@deq.state.or.us](mailto:puram.yuki@deq.state.or.us).

Sincerely,

Yuki Puram  
Natural Resource Specialist

Attachment

cc: Melissa Green, Weaver Consultants Group  
DEQ Files

September 2, 2020

Page 2

**Background:** On November 2007, Cornerstone Environmental Group submitted a Gas Collection and Control System (GCCS) design plan to DEQ on behalf of Valley Landfills, Inc. Since then, Valley Landfills submitted numerous requests for alternatives to operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions in NSPS Subpart WWW. Because the design plan had not been updated since 2007, DEQ requested the facility to update Appendix E of the original design plan, specifically Section E.8. "Alternatives to the NSPS." In accordance to §60.752(b)(2)(i)(B), the updated proposed alternative plan was submitted to DEQ by Weaver Consultants Group on behalf of Valley Landfills, Inc. and was received on February 6, 2020.

Oregon DEQ is a delegated authority to implement and enforce NSPS Subpart WWW and has a limited authority to approve minor monitoring changes as defined in 40 CFR 63.90. However, some of Valley Landfill's proposals appear to be major changes, which is outside of DEQ's delegated authority. Based on 40 CFR 63.90(a), minor change to monitoring means the following:

- (i) Does not decrease the stringency of the compliance and enforcement measures for the relevant standard;
- (ii) Has no national significance (e.g., does not affect implementation of the applicable regulation for other affected sources, does not set a national precedent, and individually does not result in a revision to the monitoring requirements); and
- (iii) Is site-specific, made to reflect or accommodate the operational characteristics, physical constraints, or safety concerns of an affected source.

Because EPA has authority to approve major changes, Valley Landfill's proposed operation and monitoring plan was sent to EPA Region 10 for review on March 24, 2020. On July 20, 2020, DEQ received EPA's responses to Valley Landfill's alternative operations and monitoring plan. The responses were prepared in collaborations with EPA's Region 10, Offices of Air Quality Planning and Standards and Office of Enforcement and Compliance Assurance. Their responses are attached to this document. Based on the EPA's responses and their guidance, DEQ developed this approval letter to Valley Landfill's alternative monitoring plan.

September 2, 2020  
Page 3

### E.1 Exclude Steep Slopes and Dangerous Areas from Surface Scan Monitoring Requirements

#### Regulatory Background:

60.753(d): Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of §60.752(b)(2)(ii) of this subpart shall ... operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

**Proposal:** Valley Landfills proposes to monitor methane concentrations at an interval of 60 meters rather than 30 meters for those areas with geomembrane cover that demonstrate compliance for three consecutive calendar quarters. WCG also proposes to exclude the following dangerous areas from monitoring: roads, the active fill area, truck traffic areas, construction areas, areas with snow or ice cover, and slopes steeper than or equal to 5:1.

**EPA Review:** NSPS WWW specifically allows exclusion from dangerous areas and areas with steep slopes from surface testing. However, WCG does not provide any details about why the proposed areas are dangerous. For example, are truck traffic areas or construction areas under the control of the landfill operators? If so, then it may be possible to coordinate monitoring with other activities. WCG does not specify the criteria the landfill will use to determine what is meant by the presence of "snow or ice cover." Without any limitations, it could interpret this phrase to mean that the presence of any snow or ice would abrogate the responsibility to perform monitoring throughout the entire landfill.

In addition, we note that when temporary conditions (e.g. construction or icy conditions) make monitoring certain segments of the landfill dangerous or impossible, DEQ may exercise enforcement discretion to allow a short-term delay in monitoring until conditions change rather than waiving the requirement to monitor.

In previous determinations, EPA has been conservative in granting requests to exclude areas from surface monitoring. EPA has also generally denied requests to increase the distance between measurements to 60 meters from 30 meters.

Regarding the alternative for areas with geomembrane cover, although Oregon DEQ has the authority to approve alternatives to required monitoring (except major changes), the EPA has generally denied similar requests.

**DEQ's Response:** **Partially approved with conditions.** DEQ denies the landfill's proposal changing the SEM interval to 30 meters instead of 60 meters for the areas with geomembrane cover that demonstrate compliance for three consecutive calendar quarters. Surface emission monitoring (SEM) is an essential monitoring method to identify issues such as gas leaks from damaged cover, crackdown or clogged gas wells. Relaxing on this requirement may lead to delay or neglect discovering those incidents that can lead to unidentified excess emissions. Therefore, this request is denied.

DEQ approves Valley Landfill to exclude dangerous areas in accordance to Section 60.752(b)(2)(i)(B). However, the following steps must be taken to ensure those dangerous areas are valid and truly unavoidable to exclude those areas from SEM.

September 2, 2020

Page 4

1. The facility must document when the surface emissions monitoring is deviated from the design plan and 40 CFR §60.753(d). The documentation(s) must be included in the semi-annual report. The documentation must include, but not limited to:
  - a. the location(s) of the monitoring excluded;
  - b. the date and time of monitoring attempted;
  - c. detailed explanation why those areas are excluded from surface monitoring; and;
  - d. the duration of time the location is excluded from the SEM.
2. If the facility wishes to exclude the same location(s) for more than two consecutive quarters, they must submit a request in writing prior to the monitoring due date.
3. If the areas are excluded from SEM long-term rather than postponing temporary, Valley Landfills must modify the design plan to reflect the changes and those changes must be approved by DEQ.

## E.2 Determination of Oxygen Levels at LFG Monitoring Points

### Regulatory Background:

40 CFR 60.753(c)(2): Unless an alternative test method is established as allowed by §60.752(b)(2)(i) of this subpart, the oxygen shall be determined by an oxygen meter using Method 3A or 3C.

**Proposal:** WCG proposes to use an on-site multi-gas analyzer in lieu of Method 3A or 3C.

**EPA Review:** Oregon DEQ has not been granted the authority to approve major changes to test methods. The authority to approve such alternative test methods has only been delegated to the group leader of the Measurement Technology Group of the Office of Air Quality Planning and Standards. A list of broadly applicable approved alternative test methods can be found at: <https://www.epa.gov/emc/broadly-applicable-approved-alternative-test-methods>.

We note that the 2016 revisions to the emission guidelines (subpart Cf) allows the use of a portable gas analyzer. See 40 CFR 60.37f(a)(2)(iii). Oregon has adopted these provisions at OAR 340-236-0500(12), which will replace the NSPS WWW requirements once the Oregon state MSW landfill plan is approved.<sup>1</sup>

**DEQ's Response:** Denied until OAR 340-236-0500 is approved by EPA. Because DEQ does not have an authority to approve this change, this request is denied until OAR 340-236-0500 is approved by EPA. Upon EPA's approval on OAR 340-236-0500, Valley Landfills may use the approved portable gas analyzer as described in 40 CFR 60.37f(a)(2)(iii).

## E.3 Operation of Passive Wells in Areas Outside of Condition 13.4

**EPA Review:** According to WCG's submittal, this was approved by Oregon DEQ in 2006. As DEQ's previous approval was not forwarded to EPA, we have not reviewed it.

---

<sup>1</sup> EPA's proposed approval of the Oregon MSW landfill plan was published in the Federal Register on March 13, 2020. No comments were received.

September 2, 2020

Page 5

**DEQ's Response: Additional information needed.** Your original request dated June 7, 2006 indicated "approval of change in operation of passive wells installed in areas outside Condition 13.4 of Title V Permit." Condition 13.4 of the permit is written as follows:

Install, within 60 days, and operate active collection system wells that collect gas from each area, cell, or group of cells in the landfill in which solid waste has been placed for: (1) 5 years or more if active, OR (2) 2 years or more if closed or at final grade.

At the time when this request was approved, Valley Landfills had numerous odor complaints and therefore additional surface and near-surface horizontal landfill gas collection wells were installed to control the odor. DEQ approved the request for passive gas collection because the odor control was an imminent issue at that time. The facility has not had consistent odor complaints in the past five years and this approval has to be reevaluated. If Valley Landfills has additional proposals related to alternative monitoring plan for passive gas collection, more information specific to those collection system have to be submitted. The information must include but not limited to: a map of the landfill showing the locations of the passive collection system and wells associated with the collection system, the locations of waste that have been deposited near the collection system, and the past oxygen concentrations, pressure and temperatures at the location.

#### **E.4 Surface Emissions Monitoring Correction Variance**

##### **Regulatory Background:**

40 CFR 60.755(c)(4): Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in paragraphs (c)(4) (i) through (v) of this section shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of §60.753(d).

(i) The location of each monitored exceedance shall be marked and the location recorded.

(ii) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance.

(iii) If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance.

If the re-monitoring shows a third exceedance for the same location, the action specified in paragraph (c)(4)(v) of this section shall be taken, and no further monitoring of that location is required until the action specified in paragraph (c)(4)(v) has been taken.

(iv) Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in paragraph (c)(4) (ii) or (iii) of this section shall be re-monitored 1 month from the initial exceedance. If the 1-month remonitoring 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 remonitoring shows an exceedance, the actions specified in paragraph (c)(4) (iii) or (v) shall be taken.

**Proposal:** WCG is proposing a variance to the 10-day window such that it would be extended by two weeks. The rationale is that unexpected weather conditions may delay the time when remonitoring is possible.

**EPA Review:** Oregon DEQ may exercise enforcement discretion on a case-by-case basis when local conditions make the required time-frame impracticable. If DEQ does not exercise its discretion, the landfill may cite local conditions as a positive defense in procedural and legal hearings. DEQ may not

September 2, 2020

Page 6

preemptively waive a time-bound requirement to perform a work practice standard as this would have the effect of decreasing the stringency of the standard.

**DEQ's Response: Denied.** As EPA suggested, DEQ does not waive a time-bound requirement without a specific occasion that prevents the facility to perform monitoring. Valley landfill may request an extension of monitoring/remonitoring at the time of weather adversity, and DEQ may approve the request based on the situation.

#### **E.5 Monitoring and New/Extended Extraction Wells**

##### **Regulatory Background:**

- 40 CFR 60.756(a): Each owner or operator seeking to comply with §60.752(b)(2)(ii)(A) for an active gas collection system shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and:
- (1) Measure the gauge pressure in the gas collection header on a monthly basis as provided in §60.755(a)(3); and
  - (2) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in §60.755(a)(5); and
  - (3) Monitor temperature of the landfill gas on a monthly basis as provided in §60.755(a)(5).

**Proposal:** For reasons of safety, WCG is proposing to exclude wells from required monitoring when wells are raised to accommodate greater levels of waste. WCG states that individual wellheads will not be excluded from required monitoring for longer than four months.

**EPA Review:** EPA has granted similar requests in the past. Provided the proportion of raised wellheads is relatively small and the length of time individual wellheads will be excluded from monitoring is relatively brief, such an alternative would be consistent with a previous EPA approval.

Note that excluding raised wells from required monitoring has typically been allowed for one or two months, not periods of up to four months that WCG claims may be necessary.

Please see the attached document from EPA's Applicability Determination Index. (Control # 0900041).

**DEQ's Response: Approved with conditions.** The facility may exempt raised gas wells from monthly monitoring for safety reasons. However, the facility must request for exemptions to DEQ in writing and must be approved in advance. The request must include detailed explanation of why the wells cannot be monitored and how long will monitoring be postponed. The exemption may not be allowed more than two consecutive monitoring months.

#### **E.6 Start-up of New Wells or Collection Systems**

##### **Regulatory Background:**

- 60.755(a)(4): Owners or operators are not required to expand the system as required in paragraph (a)(3) of this section during the first 180 days after gas collection system startup.

**Proposal:** WCG is proposing to apply the applicable corrective measures after oxygen and/or temperature exceedances are monitored during the first 180 days of gas collection and control system operation with the exception of the requirement to expand the collection system within 120 days to correct the exceedance. In addition, WCG is proposing to not expand the well field during the first 180 days of

September 2, 2020

Page 7

operation for any individual well in which temperature, pressure, and/or oxygen exceedances are monitored.

**EPA Review:** Any request to seek approval in advance to delay corrective actions beyond the periods mandated in NSPS WWW constitutes a relaxation of a standard, which can only be approved by the Administrator of the EPA.

Furthermore, there appears to be a misunderstanding in the request. The exemption to the requirement to "expand the system" applies during the first 180 days after gas collection system startup, not during the first 180 days after the startup of any individual wellhead.

**DEQ's Response: Denied.** Per EPA's clarification, the exemption of the requirement is for the first 180 days after the GCCS startup and Valley landfills' GCCS has started over a decade ago. Therefore, this exemption does not apply to Valley Landfills.

#### **E.7 Monitoring of New or Replacement Extraction Wells**

##### **Regulatory Background:**

60.755(a)(4): Owners or operators are not required to expand the system as required in paragraph (a)(3) of this section during the first 180 days after gas collection system startup.

**Proposal:** WCG proposes to bring new and replacement extraction wells into compliance within 180 days of installation. During this time period, the extraction wells will be monitored. However, they will not be subject to the operational and monitoring constraints of section 60.753.

**EPA Review:** Again, there appears to be a misunderstanding in the request. The exemption to the requirement to "expand the system" applies during the first 180 days after gas collection system startup, not during the first 180 days after the startup of any individual wellhead. After 180 days have passed since gas collection system startup, new wellheads become subject to all applicable requirements in subpart WWW upon startup and corrective action must be taken according to the timelines identified in the subpart.

**DEQ Response: Denied.** As explained in EPA's response above, the "first 180 days exemption" applies only to a new GCCS. Because Valley Landfills' GCCS has already started, new individual wells are subject to the monitoring requirements of Section 60.753 upon startup.

#### **E.8 Operating and Monitoring of Non-producing Wells**

##### **Regulatory Background:**

60.753: Each owner or operator of an MSW landfill with a gas collection and control system used to comply with the provisions of §60.752(b)(2)(ii) of this subpart shall: (b) Operate the collection system with negative pressure at each wellhead except under the following conditions:

- (1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in §60.757(f)(1);
- (2) Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan;

September 2, 2020  
Page 8

(3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Administrator.

**Proposal:** WCG proposes an alternative operating and monitoring plan for those wells unable to meet NSPS requirements because of poor gas production or composition.

**EPA Review:** The EPA has approved similar requests for adjustments to required monitoring under certain circumstances and subject to conditions. Please see the attached documents from EPA's ADI (Control # 0600062, 0800018, 0800019, and 0900064)

**DEQ's Response: Approved with conditions.** Even though EPA has approved similar requests in the past, Valley Landfills must follow alternative monitoring procedures to ensure these are truly low producing gas wells. Because low producing gas wells can be an indication of issues such as clogged/damaged pipes or damaged landfill covers, additional monitoring/documentations are required in order to show these are truly low gas producing wells. Based on ADI Control # 0900064, the following procedures must be taken in order to exempt wells from meeting the NSPS standards:

1. When the oxygen concentration at the well does not decline to acceptable levels after more than one hour of reduced vacuum, the location may be shut off until the gas quality recovers.
2. The monthly monitoring required by 40 CFR Part 60, Subpart WWW will be conducted for these wells, but positive pressure or elevated oxygen concentrations will not be considered as exceedances of the operating limits in 40 CFR § 60.753. However, the monthly monitoring results must be reported to DEQ. The reports to DEQ shall note if and when the wells are shut off in accordance with this approval letter.
3. If monthly monitoring indicates that pressure has built up in the well and the oxygen concentration still exceeds 5 percent, the well will be briefly opened to relieve the pressure and may then be shut down until it is monitored the following month.
4. The surface monitoring required by 40 CFR Part 60, Subpart WWW will continue to be conducted in this area. Standard remediation steps, including evaluating the need to return the well to full-time service, must be followed if exceedances of the 500 ppm methane surface concentration limits are detected in the immediate vicinity.
5. If the monthly monitoring indicates that gas quality has improved (i.e., the oxygen concentration has dropped below 5 percent), the well will be brought back on line until the gas quality declines again. If the oxygen levels can be maintained below the regulatory limit of 5 percent for six consecutive months, this alternate operating procedure is terminated and the well shall be operated in accordance with the regulatory requirements.
6. Valley Landfills shall submit this information to DEQ as part of a design plan change. DEQ must be made aware which well(s) are low gas-producing, low gas quality wells and that they are subject to alternative limits/procedures. DEQ will review the wells' status from the semi-annual reports to ensure that if higher gas quality can be maintained, this alternate operating procedure should be terminated and the wells be operated in accordance with the regulatory requirements.

#### **E.9 Monitoring of Interim LFG Collectors**

**Regulatory Background:** *No regulations specified*

**Proposal:** WCG seeks clarification that sections of the gas collection and control system, such as leachate management systems and interim LFG collectors that are not yet required (e.g. where initial waste in place is not yet two years old in a closed or final grade area or not yet five years old in active areas) should be excluded from NSPS operating and monitoring requirements.

September 2, 2020

Page 9

**EPA Review:** This request seems overly broad. There are operating and monitoring requirements with applicability criteria in NSPS WWW (e.g. operational requirements that apply in a cell in which MSW has been in place for at least five years or that apply to interior wells). The landfill's operating permit should specify these criteria and, if the permittee asks whether particular requirements apply to particular wells, the permitting authority may give a more specific response.

We note that section 60.759(a) requires sufficient collection from the system, including both interior wells and wells from perimeter areas. Even if a well (or set of wells) has no required operating or monitoring requirements (or none yet), if it is found to compromise the collection efficiency of the system it can result in noncompliance with the subpart.

Please see the attached documents from EPA's ADI (Control # 0800018 and 0800019)

**DEQ's Response: Additional information needed.** This request needs to be evaluated on a case-by-case basis. It depends on where the wells are located, how the gas is collected and why the wells cannot meet the NSPS standards. DEQ suggests Valley Landfills to revise the GCCS design plan to show where these wells are located.

#### **E.10 Decommissioning LFG Collectors**

**Regulatory Background:** *No regulations specified*

**Proposal:** WCG describes the steps the landfill will take to decommission wells.

**EPA Review:** Although not defined in NSPS WWW, there is a document in the ADI (Control # 0800040) that describes a decommissioned well as being "physically disconnected from the collection and control system." According to 40 CFR 60.753(b)(3) which allows that decommissioned wells may experience positive static pressure, "all design changes shall be approved by the Administrator." Therefore, we recommend that procedures for decommissioning should be included in the design plan and subject to review by the delegated agency.

**DEQ's Response: Additional information needed.** In accordance to Section 60.759, Valley Landfills shall operate the GCCS at a sufficient density throughout all gas producing areas unless alternative procedures approved by the Administrator. Decommission of a well is altering the design plan and it needs to be approved by DEQ prior to decommissioning. Depending on the location, DEQ may request the facility to install a new well to replace the decommissioned well. Alternatively, as EPA suggested, those wells may be shut off and continued to be monitored as a low producing gas as described in ADI document # 0800040.

#### **E.11 Additional Alternatives**

**Regulatory Background:** *No regulations specified*


**Proposal:** The landfill may request additional alternatives in the future.

**EPA Review:** Any source subject to an NSPS may request an applicability determination, regulatory interpretation, or alternative to monitoring, testing, recordkeeping, or reporting requirement at any time. Such a request will be reviewed on its merits by the appropriate authority.

## LandGEM Report

Note: Due to a LandGEM model error, the Waste in Place in short tons was incorrect and is not included.

LandGEM-All Waste prior to 2020 v3.1\_PTE\_Coffin Butte Run 1 10/3/2025



**LandGEM**  
 Landfill Gas Emissions Model  
 Version 3.1  
 January 2008

U.S. Environmental Protection Agency  
 Office of Research and Development  
 Center for Environmental Solutions  
 and Emergency Response (CESER)  
 and  
 Clean Air Technology Center (CATC)

Choose One Mode to Run

### Emissions Inventory Summary Report

Landfill Name or Identifier: Coffin Butte Landfill - Run 1  
 Date: Friday, October 3, 2025

**Description/Comments:**  
 Cells 9-6 are included in the LandGEM. All waste included in the annual total. From 2025 onward, emissions are based on 1,500,000 tons/year.

**About LandGEM:**

First-Order Decomposition Rate Equation: 
$$G_{CH_4} = \sum_{x=S}^{T-1} W_x \times MCF \times DOC \times DOC_f \times F \times \frac{16}{12} \times (e^{-k(T-x-1)} - e^{-k(T-x)})$$

Where,  
 GCH<sub>4</sub> = Modeled methane generation rate in reporting year T (metric tons CH<sub>4</sub>).  
 x = Year in which waste was disposed  
 W<sub>x</sub> = Quantity of waste disposed in the landfill in year x from measurement data, tipping fee receipts, or other company records (metric tons, as received (wet weight)). Use bulk waste tonnage  
 DOC = Degradable organic carbon (Mg C/Mg waste)  
 16/12 = stoichiometric ratio of CH<sub>4</sub>C molecular weights

T = Reporting year for which emissions are calculated.  
 S = Start year of calculation  
 MCF = Methane correction factor (fraction). Use the default value of 1  
 DOC<sub>f</sub> = Fraction of DOC disimilated (fraction). Use the default value of 0.5.  
 F = Fraction by volume of CH<sub>4</sub> in landfill gas, use the default of 0.5.  
 k = Rate constant from Table H9-1 to this subject (yr<sup>-1</sup>).

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at <http://www.epa.gov/land-research/landfill-gas-emissions-model-landgem>.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for conventional landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

#### Input Review

<b>LANDFILL CHARACTERISTICS</b>			
Landfill Open Year	1953		
Landfill Closure Year (with 80-year limit)	2009		
Actual Closure Year (without limit)			
Have Model Calculate Closure Year?	No		
Waste Design Capacity	39,600,000	U.S. tons	
<b>MODEL PARAMETERS</b>			
Methane Generation Rate, k	0.057	year <sup>-1</sup>	
Degradable Organic Carbon, DOC	0.200	Mg C/Mg waste	
Potential Methane Generation Capacity, L <sub>0</sub>	100	m <sup>3</sup> /Mg	
NMOC Concentration	600	ppmv as hexane	
Methane Content	0.50	Fraction by volume in landfill gas (0.5 = 50%)	
Fraction of DOC disimilated, DOC <sub>f</sub>	0.50	Fraction by mass (0.5 = 50%)	
Methane Correction Factor, MCF	1.0	fractional percentage (1.0 = 100%)	
<b>GASES / POLLUTANTS SELECTED</b>			
Gas / Pollutant #1:	Total landfill gas		
Gas / Pollutant #2:	Methane		
Gas / Pollutant #3:	Carbon dioxide		
Gas / Pollutant #4:	NMOC		

REPORT - 1

LandGEM-All Waste prior to 2010 v3.1\_PTE\_Coffin Butte Run 1

WASTE ACCEPTANCE RATES

Year	Waste Accepted (Mg/year)	(short tons/year)	Waste-in-Place (Mg)
1953	4,915	5,418	0
1954	5,474	6,034	4,915
1955	6,097	6,721	10,389
1956	6,791	7,486	16,486
1957	7,564	8,338	23,277
1958	8,425	9,287	30,841
1959	9,384	10,344	39,256
1960	10,452	11,521	48,650
1961	11,642	12,833	59,102
1962	12,967	14,294	70,744
1963	14,443	15,921	83,711
1964	16,086	17,732	98,154
1965	17,917	19,750	114,240
1966	19,956	21,997	132,157
1967	22,228	24,502	152,113
1968	24,758	27,291	174,341
1969	27,576	30,397	199,099
1970	30,714	33,856	226,676
1971	34,210	37,710	257,389
1972	38,104	42,002	291,699
1973	42,440	46,782	329,703
1974	47,271	52,107	372,143
1975	52,651	58,037	419,414
1976	58,644	64,643	472,066
1977	65,318	72,000	530,709
1978	72,736	80,200	596,027
1979	80,995	89,350	669,253
1980	90,134	99,500	750,948
1981	100,200	110,750	841,650
1982	111,250	123,250	942,000
1983	123,350	137,000	1,052,750
1984	136,500	152,000	1,173,750
1985	150,750	168,250	1,305,000
1986	166,250	185,750	1,446,750
1987	183,000	204,750	1,600,000
1988	201,000	225,250	1,765,250
1989	220,250	247,500	1,942,750
1990	240,750	271,500	2,132,500
1991	262,500	297,250	2,335,000
1992	285,500	324,750	2,550,250
1993	310,000	354,000	2,777,500
1994	336,000	385,250	3,017,750
1995	363,500	418,500	3,270,250
1996	392,500	453,750	3,535,000
1997	423,000	491,000	3,812,250
1998	455,000	530,250	4,102,500
1999	488,500	571,500	4,405,000
2000	523,500	614,750	4,720,250
2001	560,000	660,000	5,058,250
2002	598,000	707,250	5,419,000
2003	637,500	756,500	5,793,500
2004	678,500	807,750	6,181,750
2005	721,000	861,000	6,593,750
2006	765,000	916,250	7,029,500
2007	810,500	973,500	7,489,750
2008	857,500	1,032,750	7,964,500
2009	906,000	1,094,000	8,453,500
2010	0	0	7,150,556
2011	0	0	7,150,556
2012	0	0	7,150,556
2013	0	0	7,150,556
2014	0	0	7,150,556
2015	0	0	7,150,556
2016	0	0	7,150,556
2017	0	0	7,150,556
2018	0	0	7,150,556
2019	0	0	7,150,556
2020	0	0	7,150,556

LandGEM-Air Waste prior to 2010 v3.1\_PTE\_Coffin Butte Run 1

10/3/2025

**Results**

Year	Total landfill gas			Methane		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
1953	0	0	0	0	0	0
1954	8.740E+01	5.398E+04	3.829E+00	1.800E+01	2.898E+04	1.813E+00
1955	1.385E+02	1.109E+05	7.453E+00	3.700E+01	5.548E+04	3.729E+00
1956	2.172E+02	1.739E+05	1.188E+01	5.800E+01	8.894E+04	5.841E+00
1957	2.998E+02	2.398E+05	1.811E+01	8.000E+01	1.199E+05	8.057E+00
1958	3.857E+02	3.088E+05	2.075E+01	1.030E+02	1.544E+05	1.037E+01
1959	4.830E+02	3.887E+05	2.598E+01	1.290E+02	1.934E+05	1.299E+01
1960	5.841E+02	4.877E+05	3.142E+01	1.580E+02	2.338E+05	1.577E+01
1961	6.985E+02	5.578E+05	3.748E+01	1.880E+02	2.788E+05	1.873E+01
1962	8.200E+02	6.585E+05	4.411E+01	2.190E+02	3.283E+05	2.208E+01
1963	9.548E+02	7.844E+05	5.138E+01	2.550E+02	3.822E+05	2.588E+01
1964	1.101E+03	8.814E+05	5.922E+01	2.940E+02	4.407E+05	2.951E+01
1965	1.262E+03	1.010E+06	6.788E+01	3.370E+02	5.051E+05	3.394E+01
1966	1.438E+03	1.151E+06	7.735E+01	3.840E+02	5.758E+05	3.887E+01
1967	1.638E+03	1.310E+06	8.802E+01	4.370E+02	6.550E+05	4.401E+01
1968	1.853E+03	1.484E+06	9.970E+01	4.950E+02	7.420E+05	4.985E+01
1969	2.093E+03	1.678E+06	1.128E+02	5.590E+02	8.370E+05	5.830E+01
1970	2.358E+03	1.889E+06	1.281E+02	6.300E+02	9.443E+05	6.545E+01
1971	2.651E+03	2.122E+06	1.428E+02	7.080E+02	1.061E+06	7.130E+01
1972	2.977E+03	2.383E+06	1.601E+02	7.950E+02	1.182E+06	8.007E+01
1973	3.340E+03	2.674E+06	1.797E+02	8.900E+02	1.317E+06	8.984E+01
1974	3.741E+03	2.995E+06	2.012E+02	9.960E+02	1.467E+06	1.008E+02
1975	4.190E+03	3.355E+06	2.254E+02	1.119E+03	1.637E+06	1.127E+02
1976	4.684E+03	3.750E+06	2.520E+02	1.251E+03	1.835E+06	1.262E+02
1977	5.235E+03	4.191E+06	2.818E+02	1.398E+03	2.065E+06	1.408E+02
1978	5.848E+03	4.683E+06	3.148E+02	1.562E+03	2.341E+06	1.573E+02
1979	6.537E+03	5.102E+06	3.428E+02	1.702E+03	2.551E+06	1.714E+02
1980	6.901E+03	5.525E+06	3.712E+02	1.843E+03	2.783E+06	1.858E+02
1981	7.433E+03	5.951E+06	3.998E+02	1.985E+03	2.975E+06	1.996E+02
1982	7.988E+03	6.379E+06	4.288E+02	2.128E+03	3.190E+06	2.143E+02
1983	8.511E+03	6.814E+06	4.578E+02	2.273E+03	3.407E+06	2.286E+02
1984	8.998E+03	7.204E+06	4.840E+02	2.403E+03	3.602E+06	2.420E+02
1985	9.503E+03	7.609E+06	5.112E+02	2.538E+03	3.804E+06	2.558E+02
1986	1.002E+04	8.022E+06	5.390E+02	2.678E+03	4.011E+06	2.695E+02
1987	1.058E+04	8.451E+06	5.678E+02	2.819E+03	4.225E+06	2.836E+02
1988	1.108E+04	8.871E+06	5.968E+02	2.959E+03	4.435E+06	2.980E+02
1989	1.161E+04	9.293E+06	6.244E+02	3.100E+03	4.647E+06	3.122E+02
1990	1.243E+04	9.953E+06	6.887E+02	3.320E+03	4.978E+06	3.344E+02
1991	1.308E+04	1.062E+07	7.132E+02	3.541E+03	5.308E+06	3.588E+02
1992	1.408E+04	1.127E+07	7.574E+02	3.783E+03	5.638E+06	3.787E+02
1993	1.531E+04	1.228E+07	8.234E+02	4.088E+03	6.128E+06	4.117E+02
1994	1.687E+04	1.351E+07	9.074E+02	4.505E+03	6.753E+06	4.537E+02
1995	1.848E+04	1.478E+07	9.932E+02	4.931E+03	7.391E+06	4.988E+02
1996	1.997E+04	1.599E+07	1.074E+03	5.354E+03	7.995E+06	5.372E+02
1997	2.140E+04	1.713E+07	1.151E+03	5.715E+03	8.588E+06	5.758E+02
1998	2.375E+04	1.902E+07	1.278E+03	6.343E+03	9.508E+06	6.388E+02
1999	2.620E+04	2.068E+07	1.405E+03	6.997E+03	1.049E+07	7.047E+02
2000	2.872E+04	2.300E+07	1.545E+03	7.671E+03	1.150E+07	7.728E+02
2001	3.086E+04	2.473E+07	1.682E+03	8.250E+03	1.257E+07	8.306E+02
2002	3.313E+04	2.652E+07	1.782E+03	8.848E+03	1.328E+07	8.911E+02
2003	3.540E+04	2.834E+07	1.904E+03	9.454E+03	1.417E+07	9.521E+02
2004	3.899E+04	2.982E+07	1.990E+03	9.880E+03	1.481E+07	9.950E+02
2005	4.038E+04	3.251E+07	2.171E+03	1.078E+04	1.618E+07	1.088E+03
2006	4.381E+04	3.462E+07	2.348E+03	1.185E+04	1.748E+07	1.173E+03
2007	4.708E+04	3.788E+07	2.532E+03	1.257E+04	1.884E+07	1.268E+03
2008	5.132E+04	4.109E+07	2.781E+03	1.371E+04	2.054E+07	1.380E+03
2009	5.509E+04	4.411E+07	2.984E+03	1.471E+04	2.205E+07	1.482E+03
2010	5.832E+04	4.889E+07	3.137E+03	1.558E+04	2.335E+07	1.588E+03
2011	5.509E+04	4.411E+07	2.984E+03	1.471E+04	2.205E+07	1.482E+03
2012	5.204E+04	4.198E+07	2.799E+03	1.390E+04	2.083E+07	1.400E+03
2013	4.918E+04	3.938E+07	2.644E+03	1.313E+04	1.988E+07	1.322E+03
2014	4.843E+04	3.717E+07	2.488E+03	1.240E+04	1.859E+07	1.249E+03
2015	4.388E+04	3.511E+07	2.358E+03	1.171E+04	1.758E+07	1.180E+03
2016	4.143E+04	3.317E+07	2.228E+03	1.108E+04	1.658E+07	1.114E+03
2017	3.913E+04	3.133E+07	2.105E+03	1.045E+04	1.567E+07	1.053E+03
2018	3.696E+04	2.959E+07	1.988E+03	9.872E+03	1.480E+07	9.942E+02
2019	3.492E+04	2.795E+07	1.878E+03	9.325E+03	1.398E+07	9.391E+02
2020	3.298E+04	2.641E+07	1.774E+03	8.809E+03	1.320E+07	8.872E+02
2021	3.118E+04	2.494E+07	1.678E+03	8.327E+03	1.247E+07	8.380E+02
2022	2.943E+04	2.356E+07	1.583E+03	7.880E+03	1.178E+07	7.918E+02
2023	2.780E+04	2.226E+07	1.495E+03	7.424E+03	1.113E+07	7.477E+02
2024	2.628E+04	2.102E+07	1.413E+03	7.013E+03	1.051E+07	7.083E+02
2025	2.480E+04	1.986E+07	1.334E+03	6.624E+03	9.929E+06	6.671E+02
2026	2.343E+04	1.878E+07	1.260E+03	6.257E+03	9.379E+06	6.302E+02
2027	2.213E+04	1.772E+07	1.190E+03	5.910E+03	8.859E+06	5.952E+02
2028	2.090E+04	1.674E+07	1.125E+03	5.583E+03	8.388E+06	5.623E+02
2029	1.975E+04	1.581E+07	1.062E+03	5.274E+03	7.905E+06	5.312E+02
2030	1.865E+04	1.493E+07	1.003E+03	4.981E+03	7.488E+06	5.018E+02
2031	1.762E+04	1.410E+07	9.477E+02	4.705E+03	7.052E+06	4.739E+02
2032	1.664E+04	1.333E+07	8.953E+02	4.445E+03	6.683E+06	4.477E+02
2033	1.572E+04	1.258E+07	8.458E+02	4.198E+03	6.292E+06	4.228E+02
2034	1.485E+04	1.189E+07	7.988E+02	3.968E+03	5.945E+06	3.994E+02
2035	1.403E+04	1.123E+07	7.548E+02	3.748E+03	5.615E+06	3.773E+02

REPORT - 3

LandGEM-All Waste prior to 2010 v3.1\_PTE\_Coffin Butte Run 1

10/3/2023

Year	Carbon Dioxide			NMOC		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
1953	0	0	0	0	0	0
1954	4.939E+01	2.598E+04	1.813E+00	1.161E+01	3.238E+01	2.175E+03
1955	1.015E+02	5.546E+04	3.726E+00	2.386E+01	6.655E+01	4.472E+03
1956	1.591E+02	8.684E+04	5.841E+00	3.739E+01	1.043E+02	7.010E+03
1957	2.195E+02	1.199E+05	8.057E+00	5.188E+01	1.439E+02	9.668E+03
1958	2.826E+02	1.544E+05	1.037E+01	6.641E+01	1.853E+02	1.245E+04
1959	3.539E+02	1.934E+05	1.299E+01	8.317E+01	2.320E+02	1.559E+04
1960	4.280E+02	2.338E+05	1.571E+01	1.006E+02	2.806E+02	1.885E+04
1961	5.103E+02	2.788E+05	1.873E+01	1.199E+02	3.346E+02	2.248E+04
1962	6.009E+02	3.283E+05	2.206E+01	1.412E+02	3.939E+02	2.647E+04
1963	6.997E+02	3.822E+05	2.566E+01	1.644E+02	4.597E+02	3.082E+04
1964	8.067E+02	4.407E+05	2.961E+01	1.896E+02	5.288E+02	3.553E+04
1965	9.246E+02	5.051E+05	3.394E+01	2.173E+02	6.062E+02	4.073E+04
1966	1.054E+03	5.756E+05	3.867E+01	2.476E+02	6.907E+02	4.641E+04
1967	1.199E+03	6.500E+05	4.401E+01	2.818E+02	7.860E+02	5.281E+04
1968	1.358E+03	7.200E+05	4.985E+01	3.191E+02	8.904E+02	5.982E+04
1969	1.534E+03	8.379E+05	5.630E+01	3.604E+02	1.005E+03	6.756E+04
1970	1.729E+03	9.443E+05	6.345E+01	4.062E+02	1.133E+03	7.614E+04
1971	1.943E+03	1.051E+06	7.130E+01	4.566E+02	1.278E+03	8.565E+04
1972	2.181E+03	1.182E+06	8.007E+01	5.126E+02	1.430E+03	9.608E+04
1973	2.447E+03	1.337E+06	8.984E+01	5.751E+02	1.604E+03	1.078E+05
1974	2.741E+03	1.497E+06	1.006E+02	6.441E+02	1.797E+03	1.207E+05
1975	3.070E+03	1.677E+06	1.127E+02	7.215E+02	2.013E+03	1.352E+05
1976	3.432E+03	1.875E+06	1.260E+02	8.066E+02	2.250E+03	1.512E+05
1977	3.836E+03	2.095E+06	1.408E+02	9.013E+02	2.515E+03	1.690E+05
1978	4.282E+03	2.341E+06	1.573E+02	1.007E+03	2.810E+03	1.888E+05
1979	4.770E+03	2.615E+06	1.714E+02	1.097E+03	3.061E+03	2.078E+05
1980	5.057E+03	2.763E+06	1.856E+02	1.188E+03	3.315E+03	2.237E+05
1981	5.446E+03	2.975E+06	1.999E+02	1.280E+03	3.570E+03	2.398E+05
1982	5.839E+03	3.190E+06	2.143E+02	1.372E+03	3.828E+03	2.572E+05
1983	6.237E+03	3.407E+06	2.289E+02	1.465E+03	4.088E+03	2.747E+05
1984	6.593E+03	3.602E+06	2.420E+02	1.549E+03	4.322E+03	2.904E+05
1985	6.964E+03	3.804E+06	2.556E+02	1.636E+03	4.565E+03	3.067E+05
1986	7.342E+03	4.011E+06	2.695E+02	1.725E+03	4.813E+03	3.234E+05
1987	7.735E+03	4.225E+06	2.836E+02	1.816E+03	5.071E+03	3.407E+05
1988	8.119E+03	4.435E+06	2.980E+02	1.908E+03	5.322E+03	3.576E+05
1989	8.506E+03	4.647E+06	3.122E+02	1.999E+03	5.576E+03	3.746E+05
1990	8.895E+03	4.876E+06	3.344E+02	2.141E+03	5.972E+03	4.012E+05
1991	9.716E+03	5.308E+06	3.666E+02	2.283E+03	6.369E+03	4.279E+05
1992	1.032E+04	5.636E+06	3.787E+02	2.424E+03	6.763E+03	4.544E+05
1993	1.122E+04	6.128E+06	4.117E+02	2.636E+03	7.363E+03	4.941E+05
1994	1.236E+04	6.753E+06	4.537E+02	2.905E+03	8.103E+03	5.444E+05
1995	1.363E+04	7.391E+06	4.966E+02	3.179E+03	8.869E+03	5.959E+05
1996	1.464E+04	7.995E+06	5.372E+02	3.439E+03	9.594E+03	6.446E+05
1997	1.568E+04	8.566E+06	5.756E+02	3.685E+03	1.028E+04	6.907E+05
1998	1.740E+04	9.508E+06	6.388E+02	4.090E+03	1.141E+04	7.566E+05
1999	1.920E+04	1.049E+07	7.047E+02	4.511E+03	1.259E+04	8.466E+05
2000	2.105E+04	1.150E+07	7.726E+02	4.946E+03	1.380E+04	9.271E+05
2001	2.264E+04	1.237E+07	8.309E+02	5.319E+03	1.484E+04	9.970E+05
2002	2.428E+04	1.326E+07	8.911E+02	5.705E+03	1.591E+04	1.069E+06
2003	2.594E+04	1.417E+07	9.521E+02	6.095E+03	1.700E+04	1.143E+06
2004	2.711E+04	1.481E+07	9.950E+02	6.370E+03	1.777E+04	1.194E+06
2005	2.858E+04	1.516E+07	1.086E+03	6.950E+03	1.939E+04	1.303E+06
2006	3.196E+04	1.746E+07	1.173E+03	7.510E+03	2.095E+04	1.408E+06
2007	3.449E+04	1.884E+07	1.266E+03	8.104E+03	2.261E+04	1.519E+06
2008	3.761E+04	2.054E+07	1.380E+03	8.837E+03	2.465E+04	1.656E+06
2009	4.037E+04	2.205E+07	1.482E+03	9.486E+03	2.646E+04	1.778E+06
2010	4.274E+04	2.335E+07	1.569E+03	1.004E+04	2.802E+04	1.882E+06
2011	4.037E+04	2.205E+07	1.482E+03	9.486E+03	2.646E+04	1.778E+06
2012	3.913E+04	2.083E+07	1.400E+03	8.961E+03	2.500E+04	1.680E+06
2013	3.602E+04	1.968E+07	1.322E+03	8.484E+03	2.361E+04	1.587E+06
2014	3.402E+04	1.859E+07	1.249E+03	7.995E+03	2.230E+04	1.499E+06
2015	3.214E+04	1.756E+07	1.180E+03	7.552E+03	2.107E+04	1.416E+06
2016	3.036E+04	1.658E+07	1.114E+03	7.133E+03	1.990E+04	1.337E+06
2017	2.868E+04	1.567E+07	1.053E+03	6.738E+03	1.880E+04	1.263E+06
2018	2.709E+04	1.480E+07	9.942E+02	6.365E+03	1.776E+04	1.193E+06
2019	2.559E+04	1.398E+07	9.391E+02	6.012E+03	1.677E+04	1.127E+06
2020	2.417E+04	1.320E+07	8.872E+02	5.679E+03	1.584E+04	1.065E+06
2021	2.283E+04	1.247E+07	8.380E+02	5.365E+03	1.497E+04	1.006E+06
2022	2.157E+04	1.178E+07	7.916E+02	5.069E+03	1.414E+04	9.499E+05
2023	2.037E+04	1.113E+07	7.477E+02	4.787E+03	1.335E+04	8.972E+05
2024	1.924E+04	1.051E+07	7.063E+02	4.522E+03	1.261E+04	8.476E+05
2025	1.817E+04	9.929E+06	6.671E+02	4.271E+03	1.191E+04	8.005E+05
2026	1.717E+04	9.379E+06	6.302E+02	4.034E+03	1.125E+04	7.562E+05
2027	1.622E+04	8.869E+06	5.950E+02	3.810E+03	1.063E+04	7.142E+05
2028	1.532E+04	8.368E+06	5.623E+02	3.600E+03	1.004E+04	6.747E+05
2029	1.447E+04	7.905E+06	5.312E+02	3.400E+03	9.486E+03	6.374E+05
2030	1.367E+04	7.466E+06	5.016E+02	3.211E+03	8.959E+03	6.020E+05
2031	1.291E+04	7.052E+06	4.739E+02	3.033E+03	8.463E+03	5.686E+05
2032	1.220E+04	6.663E+06	4.477E+02	2.866E+03	7.995E+03	5.372E+05
2033	1.162E+04	6.292E+06	4.228E+02	2.707E+03	7.551E+03	5.073E+05
2034	1.088E+04	5.945E+06	3.994E+02	2.557E+03	7.134E+03	4.793E+05
2035	1.028E+04	5.615E+06	3.773E+02	2.415E+03	6.738E+03	4.527E+05

REPORT - 4

LandGEM-All Waste 2010 and after Update v3.1\_PTE\_Coffin Butte Run 2

10/8/2025



## Emissions Inventory Summary Report

Landfill Name or Identifier: Coffin Butte Landfill - Run 2

Date: Wednesday, October 8, 2025

**Description/Comments:**

Cells D-6 are included in the LandGEM. All waste included in the annual total. From 2025 onward, emissions are based on 1,500,000 tons/year.

**About LandGEM:**

First-Order Decomposition Rate Equation

$$G_{CH_4} = \sum_{x=1}^{T-1} W_x \times MCF \times DOC \times DOC_f \times F \times \frac{16}{12} \times (e^{-k(T-x-1)} - e^{-k(T-x)})$$

Where,  
 G<sub>CH<sub>4</sub></sub> = Modeled methane generation rate in reporting year T (metric tons CH<sub>4</sub>).  
 x = Year in which waste was disposed.  
 W<sub>x</sub> = Quantity of waste disposed in the landfill in year x from measurement data, tipping fee receipts, or other company records (metric tons, or received (wet weight)). Use bulk waste tonnage.  
 DOC = Degradable organic carbon (Mg C/Mg waste).  
 16/12 = stoichiometric ratio of CH<sub>4</sub>C molecular weights.  
 T = Reporting year for which emissions are calculated.  
 S = Start year of calculation.  
 MCF = Methane correction factor (fraction). Use the default value of 1.  
 DOC<sub>f</sub> = Fraction of DOC dissimilated (fraction). Use the default value of 0.5.  
 F = Fraction by volume of CH<sub>4</sub> in landfill gas; use the default of 0.5.  
 k = Rate constant from Table H91-1 to this subpart (yr<sup>-1</sup>).

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at <https://www.epa.gov/land-research/landfill-gas-emissions-model-landgem>.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for conventional landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

**Input Review**

**LANDFILL CHARACTERISTICS**

Landfill Open Year	2010	
Landfill Closure Year (with 80-year limit)	2045	
Actual Closure Year (without limit)		
Have Model Calculate Closure Year?	No	
Waste Design Capacity	39,000,000	U.S. tons

**MODEL PARAMETERS**

Methane Generation Rate, k	0.067	year <sup>-1</sup>
Degradable Organic Carbon, DOC	0.170	Mg C/Mg waste
Potential Methane Generation Capacity, L <sub>0</sub>	80	m <sup>3</sup> /Mg
NMOC Concentration	550	ppmv as hexane
Methane Content	0.50	Fraction by volume in landfill gas (0.5 = 50%)
Fraction of DOC dissimilated, DOC <sub>f</sub>	0.50	Fraction by mass (0.5 = 50%)
Methane Correction Factor, MCF	1.0	fractional percentage (1.0 = 100%)

**GASES / POLLUTANTS SELECTED**

Gas / Pollutant #1:	Total landfill gas
Gas / Pollutant #2:	Methane
Gas / Pollutant #3:	Carbon dioxide
Gas / Pollutant #4:	NMOC

LandGEM-All Waste 2010 and after Update v3.1\_PTE\_Coffin Butte Run 2

WASTE ACCEPTANCE RATES

Year	Waste Accepted (Mg/year)	(short tons/year)	Waste-in-Place (Mg)
2010	415,028	458,588	0
2011	438,206	483,034	416,028
2012	429,603	473,551	854,234
2013	434,645	479,109	1,283,837
2014	453,368	499,770	1,718,482
2015	477,593	526,561	2,171,870
2016	502,431	553,830	2,649,563
2017	854,040	941,408	3,151,994
2018	917,041	1,010,854	4,006,034
2019	937,654	1,033,576	4,923,075
2020	780,118	859,924	5,860,729
2021	948,940	1,046,017	6,640,847
2022	1,011,362	1,114,824	7,589,787
2023	1,006,029	1,108,946	8,601,149
2024	1,031,923	1,137,489	9,607,178
2025	1,360,791	1,500,000	10,639,101
2026	1,360,791	1,500,000	11,999,892
2027	1,360,791	1,500,000	13,360,683
2028	1,360,791	1,500,000	14,721,474
2029	1,360,791	1,500,000	16,082,265
2030	1,360,791	1,500,000	17,443,056
2031	1,360,791	1,500,000	18,803,847
2032	1,360,791	1,500,000	20,164,638
2033	1,360,791	1,500,000	21,525,429
2034	1,360,791	1,500,000	22,886,220
2035	1,360,791	1,500,000	24,247,011

LandGEM-All Waste 2010 and after Update v3.1\_PTE\_Coffin Butte Run 2

10/8/2025

**Results**

Year	Total landfill gas			Methane		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
2010	0	0	0	0	0	0
2011	5.721E+03	4.581E+06	3.078E+02	1.538E+03	2.290E+06	1.539E+02
2012	1.138E+04	9.107E+06	6.119E+02	3.038E+03	4.554E+06	3.050E+02
2013	1.655E+04	1.325E+07	8.901E+02	4.419E+03	6.624E+06	4.450E+02
2014	2.145E+04	1.717E+07	1.184E+03	5.728E+03	8.595E+06	5.769E+02
2015	2.639E+04	2.105E+07	1.414E+03	7.032E+03	1.053E+07	7.072E+02
2016	3.116E+04	2.494E+07	1.676E+03	8.321E+03	1.247E+07	8.350E+02
2017	3.605E+04	2.886E+07	1.939E+03	9.627E+03	1.443E+07	9.695E+02
2018	4.546E+04	3.639E+07	2.445E+03	1.214E+04	1.820E+07	1.223E+03
2019	5.512E+04	4.413E+07	2.965E+03	1.472E+04	2.206E+07	1.482E+03
2020	6.444E+04	5.159E+07	3.467E+03	1.721E+04	2.580E+07	1.733E+03
2021	7.099E+04	5.684E+07	3.819E+03	1.895E+04	2.842E+07	1.909E+03
2022	7.944E+04	6.360E+07	4.273E+03	2.122E+04	3.180E+07	2.137E+03
2023	8.820E+04	7.061E+07	4.745E+03	2.356E+04	3.531E+07	2.372E+03
2024	9.632E+04	7.711E+07	5.181E+03	2.572E+04	3.856E+07	2.591E+03
2025	1.043E+05	8.347E+07	5.609E+03	2.785E+04	4.174E+07	2.804E+03
2026	1.162E+05	9.305E+07	6.252E+03	3.104E+04	4.652E+07	3.125E+03
2027	1.274E+05	1.020E+08	6.853E+03	3.402E+04	5.100E+07	3.427E+03
2028	1.379E+05	1.104E+08	7.416E+03	3.682E+04	5.518E+07	3.708E+03
2029	1.476E+05	1.182E+08	7.942E+03	3.943E+04	5.910E+07	3.971E+03
2030	1.568E+05	1.255E+08	8.433E+03	4.187E+04	6.276E+07	4.217E+03
2031	1.653E+05	1.324E+08	8.893E+03	4.415E+04	6.618E+07	4.447E+03
2032	1.733E+05	1.388E+08	9.324E+03	4.629E+04	6.938E+07	4.662E+03
2033	1.808E+05	1.448E+08	9.726E+03	4.829E+04	7.238E+07	4.863E+03
2034	1.878E+05	1.504E+08	1.010E+04	5.016E+04	7.518E+07	5.051E+03
2035	1.943E+05	1.556E+08	1.045E+04	5.190E+04	7.780E+07	5.227E+03

LandGEM-All Waste 2010 and after Update v3.1\_PTE\_Coffin Suite Run 2

10/6/2025

Year	Carbon Dioxide			NMOC		
	(Mg/year)	(m <sup>3</sup> /year)	(av R <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av R <sup>3</sup> /min)
2010	0	0	0	0	0	0
2011	4.192E+03	2.250E+06	1.539E+02	9.031E+03	2.519E+03	1.693E+01
2012	8.336E+03	4.554E+06	3.050E+02	1.792E+01	5.009E+03	3.399E+01
2013	1.212E+04	6.624E+06	4.450E+02	2.612E+01	7.299E+03	4.896E+01
2014	1.572E+04	8.599E+06	5.769E+02	3.399E+01	9.444E+03	6.346E+01
2015	1.927E+04	1.052E+07	7.072E+02	4.150E+01	1.158E+04	7.779E+01
2016	2.282E+04	1.247E+07	8.380E+02	4.919E+01	1.372E+04	9.219E+01
2017	2.641E+04	1.442E+07	9.699E+02	5.690E+01	1.587E+04	1.067E+02
2018	3.031E+04	1.620E+07	1.222E+03	7.179E+01	2.002E+04	1.349E+02
2019	4.026E+04	2.209E+07	1.482E+03	8.700E+01	2.427E+04	1.631E+02
2020	4.722E+04	2.580E+07	1.733E+03	1.017E+02	2.839E+04	1.907E+02
2021	5.202E+04	2.842E+07	1.906E+03	1.120E+02	3.129E+04	2.100E+02
2022	5.621E+04	3.180E+07	2.137E+03	1.254E+02	3.499E+04	2.300E+02
2023	6.483E+04	3.531E+07	2.372E+03	1.392E+02	3.894E+04	2.500E+02
2024	7.089E+04	3.899E+07	2.591E+03	1.520E+02	4.241E+04	2.800E+02
2025	7.640E+04	4.174E+07	2.804E+03	1.649E+02	4.591E+04	3.089E+02
2026	8.519E+04	4.692E+07	3.129E+03	1.834E+02	5.119E+04	3.439E+02
2027	9.339E+04	5.100E+07	3.427E+03	2.011E+02	5.670E+04	3.789E+02
2028	1.010E+05	5.519E+07	3.709E+03	2.179E+02	6.070E+04	4.079E+02
2029	1.082E+05	5.910E+07	3.971E+03	2.330E+02	6.501E+04	4.389E+02
2030	1.149E+05	6.279E+07	4.217E+03	2.474E+02	6.903E+04	4.639E+02
2031	1.211E+05	6.619E+07	4.447E+03	2.609E+02	7.290E+04	4.891E+02
2032	1.270E+05	6.939E+07	4.662E+03	2.736E+02	7.652E+04	5.129E+02
2033	1.326E+05	7.239E+07	4.863E+03	2.854E+02	7.992E+04	5.349E+02
2034	1.379E+05	7.519E+07	5.051E+03	2.964E+02	8.270E+04	5.599E+02
2035	1.424E+05	7.780E+07	5.227E+03	3.067E+02	8.587E+04	5.790E+02

**TOTAL LANDFILL GAS GENERATION SUMMARY**  
**COFFIN BUTTE LANDFILL - BENTON COUNTY, OREGON**

Year	Total Landfill Gas Generation (Run 1)			Total Landfill Gas Generation (Run 2)			Total Landfill Gas Generation		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
1953	0	0	0				0	0	0
1954	67	33,961	4				67	33,961	4
1955	139	110,920	7				139	110,920	7
1956	217	173,874	12				217	173,874	12
1957	300	239,827	16				300	239,827	16
1958	386	308,777	21				386	308,777	21
1959	483	386,721	26				483	386,721	26
1960	584	467,662	31				584	467,662	31
1961	696	557,597	37				696	557,597	37
1962	820	656,526	44				820	656,526	44
1963	955	764,448	51				955	764,448	51
1964	1,101	881,363	59				1,101	881,363	59
1965	1,262	1,010,270	68				1,262	1,010,270	68
1966	1,438	1,151,168	77				1,438	1,151,168	77
1967	1,636	1,310,053	88				1,636	1,310,053	88
1968	1,853	1,483,928	100				1,853	1,483,928	100
1969	2,093	1,675,789	113				2,093	1,675,789	113
1970	2,359	1,888,635	127				2,359	1,888,635	127
1971	2,651	2,122,466	143				2,651	2,122,466	143
1972	2,977	2,383,278	160				2,977	2,383,278	160
1973	3,340	2,674,068	180				3,340	2,674,068	180
1974	3,741	2,994,836	201				3,741	2,994,836	201
1975	4,190	3,354,576	225				4,190	3,354,576	225
1976	4,684	3,750,290	252				4,684	3,750,290	252
1977	5,235	4,190,972	282				5,235	4,190,972	282
1978	5,849	4,682,616	315				5,849	4,682,616	315
1979	6,373	5,102,313	343				6,373	5,102,313	343
1980	6,901	5,525,008	371				6,901	5,525,008	371
1981	7,433	5,950,700	400				7,433	5,950,700	400
1982	7,968	6,379,390	429				7,968	6,379,390	429
1983	8,511	6,814,076	458				8,511	6,814,076	458
1984	8,998	7,203,795	484				8,998	7,203,795	484
1985	9,503	7,608,502	511				9,503	7,608,502	511
1986	10,020	8,022,203	539				10,020	8,022,203	539
1987	10,555	8,450,894	568				10,555	8,450,894	568
1988	11,080	8,870,590	596				11,080	8,870,590	596
1989	11,608	9,293,285	624				11,608	9,293,285	624
1990	12,431	9,952,808	669				12,431	9,952,808	669
1991	13,259	10,615,330	713				13,259	10,615,330	713
1992	14,079	11,271,855	757				14,079	11,271,855	757
1993	15,307	12,255,145	823				15,307	12,255,145	823
1994	16,868	13,505,241	907				16,868	13,505,241	907
1995	18,464	14,782,319	993				18,464	14,782,319	993
1996	19,973	15,990,446	1,074				19,973	15,990,446	1,074
1997	21,399	17,132,620	1,151				21,399	17,132,620	1,151
1998	23,751	19,015,260	1,278				23,751	19,015,260	1,278
1999	26,199	20,975,843	1,409				26,199	20,975,843	1,409
2000	28,723	22,996,383	1,545				28,723	22,996,383	1,545
2001	30,891	24,732,129	1,662				30,891	24,732,129	1,662
2002	33,130	26,524,834	1,782				33,130	26,524,834	1,782
2003	35,399	28,341,521	1,904				35,399	28,341,521	1,904
2004	36,995	29,618,598	1,990				36,995	29,618,598	1,990
2005	40,361	32,313,651	2,171				40,361	32,313,651	2,171
2006	43,615	34,918,768	2,346				43,615	34,918,768	2,346
2007	47,063	37,679,773	2,532				47,063	37,679,773	2,532
2008	51,321	41,088,310	2,761				51,321	41,088,310	2,761
2009	55,091	44,107,129	2,964				55,091	44,107,129	2,964
2010	58,323	46,694,259	3,137	0.00	0	0.00	58,323	46,694,259	3,137
2011	55,091	44,107,129	2,964	5,721.43	4,580,690	307.78	60,813	48,687,819	3,271
2012	52,040	41,663,894	2,799	11,375.45	9,107,419	611.93	63,415	50,771,313	3,411
2013	49,176	39,355,562	2,644	16,546.46	13,247,428	890.09	65,703	52,602,990	3,534
2014	46,430	37,173,139	2,498	21,447.86	17,171,592	1,153.76	67,878	54,344,731	3,651

F:\Equilib\COFFIN Butte LP\RT\AV Permitting\2025 Title V Permit Amendment\COFFIN Requested Landfill\AV waste\_Landfill\AV Waste Landfill COFFIN Title V Permit Summary - Table 1.P2

**TOTAL LANDFILL GAS GENERATION SUMMARY  
 COFFIN BUTTE LANDFILL - BENTON COUNTY, OREGON**

Year	Total Landfill Gas Generation (Run 1)			Total Landfill Gas Generation (Run 2)			Total Landfill Gas Generation		
	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)	(Mg/year)	(m <sup>3</sup> /year)	(av ft <sup>3</sup> /min)
2015	43,858	35,113,627	2,359	26,293.10	21,050,789	1,414.40	70,151	56,164,417	3,774
2016	41,428	33,168,033	2,229	31,157.06	24,944,975	1,676.05	72,585	58,113,008	3,905
2017	39,133	31,330,361	2,105	36,047.23	28,860,146	1,939.11	75,180	60,190,507	4,044
2018	36,965	29,594,615	1,988	45,456.88	36,393,703	2,445.29	82,421	65,988,318	4,434
2019	34,916	27,954,800	1,878	55,117.41	44,128,114	2,964.96	90,034	72,082,914	4,843
2020	32,984	26,407,918	1,774	64,440.94	51,592,720	3,466.51	97,425	78,000,638	5,241
2021	31,157	24,944,975	1,676	70,989.87	56,835,931	3,818.80	102,147	81,780,906	5,495
2022	29,431	23,562,974	1,583	79,437.21	63,599,044	4,273.21	108,868	87,162,018	5,856
2023	27,798	22,255,918	1,495	88,199.08	70,613,975	4,744.54	115,997	92,869,894	6,240
2024	26,259	21,023,809	1,413	96,316.92	77,113,279	5,181.23	122,576	98,137,088	6,594
2025	24,803	19,857,651	1,334	104,262.51	83,474,683	5,608.65	129,065	103,332,334	6,943
2026	23,429	18,757,446	1,260	116,218.35	93,046,766	6,251.80	139,647	111,804,212	7,512
2027	22,129	17,717,198	1,190	127,399.09	101,998,298	6,853.25	149,528	119,715,496	8,044
2028	20,905	16,736,906	1,125	137,853.43	110,368,250	7,415.63	158,758	127,105,156	8,540
2029	19,748	15,810,576	1,062	147,630.03	118,195,594	7,941.55	167,378	134,006,169	9,004
2030	18,651	14,932,210	1,003	156,773.82	125,516,304	8,433.43	175,425	140,448,514	9,437
2031	17,617	14,104,808	948	165,326.01	132,363,356	8,893.48	182,943	146,468,164	9,841
2032	16,644	13,325,371	895	173,324.02	138,766,729	9,323.72	189,968	152,092,101	10,219
2033	15,719	12,584,906	846	180,805.31	144,756,401	9,726.16	196,524	157,341,308	10,572
2034	14,850	11,889,409	799	187,799.83	150,356,355	10,102.43	202,650	162,245,764	10,901
2035	14,026	11,229,885	755	194,337.53	155,590,573	10,454.11	208,364	166,820,458	11,209

## Air Quality Analysis Summary Memo



# Memorandum

**To:** Coffin Butte [02-9502] FILE  
**From:** Kristen Martin  
**Date:** 3/12/26  
**Subject:** Modeling Memo for Coffin Butte

### Results Snapshot

**Source Description:** Coffin Butte Landfill north of Corvallis, OR in Benton County. | Coffin Butte Landfill triggered New Source Review for PM<sub>10</sub>, VOC, CO, and SO<sub>2</sub> from landfill growth and refined analysis of emissions from roads. Per the Internal Management Directive on September 1, 2021, all sources triggering New Source Review must also show compliance with the short-term National Ambient Air Quality Standards (NAAQS) for 1-hour NO<sub>2</sub> and SO<sub>2</sub> and 24-hour PM<sub>2.5</sub>. The permittee submitted an air dispersion modeling analysis of potential impacts on the following NAAQS: 24-hour PM<sub>2.5</sub>, 24-hour PM<sub>10</sub>, 8-hour CO, 3-hour SO<sub>2</sub>, and 1-hour NO<sub>2</sub>, SO<sub>2</sub> and CO. The facility also included modeling showing compliance with the updated annual PM<sub>2.5</sub> standard and a MERPs analysis was conducted to show compliance with the 8-hour Ozone standard. All other NAAQS pollutants were below emission thresholds and did not trigger modeling.

The facility modeled 2 scenarios. The first with the flare operating at full capacity. The second with the flare operating at full capacity and the PNGC competing source engines also operating at full capacity. The modeling was updated in 2026 to account for higher emissions of NO<sub>x</sub>, PM, CO and VOC and more flare activity while the PNGC engines are operating.

The results of the cumulative analysis are shown below for pollutants that exceeded the significant impact levels (SILs). CO modeling results were below the SIL, and therefore not included in the cumulative analysis results.

#### Scenario 1: Flare operating at full capacity, no PNGC operation

Pollutant Modeled	Total Impact (µg/m <sup>3</sup> )	NAAQS	Exceed NAAQS	% of NAAQS	Permit Conditions Needed?
PM <sub>2.5</sub> – 24- hour	23.7	35	No	68%	No
PM <sub>2.5</sub> – annual	7.1	9	No	79%	Yes
PM <sub>10</sub> – 24- hour	102.21	150	No	68%	No
NO <sub>2</sub> - 1-hour	80.16	188	No	43%	No
SO <sub>2</sub> - 1-hour	106.49	196	No	54%	No
SO <sub>2</sub> - 3 hour	64.02	1310	No	5%	No



## Memorandum

### Scenario 2: Flare and PNGC engines operating at full capacity.

Pollutant Modeled	Total Impact ( $\mu\text{g}/\text{m}^3$ )	NAAQS	Exceed NAAQS	% of NAAQS	Permit Conditions Needed?
PM <sub>2.5</sub> – 24- hour	23.70	35	No	68%	No
PM <sub>2.5</sub> – Annual	7.26	9	No	81%	Yes
PM <sub>10</sub> – 24- hour	102.29	150	No	68%	No
NO <sub>2</sub> - 1-hour	169.33	188	No	90%	Yes
SO <sub>2</sub> - 1-hour	115.18	196	No	59%	No
SO <sub>2</sub> - 3 hour	83.5	1310	No	6%	No

The NAAQS impact analysis uses specific modeling inputs and assumptions, such as emission rates, stack parameters, and unit locations. Permit should include conditions to ensure that the permittee follows modeling assumptions to protect NAAQS.

#### Operating Assumption

- The landfill operates between 7am and 6pm Monday-Saturday. No Sunday operations.

#### Source Contribution for Pollutants Triggering Permit Conditions

##### Scenario 1: PM<sub>2.5</sub>

Source	Annual PM <sub>2.5</sub> - Maximum Total Impact at any receptor ( $\mu\text{g}/\text{m}^3$ )
Flare	0.226
Roads	4.765
Tipper and Aggregate Insignificant	4.592

Note: The maximum impact occurs at different locations, so the sum of the impacts does not equal the overall impact displayed in the results.

##### Scenario 2: NO<sub>2</sub>

Source	1-Hour NO <sub>2</sub> - Maximum Total Impact at any receptor ( $\mu\text{g}/\text{m}^3$ )
Coffin Butte Landfill	66.09
PNGC Engines	135.0

Note: The maximum impact occurs at different locations, so the sum of the impacts does not equal the overall impact displayed in the results.

Air Quality Division  
 700 NE Multnomah Street, Suite 600, Portland, OR 97232  
 503-229-5263, Toll-free in Oregon: 800-452-4011

*DEQ's mission is to be a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.*



## Memorandum

### Modeling Summary

Facility Information			
Date Modeling Submitted	3/4/2028	Revision Summary	Numerous iterations of this modeling were submitted between 2021-2028
Facility Location	28972 Coffin Butte Rd, Corvallis, OR 97330		
Emission Unit Summary			
The emission units modeled at the facility are shown in the table below.			
EU ID	Description		
TIP2	Tipper 2		
TIP3	Tipper 3		
EFLARE	Enclosed Flare		
UPR1	Unpaved Roads – Commercial (PM modeling only)		
UPR1PV	Unpaved Roads – Public (PM modeling only)		
PIR	Paved Roads (PM modeling only)		
AI	Aggregate Insignificant		
LF-FUG	Landfill, Fugitive (CO modeling only)		
Modeling Basics			
Model Versions		Meteorology	
AERMOD	v24142	Surface	On-site from neighboring PNGC
AERMET	v24142	Upper Air	Salem Airport
AERMINUTE	v15272	Time Period	2004-2005
AERSURFACE	v20060	Notes	
AERMAP	v18081		
BPIP	v04274		
Additional Notes			

**Air Quality Division**  
 700 NE Multnomah Street, Suite 600, Portland, OR 97232  
 503-229-5263, Toll-free in Oregon: 800-452-4011

*DEQ's mission is to be a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.*



## Memorandum

### Emissions Summary

The following emissions units and emissions were used in modeling. For roads, activity was limited to 3,120 hours/year (10 hours/day, 6 day/week). Note, the road emissions were modeled from 7am-8pm, although only 10 hours of operations were assumed when calculating the hourly emission rate. This results in overestimated hourly emissions in the model.

Scenario 1 is defined as the flare operating at 100% capacity and the nearby PNGC engine not operating.

Scenario 2 is defined as the flare operating at 100% capacity and the nearby PNGC engines operating at 100% capacity.

EU	NO <sub>2</sub> Emission Rate (lbs/hr)	SO <sub>2</sub> Emission Rate (lbs/hr)	PM <sub>2.5</sub> Emission Rate (lbs/hr)	PM <sub>10</sub> Emission Rate (lbs/hr)	CO Emission Rate (lbs/hr)
TIP2	1.48	0.46	0.074	0.074	1.29
TIP3	0.11	0.36	0.006	0.006	1.43
EFLARE: Scenarios 1 and 2	6.79	9.09	1.90	1.90	22.64
UPR1	--	--	0.87	8.68	--
UPR1PV	--	--	0.015	0.15	--
PIR	--	--	0.42	1.70	--
Al	0.23	0.23	0.23	0.23	0.23
LF-Fug	--	--	--	--	3.13

### Background Data

Background data derived from [NW Airquest](#) unless otherwise noted.

Pollutant	Background Value (µg/m <sup>3</sup> )	Notes
PM <sub>2.5</sub> – 24-hour	17.10	Average of NW, SW, SE, NE nodes
PM <sub>2.5</sub> – Annual	4.94	
PM <sub>10</sub> – 24-hour	56.2	
NO <sub>2</sub> - 1-hour	33.13	
SO <sub>2</sub> - 1-hour	12.47	
SO <sub>2</sub> - 3-hour	16.95	
CO – 1 hour	1303.47	
CO – 8 hour	973.76	

Air Quality Division  
 700 NE Multnomah Street, Suite 800, Portland, OR 97232  
 503-229-5263, Toll-free in Oregon: 800-452-4011

*DEQ's mission is to be a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.*



## Memorandum

### Secondary Formation

A MERPs analysis was done, following EPA guidance, to calculate the formation of secondary PM<sub>2.5</sub> and Ozone. The facility used a combination of EPA hypothetical sites to conduct this analysis to select the most conservative options for Oregon. There are only four sites in or around Oregon and the selected sites represent the most conservative option for each pollutant/averaging time and the hypothetical source emissions compared to the Coffin Butte emissions. More information about a MERPs analysis can be found [here](#).

Location	Secondary Pollutant	Hypothetical Source		This Source	
		Emissions	Modeled Conc. (µg/m <sup>3</sup> )	Emissions (tpy)	Potential Impact from Secondary Pollutant (µg/m <sup>3</sup> )
Klickitat, WA	NO <sub>x</sub>	500	0.04	34	2.95E-03
	SO <sub>2</sub>	500	0.50	42	4.19E-02
<b>Total PM<sub>2.5</sub> 24-hour Secondary Contribution</b>					<b>4.48E-02</b>
Morrow County, OR	NO <sub>x</sub>	500	0.01	34	8.56E-04
	SO <sub>2</sub>	500	0.01	42	7.07E-04
<b>Total PM<sub>2.5</sub> Annual Secondary Contribution</b>					<b>1.56E-03</b>
Morrow County, OR	NO <sub>x</sub>	500	1.94	34	1.32E-01
	VOC	500	0.46	216	1.99E-01
<b>Total Ozone Secondary Contribution</b>					<b>3.31E-01</b>

### Results

SIL Analysis	Yes	Cumulative Analysis	Yes
--------------	-----	---------------------	-----

### SIL Analysis Results

Modeling revealed the facility was above the SIL for PM<sub>2.5</sub>, PM<sub>10</sub>, NO<sub>2</sub>, and SO<sub>2</sub> and moved to a cumulative analysis for those pollutants. Modeling results for CO and Ozone revealed the facility was below the SIL and no cumulative analysis was performed.

Pollutant	Scenario 1 Modeled Conc. (µg/m <sup>3</sup> )	Scenario 2 Modeled Conc. (µg/m <sup>3</sup> )	SIL (µg/m <sup>3</sup> )	Above SIL?
PM <sub>2.5</sub> – 24-hour	12.88	12.95	1.2	Yes
PM <sub>2.5</sub> – Annual	2.14	2.32	0.3	Yes
PM <sub>10</sub> – 24-hour	50.19	50.29	1.0	Yes
NO <sub>2</sub> – 1-hour	88.69	174.02	8.0	Yes
SO <sub>2</sub> - 1-hour	108.89	133.97	8.0	Yes
SO <sub>2</sub> - 3-hour	47.07	66.55	25.0	Yes
CO – 1-hour	664.22	824.78	2000.0	No
CO – 8-hour	307.18	326.41	500.0	No
Ozone – 8-hour	0.331	0.331	1.96	No

Air Quality Division  
 700 NE Multnomah Street, Suite 600, Portland, OR 97232  
 503-229-5263, Toll-free in Oregon: 800-452-4011

*DEQ's mission is to be a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.*



## Memorandum

### Cumulative Analysis Results

The cumulative analysis included background and competing sources. The next door PNGC engines were identified as the only competing source. Modeling parameters for the engines are included in Appendix B. Roadway emissions were assumed to occur between 7am-8pm on Monday-Saturday only.

The facility modeling included refinements to the downwash building dimensions for the PNGC engine buildings. The building parameters used in this modeling were:

- Building 1 was modeled at 6.95m high and dimensions of 21.26m by 19.09m
- Building 2 was modeled at 5.76m high and dimensions of 31.95m by 16.75m.

The facility made slight changes to the location of the flare and engine 4 compared to previous modeling.

NO<sub>x</sub> modeling was conducted with the ARM2 option in AERMOD and the default In-Stack Ratio of 0.5-0.9. The following results were approved by DEQ.

Scenario 1: Flare operating at full capacity, no competing sources.

Pollutant	Modeled Conc. (µg/m <sup>3</sup> )*	MERPs Analysis (µg/m <sup>3</sup> )	Background Conc. (µg/m <sup>3</sup> )	Total Impact (µg/m <sup>3</sup> )	NAAQS (µg/m <sup>3</sup> )	Above NAAQS (% of NAAQS)?
PM <sub>2.5</sub> – 24-hour	6.57	4.48E-02	17.1	23.7	35	No (68%)
PM <sub>2.5</sub> – Annual	2.13	1.56E-03	4.94	7.1	9	No (79%)
PM <sub>10</sub> – 24-hour	46.01	n/a	56.20	102.2	150	No (68%)
NO <sub>2</sub> – 1-hour	47.03	n/a	33.13	80.16	188	No (43%)
SO <sub>2</sub> - 1-hour	94.02	n/a	12.47	106.49	198	No (54%)
SO <sub>2</sub> - 3-hour	47.07	n/a	16.95	64.02	1310	No (5%)

Scenario 2: Flare and PNGC engines operating at 100% capacity.

Pollutant	Modeled Conc. (µg/m <sup>3</sup> )*	MERPs Analysis (µg/m <sup>3</sup> )	Background Conc. (µg/m <sup>3</sup> )	Total Impact (µg/m <sup>3</sup> )	NAAQS (µg/m <sup>3</sup> )	Above NAAQS (% of NAAQS)?
PM <sub>2.5</sub> – 24-hour	6.57	4.48E-02	17.1	23.70	35	No (68%)
PM <sub>2.5</sub> – Annual	2.32	1.56E-03	4.94	7.26	9	No (81%)
PM <sub>10</sub> – 24-hour	46.09	n/a	56.20	102.29	150	No (68%)
NO <sub>2</sub> – 1-hour	136.2	n/a	33.13	169.3	188	No (90%)
SO <sub>2</sub> - 1-hour	102.71	n/a	12.47	115.2	198	No (59%)
SO <sub>2</sub> - 3-hour	66.55	n/a	16.95	83.5	1310	No (6%)

### Additional Considerations

Corrections need by DEQ | No

Air Quality Division  
 700 NE Multnomah Street, Suite 600, Portland, OR 97232  
 503-229-5263, Toll-free in Oregon: 800-452-4011

*DEQ's mission is to be a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.*



## Memorandum

### Appendix A. Modeled Source Parameters

#### Point Sources

All modeled point sources had vertical, unobstructed stacks.

EU	Description	UTM (m)		Stack Temperature (K)	Stack Velocity (m/s)	Stack Height (m)	Stack Diameter (m)
		UTM E (m)	UTM N (m)				
TIP2	Tipper 2	481770.50	4949860.96	820.15	17.60	2.74	0.20
TIP3	Tipper 3	481767.92	4949859.88	770.45	7.4	2.29	0.20
EFLARE	Enclosed Flare-Scenario 1 & 2	482226.9	4949362.5	1144.26	12.04	12.22	3.56

#### Line Volume Sources

EU	Description	Number of Line Volume Sources	Release Height (m)	Length of Side (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)
UPR1	Unpaved Road	112	3.5	10.88	5.08	3.25
UPR1PV	Unpaved Public	13	1.55	10.88	5.08	1.45
PIR	Paved Roads	83	3.5	10.88	5.08	3.25

#### Area Poly Source

EU	Description	Number of Verts	UTM E (m)	UTM N (m)	Release Height (m)	Initial Vertical Dimension (m)
AI	Aggregate Insignificant	5	481898.93	4949727.429	0	0
LF-Fug	Landfill Fugitive	71	482021.74	4949927.73	0	0

Air Quality Division  
 700 NE Multnomah Street, Suite 600, Portland, OR 97232  
 503-229-5263, Toll-free in Oregon: 800-452-4011

*DEQ's mission is to be a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.*



## Memorandum

### Appendix A. Modeled Source Parameters

#### Point Sources

All modeled point sources had vertical, unobstructed stacks.

EU	Description	UTM E (m)	UTM N (m)	Stack Temperature (K)	Stack Velocity (m/s)	Stack Height (m)	Stack Diameter (m)
TIP2	Tipper 2	481770.50	4949860.96	820.15	17.80	2.74	0.20
TIP3	Tipper 3	481787.92	4949859.88	770.45	7.4	2.29	0.20
EFLARE	Enclosed Flare-Scenario 1 & 2	482226.9	4949362.5	1144.26	12.04	12.22	3.56

#### Line Volume Sources

EU	Description	Number of Line Volume Sources	Release Height (m)	Length of Side (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)
UPR1	Unpaved Road	112	3.5	10.88	5.08	3.25
UPR1PV	Unpaved Public	13	1.55	10.88	5.08	1.45
PIR	Paved Roads	83	3.5	10.88	5.08	3.25

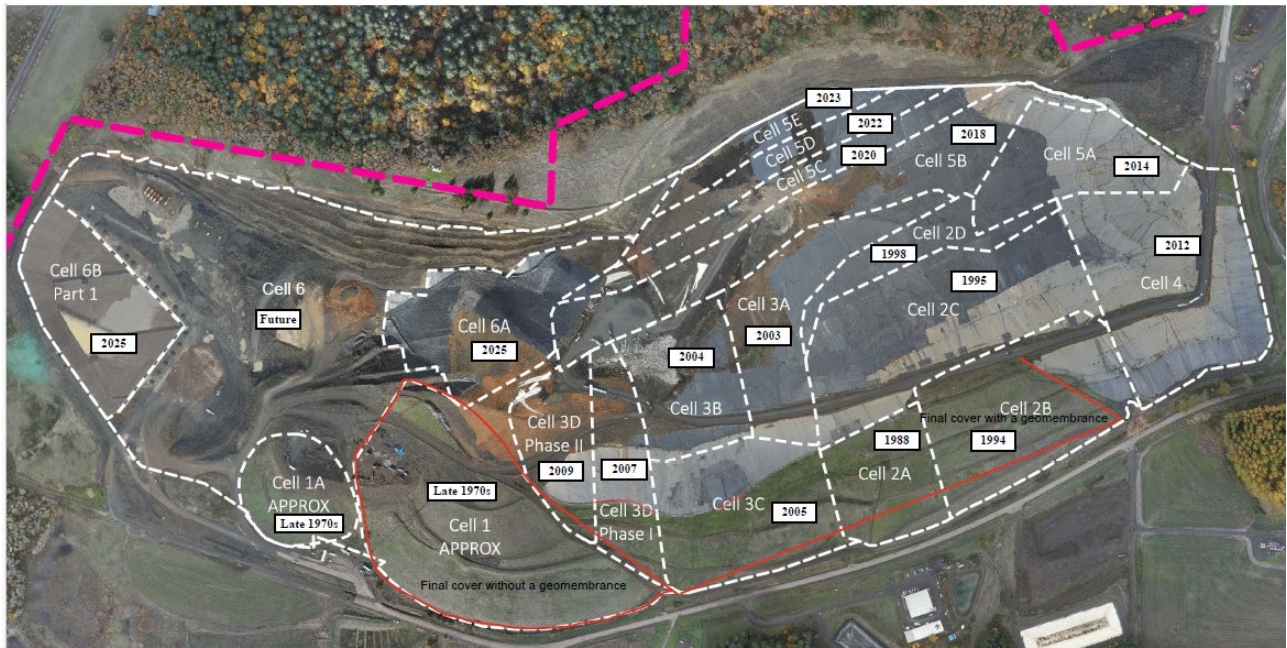
#### Area Poly Source

EU	Description	Number of Verts	UTM E (m)	UTM N (m)	Release Height (m)	Initial Vertical Dimension (m)
AI	Aggregate Insignificant	5	481898.93	4949727.429	0	0
LF-Fug	Landfill Fugitive	71	482021.74	4949927.73	0	0

Air Quality Division  
 700 NE Multnomah Street, Suite 600, Portland, OR 97232  
 503-229-5263, Toll-free in Oregon: 800-452-4011

*DEQ's mission is to be a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.*

### Facility Map with Waste Cell Locations



**Public Comments on 02-9502-TV-01 and Response to Comments:**

Public Comments	Response to Comments
<p>Commenter: Arthur Mohr. Oregon DEQ should allow the use of drones for performing surface emissions monitoring in accordance with US EPA Other Test Method 51 (OTM-51) akin to what has been approved by the State of Washington (Chapter 173-408 WAC – Landfill Methane Emissions). OTM-51 is the industry's most effective and efficient method for surface emissions monitoring and should be required by the State of Oregon for facilities to utilize this method either as an alternate or preferred method. Refer to US EPA Alternative Test Letter 150 (ALT-150) where test data has confirmed the method detects more leak sources and provides assurances of work quality unequaled by manual inspection. OTM-51 benefits the environment, improves operations, and reduces cost of inspection.</p>	<p>The use of OTM-51 for surface emission monitoring would be allowed after a permit modification is completed.</p>
<p>Commenter: Melissa Green. 1. Permit Condition 131 states 131. The permittee must calculate greenhouse gas emissions in metric tons and short tons, by the end of the 15th day of the following month, for each 12-consecutive calendar month period to determine compliance with the GHG PSEL by using the following: OAR 340-215-0040 Comment – Permit Condition 129 also requires monthly PSEL calculations, but the calculations required by permit condition 129 must be completed within 30 days of the end of each month. It is requested that permit condition 131 be updated to reflect the timeline in permit condition 131 and the GHG PSEL be required to be updated within 30 days of the end of each month instead of by the 15th day of the following month. 2. Permit Condition 13 and 128 – lists the PSEL for NOx at 28 tons /year. This is a -11 ton/year decreased from the current permit. Comment: The NOx PSEL is decreasing from 39 tons/year to 28 tons/year, mostly due to an update of the emission factors associated with the site's tippers. It is requested that once the permit is issued, the site be allowed to utilize the new emission factors for the tippers for the prior 11 months. If the site utilizes the emission factors in the prior permit for the 11-month that proceeds the permit issuance, the site will exceed the 28 tons/year NOx PSEL. 3. Permit Condition 13 and 128 – lists the PSEL for GHG at 282,500 tons/year Comment: The GHG PSEL limit was calculated utilizing the existing global warming potential (GWP) of methane, which is 25. On January 1, 2025, EPA is revising the GWP from 25 to 28. The existing GWP will be utilized for 2024 emissions, but the Title V Permit is requiring monthly calculations will include months 2025. Therefore, it is requested that GHG PSEL be revised using a GWP of 28 instead of 25. If this is not recalculated, the site could be over the GHG PSEL.</p>	<ol style="list-style-type: none"> <li>1. Permit Condition changed to allow use annual LandGEM calculations in January for the prior waste year, divided by 12 for monthly use in the current year.</li> <li>2. Permit condition 128 will include note that emission factors must be used for 11 months prior to permit issuance for PSEL calculations.</li> <li>3. The GHG PSEL was recalculated with the newly issued Global Warming Potentials. The GHG PSEL was calculated using the LandGEM for forecasting LFG production and methodology outlined in 40 CFR Part 98, Subpart HH. A condition was added to outline the Federal GHG reporting requirement for the facility, using the recently adopted 40 CFR Part 98 in addition to the Oregon reporting of GHG emissions in accordance with Division 215.</li> </ol>
<p>Commenter: William Goff. Comment: I would like to see them get approved.</p>	<p>No response required.</p>
<p>Commenter: Carol Witbeck. Comment: Why aren't you putting this toxic dump out in the desert in eastern Oregon? Why crap up our river drainages? The leachate is poison. Remember what you did with the Oregon City landfill. You allowed toxic crap to drain into our salmon spawning habitat for decades. This site in Corvallis will pollute the local fisheries. Who is making these stupid siting decisions? Get rid of them because they are setting us up for another generation of pollution in our waterways and fisheries. Stop this stupidity.</p>	<p>DEQ does not have land use authority but looks to the local land use authority to determine if land use is approved for the type of use proposed in the air permit.</p> <p>This landfill is required to have a liner and leachate is collected and disposed of in a wastewater treatment facility.</p>

<p>Commenter: Gary Andes</p> <p>This is Gary Andes, a citizen of Oregon residing in Nehalem, OR. I have reviewed the proposed Valley Landfill (VLF) renewal permit, review report, and detail sheets associated with the above source and have the following comments based on my years of experience as an AQ permit writer and inspector for DEQ's Western Region and my familiarity with the source and the prior permits.</p> <p><b>TIMING OF RENEWAL</b></p> <p>This permit renewal is long overdue. I wrote the last permit in 2009 and it has now been 15+years and the renewal should have been undertaken in 2014. This is just unacceptable. I was unable to do the renewal before I initially retired in 2015 and was not requested to do it anytime after I unretired until I finally retired in 2020. DEQ management turned the source over to the Medford office which I believe was a mistake due to the distance between the source and its newly assigned inspector and permit writer. I just don't believe you can do quality and timely work at such a distance. Let's hope the next renewal is completed more timely.</p> <p>Be that as it may, the renewal is now done and I commend the current DEQ permit writer(s?) who worked on it. Incorporating both the federal landfill rules and DEQ's own new Division 239 rules issued in 2021 was undoubtedly quite a task as there is considerable overlap and some ambiguity between the federal and state requirements for this landfill.</p> <p><b>EMISSION CALCULATIONS AND DETAIL SHEETS</b></p> <ol style="list-style-type: none"> <li>1. I have previously commented on the potential sulfur values in the landfill gas when the adjacent and intertwined Pacific Northwest Generating Cooperative (PNGC) TV permit recently also came up for renewal. I still stand by those comments which are also relevant for this VLF renewal. Essentially I don't believe enough landfill gas sulfur values were analyzed in 2020 as requested by myself and other DEQ staff at the time. The table in this VLF review report shows the TRS and H2S values from sampling by VLF and PNGC on the inlet landfill gas to the engines or flare. The VLF value, as noted in the review report, is significantly lower than the PNGC sample values. For this reason, the VLF value should not be used in the calculation of the average values. When removed from the data set, the new average TRS becomes 292 ppm and the new average H2S becomes 271 ppm. These are the values which should be used in all the PSEL calculations for both the fugitive LFG and flare. This will increase the PSEL values for TRS and H2S slightly. Because there is an approximate 20 ppm difference in the TRS and H2S values, the review report should show the contribution of the other S gases in the landfill gas, such as carbon disulfide, carbonyl sulfide, etc. or whatever was analyzed for in the 2020 samples.</li> </ol>	<p>Numbering was added to individual comments to allow tracking responses.</p> <p>Responses:</p> <ol style="list-style-type: none"> <li>1. The Coffin Butte sulfur sampling of 8/6/2019 was determined to be valid, so is included in the averaging of sulfur content of the LFG. The full sample results of all sulfur compounds is available via a public records request. Due to the large volume of data, and most data was collected under another permit, the data was not added to this permit.</li> <li>2. Sulfur sampling is listed as quarterly in the proposed permit. DEQ has determined that frequency as sufficient for ongoing monitoring of the sulfur content of the LFG. If the results are widely variable, the frequency could be increased by the department.</li> <li>3. The TRS value was corrected from a math error in the calculations, which decreases the TRS PSEL by one ton/year. SO<sub>2</sub> and H<sub>2</sub>S PSELS did not change because the Coffin Butte sulfur sampling is included in the average.</li> <li>4. The emission factors for all pollutants from the flare were updated using AP-42, manufacturer's specifications or source test data. A source test was added to the permit for PM, CO and SO<sub>2</sub> emission factor verification for the flare.</li> <li>5. The permittee paved additional roads since the last permit issuance. Details on distances and vehicles using those roads were</li> </ol>
--	--

<ol style="list-style-type: none"> <li>2. Because the S gas values were taken over four years ago now, it was heartening that DEQ has placed Condition 98 in the permit to initiate a new sampling effort to continue to watch how the S levels in the landfill gas change over time. This condition requires the company to do quarterly sampling. Based on my experience with the S sampling at Riverbend Landfill in the past, I believe that the requirement for VLF should be on a monthly basis, as the S content of the gas can vary significantly by the time of year. This is evidenced by the prior PNGC sampling also as shown in the review report where sulfur values have a 300% range.</li> <li>3. The PSEL calculations for SO<sub>2</sub>, TRS, and H<sub>2</sub>S from the flare will need to be recalculated when the low VLF S reading is dismissed. It also doesn't seem like the TRS emission factor should be twice that of H<sub>2</sub>S, although the other higher molecular S compounds may make that happen. The emission factors need to be reviewed. Similarly the TRS and H<sub>2</sub>S emission factors for fugitive landfill gas need reviewed and corrected.</li> <li>4. For PM/PM<sub>10</sub>/PM<sub>2.5</sub> from the flare shows an AP-42 2.4-5 factor. The 8/24 AP-42 Table 2.4-5 shows a factor for PM (which can also be the PM<sub>10</sub> and PM<sub>2.5</sub> according to the AP-42 footnote) of 17 lb/MM ft<sup>3</sup> methane or 8.5 lb/MMft<sup>3</sup> LFG assuming 50% methane. This recently issued AP-42 version was probably not used in the application which was last updated in June 2024. I am also not sure if the AP-42 factor is based on the same basis as DEQ's emission factors for particulates which includes the back-half condensable particulate. This needs review.</li> <li>5. The production rate (VMT) for Unpaved Roads 2 is slightly different than the production rate for Paved Roads. I thought that these values should be the same but am not sure how the traffic flow is at the facility. This needs review.</li> <li>6. The baseline landfill gas value is shown as 3,651,000 m<sup>3</sup>/yr. The 2009 detail sheets show 166,000,000 ft<sup>3</sup>/yr or 4,701,218 m<sup>3</sup>/yr. How was the new baseline value derived? This needs review to ensure the correct value.</li> <li>7. The baseline TRS and H<sub>2</sub>S values are based on the 2020 sampling and have different values than the sampling results table. I highly doubt that the S levels in the LFG were as high in baseline as current. This needs review also.</li> </ol>	<p>provided with the permit application for justification.</p> <ol style="list-style-type: none"> <li>6. The LandGEM model was updated to version 3.03 in 2020. Re-running the model with the new version, combined with moving Cell 0 waste into the landfill may have altered the results, particularly for the baseline year of 1978. DEQ decided to require an update to LandGEM 3.1 which was released in 2024, so all LandGEM results have been updated in the emission detail sheets.</li> <li>7. Because only the recent hydrogen sulfide and TRS test data is available, it was used for baseline, as opposed to LandGEM default values. No other data was available for the baseline period. The TRS baseline concentration was corrected to 273, to match the sample data average.</li> <li>8. For consistency with other Oregon Title V permits for landfill, the LandGEM model was run through the five year permit term. Because DEQ is requiring the permittee to re-run the LandGEM model, the permittee chose to extend the timeline through 2035.</li> <li>9. The permittee chooses the waste acceptance rate, based on expected operations. As long as the landfill has total permitted capacity for that waste, the permittee is allowed to include a conservative estimate to protect from a future PSEL exceedance.</li> <li>10. The difference between the modeled LFG produced and the measured LFG collected is somewhat variable and may be more or less than 25% of the total LFG (per model calculations). Due to the margin of error with the modeled results, the permittee requested and DEQ agreed to use 25% of the modeled LFG generation as fugitive emissions. This has been validated by the calculation from Table HH-3 in 40</li> </ol>
<p><b>LANDFILL GAS GENERATION AND CONTROL</b></p> <ol style="list-style-type: none"> <li>8. LandGEM was used to determine LFG generation, gas concentrations, and emissions through the year 2030, when, theoretically, the next permit would expire. However, based on past DEQ renewal history, it is unlikely that a new renewal permit would be issued in 2030. I would request that the LandGEM calculations be run through 2035 and all PSEL calculations be based on 2035. If not done, the facility may risk exceeding its PSELS again as landfill gas will continue to increase as long as VLF receives waste.</li> <li>9. The LandGEM calculations are based on waste accepted and waste in place at the facility any given year. From 2024 to 2030 the tables show a waste acceptance rate of 1,500,000 tons year, well above the 2023 waste acceptance rate. What is this drastic acceptance rate increase</li> </ol>	

<p>based on? In reality, VLF has expanded its acceptance rate considerably since the 2009 permit was issued. From 2009 to 2017 the waste in place increased 40%, from 2017 to 2023 it increased another 49%, and from 2023 to 2030 it is expected to increase an additional 67%, resulting in a total increase from 2009 to 2030 of 248%. I assume that some of the waste acceptance increase comes from the closing of Riverbend Landfill and the transfer of waste from there to VLF. In addition, the Covanta MSW incinerator which has taken most of the Marion County waste in the past has now closed. This combination of the Riverbed waste and Marion County waste might cause an increase of around 200,000 to 300,000 tons per year (based on recent data) to VLF but some of that waste is already likely going to VLF. The increase to 1,500,000 tons/yr of waste acceptance at VLF from the 2023 rate of 930,373 tons/yr needs to be explained better and justified.</p> <ol style="list-style-type: none"> <li>10. This increase in in place waste in turn creates an increase in LFG production over the years. In 2030 the LandGEM calculates 3977 MMft3 of LFG generated. The detail sheets show that 1782 MMft3/yr would be sent to the flare (its capacity) with 994 MMft3/yr being fugitive LFG (a 25% EPA estimated rate). In addition, 1040 MMft3/yr can be sent to the PNGC engines (their capacity). However, flare capacity plus engine capacity plus 25% fugitives still does not add up to the LandGEM generation rate in 2030. 160 MMft3 seems to be missing and might be reporting as fugitive. These emission rates all need review and verification. In addition, if my request above to carry the PSEL calculations for 2035 instead of 2030 is done, then all the above values will change. But there must be an accounting and balance of the LandGEM values with the total of the emission points.</li> <li>11. For 2024 the LandGEM calculates 2437 MMft3 of LFG generation in the proposed review report but the 2024 annual report for the facility showed only 2202 MMft3 LFG generation, likely because the actual waste acceptance in 2024 was below the 1,500,000 tons used in the application submittal.</li> <li>12. The approximate 73% increase in LFG generation from 2023 to 2030 underscores the necessity of the VLF and PNGC facilities to expand the combustion of the generated landfill gas by adding more engines or another flare. The 2030 LandGEM calculates a LFG generation rate of 7566 ft3/min. The current enclosed flare and 5 engines only have capacity of 5370 ft3/min. Thus the shortfall is 2196 ft3/min, which manifests itself as fugitive landfill gas. This fugitive landfill gas is likely to result in odor complaints about the facility. Thus, it behooves VLF and/or PNGC to expand their combustion capacity to remove this shortfall by either installing another flare or more engines. DEQ should consider a requirement in the permit that another flare be installed or that additional engines be installed by PNGC.</li> <li>13. In reality, this shortfall is already in existence as the 2023 annual reports for PNGC and VLF show a combined combustion of 2836 ft3/min of landfill gas while the LandGEM 2023 generation rate is shown as 4362 ft3/min. Thus a shortfall of 1526 ft3/min which occurs as fugitive landfill gas leading to odor complaints and contributing to climate change via greenhouse gas emissions of methane. This is a fugitive LFG rate of 35%, greater than the EPA rule of thumb 25%. According to the 2024 annual report actual LFG captured and</li> </ol>	<p>CFR Part 98 which has shown 80-82% collection efficiency in 2022-2024. However, the permittee is revising the collection efficiency for PSEL calculations to a conservative value of 65%, due to variability in the landfill cover as cells are closed and opened in future years. Actual emissions will use the collection efficiency calculated from Table HH-3 annually for PSEL compliance.</p> <ol style="list-style-type: none"> <li>11. DEQ requires updated LandGEM results annually, with the prior year actual data added to the model.</li> <li>12. The need for an additional flare or new or replaced engines is based on the projected LFG generation rate from the model. Because the LandGEM 3.1 model predicts substantially higher LFG generation, a compliance schedule has been added to the permit for installation of additional LFG control capacity. According to OAR 340-239-0110(1)(b) and 40 CFR 63.1959(b)(2)(ii) and (iii), the facility must demonstrate that the gas collection and control system is designed to handle the maximum expected gas generation flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control system equipment.</li> <li>13. See the response to #12 above.</li> <li>14. DEQ required the modeling to include running the flare with no engines running, for the situation where the engines are offline for maintenance or malfunction. At current landfill gas production rate, the flare is operating at approximately 29% of capacity with the engines running which was why that scenario was chosen. The full production scenario was altered to reflect the flare running at full capacity while the PNGC engines are also operating at full capacity to demonstrate compliance with the NAAQS through the growth of</li> </ol>
---	--

combusted in 2024 was 1444 MMft<sup>3</sup> with 758 MMft<sup>3</sup> reporting as fugitives. Again this is a fugitive rate of 34%, much higher than the EPA rule of thumb of 25%. These fugitives would give rise to more odors from the facility and likely odor complaints. Thus, in reality, additional engines or another flare should be installed now to reduce fugitive emissions of LFG and the potential for offsite odors and complaints. As the landfill expands this shortfall continues to expand without additional combustion capacity being installed.

MODELING

14. Because of the PSEL increases associated with the VLF renewal, the facility was required to go through State Type B New Source Review. However, the modeling that was done seems to have used some odd scenarios. Scenario 1 had the new enclosed flare operating at capacity but no PNGC engine operation. That seems very unrealistic given that the engines have operated continuously since 1995. In addition, as discussed above, there is far too much LFG being generated to only allow the use of just the flare. Scenario 2 had the PNGC engines operating but the flare only operating at 29% capacity. Again another unrealistic scenario in my mind based on the amount of LFG currently and to be generated in the future. The modeling should have been done with both the enclosed flare and PNGC engines operating at full capacity to really be representative of the actual operations expected at the facilities.
15. The modeling analysis concentrated on the short term NAAQS except for also calculating the annual PM<sub>2.5</sub> impacts. Why were not all the NAAQS timeframes modeled for SO<sub>2</sub> and NO<sub>x</sub> as required by DEQ rules? Admittedly, I wouldn't expect any of the unmodeled NAAQS timeframes to be exceeded but to be complete and in compliance with the DEQ rules all timeframes should have been modeled or at least a statement that based on prior modeling at other sources any long term exceedance was unlikely.
16. PNGC was also required to perform modeling for its recent TV renewal. Although the background concentrations used for SO<sub>2</sub> and NO<sub>x</sub> were similar in both modeling efforts, the PM<sub>2.5</sub> and PM<sub>10</sub> background concentrations were slightly different, with the VLF values slightly lower than those used for PNGC. However, either value will have no effect on the compliance with the NAAQS. Just need to be consistent when two sources are so close in proximity.
17. The proximity of the modeled results to the NAAQS for all pollutants modeled is of some concern. In addition, since I believe the modeling scenarios were not realistic, I believe modeling should be redone at 100% capacity of the flare and engines to see if that changes the modeling results and possibly bring the results even closer in proximity to the NAAQS for SO<sub>2</sub> and NO<sub>x</sub>.
18. Because of the proximity to the NAAQS the enclosed flare should be source tested for NO<sub>x</sub> and SO<sub>2</sub>. In addition the flare should be tested for PM and CO to also verify those emission factors.

ROAD SILT ANALYSIS

19. A silt analysis of dust on the paved and unpaved roads at the facility in June 2020. Emission factors for road dust were a question brought up

landfill gas collection. In that case, the NAAQS compliance was met and the modeling review report has been updated to reflect those results.

15. Because the facility only triggered State New Source Review for SO<sub>2</sub> and PM<sub>10</sub> (as pollutants for which a NAAQS applies), only those pollutants were subject to modeling for both short and long term NAAQS. The long term SO<sub>2</sub> standard was changed from a 3 hour standard to an annual standard on December 27, 2024; after this permit was on public notice. By rule, the other pollutants were short-term NAAQS (NO<sub>x</sub>, PM<sub>2.5</sub> and SO<sub>2</sub>) must be analyzed whenever a source triggers New Source Review for any pollutant. For that reason, because NSR was not triggered for NO<sub>x</sub> or PM<sub>2.5</sub>, analysis of long-term impacts was not required. The facility did conduct long term PM<sub>2.5</sub> analysis, in addition to other required analyses.
16. Background values were obtained from NW Airquest. While Coffin Butte used the average of the four nodes nearby, PNGC used the maximum node which was more conservative. DEQ typically accepts the average of four nodes, so the Coffin Butte submittal was accepted.
17. See response to item 14 above. Whenever the modeling results are >75% of the NAAQS, additional permit conditions are added to ensure NAAQS Compliance.
18. Source testing of the flare for NO<sub>x</sub> was included in the permit. The sulfur sampling should provide information needed to accurately calculate SO<sub>2</sub> emissions from the flare; however, emission factor verification tests for PM, SO<sub>2</sub> and CO were added to the permit.
19. The silt analysis was formally requested by DEQ on March 9,

by the public in the 2009 renewal. At that time DEQ issued the permit but, as noted in the review report, was going to require the company to perform such a silt analysis outside the permit requirements through a letter to the company. I'm fairly confident I would have issued such a letter immediately after the 2009 permit renewal requiring such an analysis within one year. So why was the silt analysis delayed until 2020? I would have thought it would have been done in 2010. Or is this a second analysis?

REVIEW REPORT

- 20. Cover Page: Source test box should show flare for CO<sub>2</sub>, NO<sub>x</sub>, CO, PM, and methane destruction. Instead of ambient monitoring the box could be changed to TRS monitoring. A box could be added for CPMS for the Flare temperature. With the more complicated landfill rules now in the permit, I would make the annual report due March 15 along with the emission fee report. And make the SACC due August 31. GHG should be entered in the Other reports box. Boxes for CAO and GHG should be added to the Air Programs section.
- 21. Item 4 It should be noted somewhere that TIP-2 replaced the old Tipper 1.
- 22. Construction of the new enclosed flare was granted on 11/9/23. When did the flare actually start operation?
- 23. Item 5 128-129 box indicates "Added a condition for SO<sub>2</sub> emission factor from LFG (Fugitive). There are no LFG fugitive emissions that contain SO<sub>2</sub>. SO<sub>2</sub> is only formed after the combustion of S containing compounds in the flare or engines.
- 24. Item 7 indicates that leachate is not treated on site but goes to the Corvallis WWTP. Is any leachate reapplied to the landfill? If so I believe that the landfill is then considered a bioreactor.
- 25. Item 8 discusses road emissions. It indicates 160,500 vehicles/yr proposed on paved roads (PIR). For reference 2023 and 2024 vehicles were 126,306 and 130,662. 42,500 vehicles are shown for UPR-1 and 118,000 vehicles on UPR-2. For reference 2023 vehicles were 126,306 on UPR-1 and 97,320 on UPR-2 and in 2024 vehicles were 130,662 on UPR-1 and 97,347 on UPR-2. These values for the unpaved roads do not seem to correlate for 2023 or 2024 and the proposed.
- 26. Item 8.f shows that petroleum contaminated soils are used for daily cover. At some point (around 2017 maybe) ash from the Covanta incinerator began to go to VLF and may also have been used for daily cover. The Covanta ash contains significant quantities of sulfur from the SO<sub>2</sub> removal process at the incinerator.
- 27. Item 9.c and .d I believe are the old language for burning equipment. The rule language in Division 200 should be used.
- 28. Item 12d. CAM. In addition to Part 64, Oregon rules in Division 212 also require CAM. CAM requires an analysis for regulated pollutants, not just criteria pollutants. The table should list all the pollutants emitted from the enclosed flare as well as their post-control emissions.
- 29. Item 13. The PSELS in this table may change if some of my earlier suggestions are done. The baseline GHG rate should be rounded to 98,000 tons. The previous PSEL for GHGs shown is incorrect and should be zero. No GHG PSEL was in the 2009 permit as the DEQ GHG rules did not exist then.

- 2020, although it was referenced in the 2009 review report. The silt analysis was conducted and submitted to DEQ on September 2, 2020.
- 20. Minor changes made. Report dates not changed.
- 21. Noted in Item 8 of the review report.
- 22. The ENCL-FL started operation on 08/06/2024.
- 23. Statement on SO<sub>2</sub> deleted.
- 24. No leachate is applied onto the landfill.
- 25. Vehicle trips were reported by the permittee, but changes were made to the road designations and additional roads were paved. Comparison to the 2009 mileages is not valid since the road distance and uses changed.
- 26. Yes, Covanta ash was also used as cover; however, petroleum contaminated soils were included as an emission unit due to VOC emissions from that cover type. A description of cover materials was added to the Facility Description.
- 27. Template language used.
- 28. Added statement about pollutant emissions from the flare that are not subject to CAM.
- 29. Deleted previous GHG baseline, rounded GHG current baseline and corrected TRS PSEL.
- 30. Statement about flare removed.
- 31. The air toxics emission inventory was submitted to CAO as part of the triennial emission inventory submission. In addition, the significant modification application included an updated air toxics emission inventory that was submitted to CAO staff. The facility has not yet been called into the CAO program to conduct a health risk assessment.
- 32. EPA recently requested that DEQ take over the enforcement action from the EPA led inspections in 2022 and 2024 and follow up information requests in 2025. A

<p>30. Item 16 indicates that the baseline was updated to remove the flares which were not in operation during the baseline period. No adjustment should have been necessary as the flares were not included in the 2009 permit baseline.</p> <p>31. Item 26. Has the CAO been updated by VLF for the toxics values shown in the detail sheets?</p> <p>32. Item 38 indicates that EPA also inspected the facility in June 2024. I believe that EPA also inspected the facility in June 2022. EPA has issued inspection reports on those two inspections. The June 2024 report listed a number of potential compliance concerns and those findings should be stated in this review report. Has EPA or DEQ taken any enforcement actions based on their inspections? If so, then that should be discussed also. The EPA compliance concerns should be discussed and information provided as to how VLF has responded to those concerns.</p> <p>33. Item 41 values would need revision based on my previous comments about the TRS values.</p> <p>34. Item 42. The sampling for silt content on the roads is not a source test so that sentence should be reworded.</p> <p>35. Item 43. As I previously commented, the enclosed flare should be tested for NOx, SO2, CO, and PM in addition to the methane removal efficiency test.</p> <p>36. Since the reason for the delay in holding this public hearing was for DEQ to obtain an updated LUCS, the date of this updated LUCS submittal (March 19, 2025) should be listed on the cover page of the permit.</p> <p>37. No section is included in the review report concerning the number of citizen complaints about the landfill. This has normally been a part of all review reports in the past. A section should be added listing the number of complaints by year since the last renewal, whether DEQ investigated the complaints, and what action if any was taken to resolve the complaint.</p> <p>38. The Public Notice section (Item 44) should be updated to reflect the current public notice and public hearing dates and the reason for the delay of the first hearing.</p>	<p>Pre-Enforcement Notification was issued by DEQ on November 6, 2025, addressing monitoring deficiencies, control equipment capacity and other issues.</p> <p>33. Because all tests were determined to be valid, all results were used in calculation of the emissions.</p> <p>34. Changed wording to remove source test.</p> <p>35. Testing for PM, NOx, CO, SO2, added to the permit.</p> <p>36. LUCS dates are included on permit cover page of the permit.</p> <p>37. A summary of complaints for the last five years were added to the review report.</p> <p>38. Public notice section has been updated.</p> <p>39. 12/1/13 was the date of the original renewal application which was due one year prior to permit expiration.</p> <p>40. Speed limit added to table.</p> <p>41. Table value was corrected to match permit condition.</p> <p>42. A source test was added for PM, CO and SO<sub>2</sub>, as new Condition 19.</p> <p>43. Added reference to Condition 35.a (previously 34.a) to note that it is used to demonstrate compliance with the standard in Condition 28.d (previously 27.d) per Federal rule reference.</p> <p>44. Permit Condition 58 (previously 57) is in the permit because leachate recirculation previously occurred in the last 10 years.</p>
<p>PERMIT</p> <p>39. Cover Page. A date of 12/1/13 is shown as one of the application dates. Should that be 12/1/23?</p> <p>40. Table 1. The emission units PIR and UPR-1 do not show the 15 mph speed limit shown for UPR-2. The review report indicated the speed limit would apply to all roads (Item 22 in the review report).</p> <p>41. Table 3. The grain loading shown for Condition 18 should be 0.10 gr/dscf, avg as it is listed in the written out Condition 18.</p> <p>42. Condition 19. Source tests for emission factor verification should also be required for SO2, CO, and PM in addition to NOX.</p> <p>43. Condition 27.d. This condition requires surface monitoring of the landfill for fugitive methane concentrations. However, no time frame is indicated in the condition. This should be done on a quarterly basis as also required by Condition 34.a.</p> <p>44. Condition 57. Is this condition regarding leachate recirculation have any bearing?</p>	<p>45. Deleted reference to ACDP.</p> <p>46. Added the wording “integrated surface monitoring” to permit condition to note that 25 ppm refers to integrated value only.</p> <p>47. Permittee has not requested a later report date.</p> <p>48. Permittee has not requested a later report date.</p> <p>49. The new enclosed flare has met the standard for methane destruction; however, results were not available at the time the permit started public notice. They have been added to the review report.</p>

- |  |   |
|--|---|
| <p>45. Condition 70.b.iv contains Air Contaminant Discharge Permit. This facility has never had an ACDP.</p> <p>46. Condition 81.b. This indicates that any reading over 25 ppmv methane is an exceedance. I believe OAR 340-239-0200(1)(b) treats the 25 ppmv limit as the average of all readings on the surface of the landfill (see Condition 74.b). The condition should be reworded to reflect that if the average is exceeded, then the following actions should be taken.</p> <p>47. Condition 88.c. As previously commented, I believe the semiannual report should be required by August 31 due to the complexity of the new landfill rules and the permit.</p> <p>48. Condition 88.d. As previously commented, I believe the annual report should be required by March 15 due to the complexity of the new landfill rules and the permit.</p> <p>49. Condition 88.h. Has the new enclosed flare already met this condition for testing? If so, the review report should list the results. Those test results should be used in the PSEL calculations.</p> <p>50. 2024 ANNUAL REPORT and COMPARISON to PROPOSED PERMIT. The 2024 annual report for the facility utilized some different emission factors to calculate 2024 actual emissions than the proposed emission factors used in the proposed detail sheets. In particular, the tipper emission factors were quite different. In addition, the emission factors for the new enclosed flare used some manufacturer specs and Ap-42 factors. If the flare has been source tested (and it should have been by now), those source test results should now be used to calculate the proposed PSEL</p> <p>51. The existing permit contains a PSEL for NMOC of 49 tons/yr. The 2024 annual report shows actual 2024 emissions of 55.6 tons/yr, in exceedance of the PSEL. This is a violation of the permit as it was calculated. However, this violation would most likely not have occurred if the permit would have been renewed or modified before now. DEQ must now consider how to treat this PSEL exceedance under its Enforcement rules in OAR 340 Division 12. The existing permit delineates how to calculate PSEL compliance in Condition 20 using the emission factors listed in that condition along with the equipment listed in that condition. Condition 20 does not include Open Flare 2, the new enclosed flare, or Tippers 2 and 3. These devices were used in the 2024 annual report to calculate actual 2024 emissions, even though the existing permit does not contain them or their emission factors.</p> <p>52. In addition, for NOx, the 2024 annual report shows actual emissions of 31.4 tons/yr, which is higher than the proposed PSEL.</p> <p>53. DEQ staff need to carefully reevaluate all the emission factors for all the devices currently at the facility when calculating the proposed PSEL.</p> <p>54. Condition 88.k.i. Do these listed wells still exist? If not the list should be removed or modified to only include the wells still in existence.</p> <p>55. Condition 98. As previously commented, I believe this sulfur sampling needs to occur on a monthly basis.</p> <p>56. Condition 98.g. Based on my prior comments, I believe this value should now be 292 ppmv which I would round to 300 ppmv. I also believe that the sampling should be done on a monthly basis for a year and then if the average results are less than 300 ppmv, then the</p> | <p>50. The 2024 annual report used emission factors in the current permit, as required. Tipper emissions are being updated in this permit action to reflect the Tier 3 and Tier 4 emission factors appropriate to those engines. The results of the flare source test were not yet available at the time the permit went on public notice. The flare emission factors will be updated at the next permit renewal when additional source test data is available.</p> <p>51. DEQ is aware of the PSEL exceedance and will handle that through enforcement, while acknowledging that the permittee submitted a significant modification application in 2023 to increase the NMOC PSEL to account for additional waste accumulation and landfill gas generation. Because a minor modification application was received for the Enclosed Flare, the permittee is allowed to operate the new equipment as soon as the minor modification application is received and the associated emission factors are appropriate for use in the annual report. A minor modification was issued in 2014 for Open Flare 2 that included emission factors for that equipment. The tippers were approved through Notice of approval to construct with the approval using the same emission factors as Tip (Tipper 1).</p> <p>52. The NOx PSEL decreases due to changes to the Tipper emission factors to account for Tier 3 and Tier 4 engines which have lower NOx emissions.</p> <p>53. All emission factors were reviewed during permit drafting.</p> <p>54. The list was reviewed by the permittee, and deleted since the permittee no longer requests deviation from the limits.</p> |
|--|---|

<p>sampling can revert to quarterly and should be continued for the permit term. One annual sample will never be reflective of the sulfur in the landfill gas.</p> <p>57. Condition 104.b. Paved roads should also be watered.</p> <p>58. Condition 128. As previously discussed, these PSEL values may change.</p> <p>59. Should there be two GHG PSELs for this facility, one for biomass generated GHG and one for non-biomass generated GHG?</p> <p>60. Table 6. In addition to the total amount of municipal waste accepted at the landfill, I believe it would be good to break down the annual quantities into true municipal waste, industrial waste, construction waste, and liquid wastes. Construction waste, in the form of wallboard or gypsum board, contains appreciable sulfur which could increase the H<sub>2</sub>S and TRS generation and subsequent SO<sub>2</sub> emissions when the LFG is combusted.</p> <p>61. As previously commented, I believe the TRS sampling should be monthly.</p> <p>62. Under LF with ENCLFL, % methane should also be monitored as it is for the engines.</p> <p>63. Table 7. I'm not sure the TRS/H<sub>2</sub>S emission factors are correct. The ratio between the TRS and H<sub>2</sub>S value in the fugitive LFG is quite different than the values from the flare. I believe the flare emission factor for TRS is wrong. This comment also applies to the requested PSEL detail sheet</p> <p>64. How were the fugitive LFG TRS and H<sub>2</sub>S values calculated? Do they assume the prior S sampling concentrations on LFG going to the engines but not any removal by the daily or final cover? I believe that studies at Riverbend and elsewhere have shown that a significant fraction of the potential S fugitives is removed by cover materials.</p> <p>65. What does the (PV) stand for in UPR-1(PV)?</p> <p>66. Condition 130. Not all pollutants get AI of one ton added. Only PM, PM<sub>10</sub>, PM<sub>2.5</sub>, CO, SO<sub>2</sub>, NO<sub>x</sub>, VOC, and NMOC do. TRS, H<sub>2</sub>S, and GHG do not.</p> <p>67. Condition 131. When did DEQ start requiring GHG emission calculations on a monthly basis? This was always done on a calendar year basis in the past and sent to DEQ AQ HQ. Admittedly, this new procedure indeed determines compliance with the GHG PSEL better. In the past the inspector for a facility never knew whether the GHG PSEL was being exceeded or not, particularly if HQ never sent the GHG report to the regions.</p>	<p>55. As noted previously, DEQ is leaving the monitoring at quarterly.</p> <p>56. As noted previously, all prior testing was considered valid. No changes to the total reduced sulfur ppm is made at this time.</p> <p>57. Watering of paved roads was not considered a required control.</p> <p>58. TRS PSEL was corrected.</p> <p>59. A GHG PSEL excluding biogenic emissions was added.</p> <p>60. For the purposes of PSEL calculation, total municipal solid waste is sufficient for this table. Sulfur content will be determined via monitoring landfill gas.</p> <p>61. As stated previously, DEQ will require quarterly monitoring at this time.</p> <p>62. Methane percentage is not required for emission calculations, since the AP-42 fraction is used to calculate emissions.</p> <p>63. TRS emission factor for the flare in Table 7 and the emission detail sheets has been corrected.</p> <p>64. Fugitive TRS and H<sub>2</sub>S emissions were calculated from the average concentration in the LFG, and did not assume any removal of those compounds by cover materials.</p> <p>65. PV refers to public vehicles. The Unpaved road emissions were calculated separately for public vehicle drop off of waste and for industrial vehicles, as noted in Table 1.</p> <p>66. Specific pollutants with AI emissions added to the permit condition.</p> <p>67. Due to the use of LandGEM for LFG production, the GHG calculations were changed back to use annual LandGEM values, divided by 12 for the current year's monthly PSEL compliance calculations since PSELs are evaluated on rolling 12 month calculations. Annual GHG reporting is also required for calendar year emissions.</p>
---	--

<p>Comenter: William Briskey          Title V Air Permit Concerns for Coffin Butte Landfill May 19, 2025          Regarding Air Quality Permit Renewal I have two primary concerns about the requested permit renewal:</p> <ol style="list-style-type: none"> <li>1. Landfill gas impact on health of my family, which includes an infant and a 5-yr-old</li> <li>2. Impact on how I use my land. My property shares 1580 feet of fence line with the NW corner of the Coffin Butte landfill and the topology brings the smell right to us anytime there's a south component to the wind direction. When we bought our land 35 years ago, we were told by a Valley Landfills, Inc. representative that the original deposit location, called Cell 6, was closed so all future garbage would always be moving away from us. Since Republic moved all the refuse out of Cell 6 and Knife River blasted to remove more of the Butte at that NW corner, we've already experienced more odor and picked up more airborne garbage that blows over the fence. The quarry blasting has caused structural shifts in our house, broke a window, and we now have major cracks in concrete slabs in out-buildings. Understandably, we're very interested in the outcome of the current expansion discussion and any other restriction/requirement that Republic must follow.</li> </ol> <p>I am becoming increasingly concerned about my family's exposure to toxic gasses every time a breeze comes from SE to SW. The gas being comprised of methane, carbon dioxide, plus other aerosols including toxic PFAS (per- and polyfluoroalkyls) was just last year measured by the EPA to exceed the maximum allowable emission level by 219 times. I have not seen any evidence that the ongoing problems in the existing methane collection system have been corrected since the last EPA visits, just continued gas emissions indications from satellite images and my own nose. This clearly violates BCC 53.215 (1) and makes me wonder why it doesn't get the attention it deserves by Benton County and EPA officials. It is apparent that even compliance with air quality requirements managed by the DEQ would be a stretch for Republic based on the latter's record.</p> <p>I haven't complained about the odor because, hey, I live next to a dump. But the increase in odor is also raising my awareness to the apparent lack of mitigation and potential long-term damage from toxicity exposure. I hosted business associates once and the stench forced me to cancel the meeting and everyone left – I haven't been able to host events since then. Before there's any new permit approval, I'd like to see Republic get a handle on what they already have to manage. I'd also like to see evidence that they are actually solving the problem instead of dismissing complaints.</p> <p>There's no easy solution for waste, but how about accountability? It's pretty clear to me that the practice of hiding violations in the past has turned into a standard operational procedure. It's unlikely that Republic can change its practices to be transparent with the County, and the county's contract representative (legal counsel) is not negotiating on behalf of the stakeholders in our county.</p> <p>I see first-hand how the landfill's disregard for environmental and local land use impacts my family. I encourage relevant DEQ personnel to visit a neighborhood downwind of the landfill and think about the long-term impact when they stand there breathing in the potpourri of nasty gasses. It might be several years before science solidly connects these gasses to human health issues – meanwhile the activities of Landfill neighbors is dependent on "the way the wind blows." I would prefer that landfill operations cease, but in lieu of that, that there at least</p>	<p>This permit action does not include the expansion of the landfill into the area south of Coffin Butte road. The permittee will need to apply for a permit modification, with land use approval by the county, before DEQ will add it to the permit, . .</p> <p>DEQ has modeled emissions of particulate matter, nitrogen oxides and sulfur dioxides and found that the National Ambient Air Quality Standards are not being violated.</p> <p>DEQ has not yet assessed the health risks from the air toxics being emitted from the landfill. DEQ's Cleaner Air Oregon program is continuing to call additional facilities into the program and will at some point in the future evaluate the air toxic health effects from this facility. Based on a screening analysis to determine the timing for a health risk assessment, this landfill and all regional landfills were determined to have a lower health risk and are in the third tier for getting called into the program.</p> <p>DEQ issued a pre-enforcement notice on November 6, 2025, to address a number of compliance issues including inadequate monitoring and control equipment capacity issues. Enforcement actions are handled separately from updating the existing permit. This permit action will update a significantly outdated permit and will include new and additional monitoring requirements.</p>
---	---

<p>be a relevant monitoring system activated to ensure that there is compliance with Air Quality requirements. William J. Briskey, PE 39101 Military Road Monmouth, OR 97361</p>	
<p>Commenter: Debbie Palmer</p> <p>To Whom it may Concern at DEQ, Re: Coffin Butte Landfill’s Proposed Title V air quality permit renewal</p> <p>Below are some comments I wish to submit for the record regarding Republic Services’ poor control over air pollutants (dust and smoke and all the unknowns contained therein) at the Coffin Butte Landfill. Attached are both photos and links to videos providing examples of the many nuisance air pollutants leaving the landfill site and drifting over the surrounding environment. I have provided captions as appropriate.</p> <ol style="list-style-type: none"> <li>1. Please do not grant Republic Services MORE leeway to pollute even MORE. They clearly do not disclose to you all the out of compliance activities that go on at this dump. At the public hearing on May 6th, I think it was Janice Tacconi(?) who indicated there were newer, stricter rules that were issued by the EPA after you first prepared this permit. Please at least update this permit to reflect the new, stricter rules. I realize this requires re-noticing and possibly a revised hearing... and Janice said something like (I’m paraphrasing) “yes we know about these stricter rules, but since they came out after we initially created this new permit [but before it was final, due to delays from a missing LUCS(?)], we don’t want to go through the trouble of re-doing it. Besides, it’ll come up for renewal again in 5 years...” But not only is five more years of polluting a long time — there’s no guarantee that this permit, if issued, won’t stretch out to 15 years like the current permit has. It is important for the environmental (and human!) health DEQ is supposed to protect/maintain that you take this extra step and do this right before issuing this permit.</li> <li>2. Meanwhile, please take a look at the below photos and videos documenting nuisance air pollutants leaving the landfill site, and then judge for yourself whether Republic Services deserves to be allowed a permit to pollute more, simply “because the landfill is bigger now.” [From the Title V air quality permit summary: "Some pollutant emission limits are increased in this proposed permit due to continued accumulation of waste in the landfill"] ODEQ’s job is to “protect and enhance the quality of Oregon’s environment.” Allowing them to pollute more does not do this.</li> </ol> <p>Respectfully submitted, Debbie Palmer Soap Creek Valley Corvallis, OR 97330</p> <p>This is Republic’s new enclosed flare, 2-12-25, shortly before 4pm. Clearly not combusting cleanly. We estimated it had been burning like this for at least an hour before finally stopping. Those flames are supposed to be *contained*</p>	<ol style="list-style-type: none"> <li>1. All current regulations were included in the draft permit. The emission calculation guidance in AP-42 Chapter 2.4 was revised and finalized in August 2024 and again in May 2025, changing some emission calculations, but no underlying requirements. Because the changes also included changes to the landfill emissions model and assumptions on VOC content, they impacted more emission calculations that originally assessed. All emissions have been re-calculated using the revised guidance from AP-42, the LandGEM 3.1 model and 40 CFR Part 98 references.</li> <li>2. DEQ did send the picture from Feb. 12th you took to Coffin Butte and asked them about it. They said it would be reported and gave this explanation: “The flare experienced a problem with its logic/programming. The gas was being supplied as normal, but the louvers were not opening at the correct time. An attempt was made to restart the flare and correct the issue when the observation was noted. The louvers were lagging, failing to supply the air needed for a balanced burn, hence the observed black smoke. The flare was shut down immediately and was corrected once the programmer was able to come back out and work with John Zink to correct the timing.”</li> </ol> <p>The picture of the dust cloud taken in 2023 is concerning and would violate permit Condition 9 of the proposed permit if visible emissions were observed leaving the property of the landfill. In a pre-enforcement notice issued by DEQ on November 6, 2025, DEQ required the following</p>

down in the bottom of that pipe, not coming out the top. I have video of this event as well, and can provide it upon request (but the file is large, so I did not attach it).



This photo was taken inside the landfill in 2023... we suspect this is Covanta burner ash being dumped, but do not have a way to prove it. Regardless... huge dust cloud.



corrective action: By Feb. 1, 2026, have a third party with expertise in landfill operations and dust control conduct a study of fugitive dust control management and options for the Coffin Butte landfill. The study must include: 1) a review of the types of loads received at the Coffin Butte landfill that generate significant dust plumes when tipped, 2) a review of Coffin Butte's current practices for managing fugitive dust from tipping operations, 3) a review of industry best practices for managing fugitive dust from tipping operations, and 4) recommendations for fugitive dust management at the Coffin Butte landfill. Submit the study, along with a Fugitive Dust Control Plan for the Coffin Butte landfill to DEQ for approval.

**Public Testimony from the 5/20/25 Public Hearing:**

My name is Gary Andes, GARY ANDES. I live in Nehalem, Oregon. I used to work for DEQ for 30 years, and I'm the one who wrote the last permit in 2009, so I'm glad they're finally getting it issued again.

I've submitted about 8 pages of already written comments, so I'm not going to go into the details of those. (Note: Numbering has been added to correlate to responses)

1. There's a couple of things I wanted to talk about that I heard tonight, and one of those is my thoughts that really the calculations and the modeling that has been done probably needs to be done again, using all the emission factors that they now have, because there are some source tests that are on, that have been done, I believe, on the new flare that have not been used in the calculations to date.
2. The modeling in my mind, as my comments showed, had some questions about the scenarios that were used, and I also believe that the permit will probably not get issued in 5 years again. So the questions that some of the other citizens have raised tonight about, you know, the long term goals of the landfill. I believe they really need to do the calculations and the modeling based on like 2035, through the LandGEM calculations. And that'll come up with a lot of different numbers and higher numbers, so they may have to end up going back out on public notice.
3. The Cleaner Air Oregon questions. The inventory was last submitted from what I saw in 2016, and since then the landfill has increased waste acceptance by like 49% from 2017 to 2023, and based on the

1. The source test on the new flare did not include pollutants used in the modeling. Flare source test results were not available at the time the permit started public notice.
2. As noted in prior response to comments, the modeling analysis was revised to include full operation of the flare along with full operation of the engines at PNGC, and the results indicated that NAAQS compliance. Because the permit term is 5 years, the emissions for landfills are forecast for the permit term. However, because DEQ required the permittee to run the version 3.1 LandGEM model, the permittee opted to extend the emission estimates through 2035.
3. Facilities are required to submit air toxic emission inventories every three years. The 2020 air toxics emissions report is available at <https://www.oregon.gov/deq/aq/air-toxics/Pages/Air-Toxics->

<p>proposed, another 67% increase from 2023 to 2030. So obviously that inventory is going to be higher and it needs to be updated for Cleaner Air Oregon.</p> <ol style="list-style-type: none"> <li>4. Mark raised the question at the end here about the dumping of the waste at the tippers and dust coming out of that. And yes, that occurs, and when I did the permit, I had no way of trying to figure out how to come up with an answer for what that amount was, and I don't believe the current permit, in contrast to what Mike said, I do not believe the current detail sheets in the permit talk about that at all. And I'm not sure who you would talk to actually figure out how to do that. There are some things in AP-42 about dust from dumping of rock and gravel and things like that, but there's nothing in the unless the new AP-42 for landfills has some kind of an emission factor.</li> <li>5. But anyway, I believe that all the all the emission factors and calculations need to include, you know, the new source test results and basically redo the models based on that. So that if the permit's not generated again, renewed in 2030, then they won't be in the same situation they are right now with exceedances of their plant site emission limits. Because if you don't go farther out then that raises this possibility of it happening again. I know they use some fairly high acceptance rates of waste. I'm not sure where they came up with the numbers from, because it far exceeds what they're currently doing, plus all of Covanta plus all of Riverbend's waste. So maybe they were, you know, they were conservative in doing that. But the numbers hopefully won't actually get that far.</li> <li>6. The 25% factor that people talked about there on fugitives is just kind of an EPA rule of thumb. Landfills can do better than that.</li> <li>7. River bend. They had a lot of odor complaints up there. We got on their case in DEQ and from the calculations that we were doing at the time. I think they were able to bring that fugitives down to 10%, and you do that by adding enough combustion capacity in the form, probably of another flare or some more engines for PNGC. Right now they're already way behind when you're at 25%, or even maybe 35% actuals, and that's what's causing your odor problems and complaint problems of which I have no idea how many complaints have been generated lately, because it's not in the review report, and then it should be at this point. Basically all my other stuff, you know a lot of little permitting minute nitpick.</li> </ol>	<p>Background.aspx. The 2023 air toxics emission inventory will also be available online when quality control activities have been completed.</p> <ol style="list-style-type: none"> <li>4. Dumping from the tippers and trucks are included in the emission calculations using equations from AP-42, 13.2.4-1. Because PM emissions were lower than 1 ton/year, they are included in Aggregate Insignificant Emissions.</li> <li>5. Emission calculations were made using source test and sampling data that was complete and available at the time of permit drafting. Additional testing will be included in the next permit renewal for re-calculation of emissions. If the permittee needs to change emission limits in the permit prior to permit renewal, they will submit an application for a significant modification.</li> <li>6. While the 25% fugitive emission estimate is an estimate based on the prior EPA AP-42 guidance, DEQ believes that it is a conservative value for the landfill. Based on the 2022-2024 GHG annual report that provides a calculation of fugitive emissions based on cover and waste type, the calculated capture of landfill gas was calculated to be 80-82%, meaning that less than 20% is released as fugitive emissions. The calculated LFG collection using Table HH-3 from 40 CFR Part 98 will be used for GHG PSEL compliance.</li> <li>7. Complaints for the last five years have been added to the review report.</li> </ol>
<p><b>Public Testimony from the Public Hearing:</b>          Marcy Follett: Okay. Great. I'm sorry I arrived late. If I'm repeating anything that was said before, I'm sorry, but I think it's important that some things need to be said. One is Coffin Butte Landfill is a landfill because it was a concentrated effort. It was paid for by the taxpayers dollars. When Chemeketa solid waste or Chemeketa regional solid waste group was tasked with finding the best location for a regional landfill, and when it was selected. The 1st they selected another site that was it would have been under floodwaters at times, so the citizens of the community let them know that that was a poor choice. So the</p>	<p>This permit does not include the landfill expansion south of Coffin Butte Road. The permittee will need to submit a significant permit modification with a separate public notice period before it can be included in the permit.</p>

<p>second choice was Coffin butte, and the citizens at that time were told that this would not be a long term landfill, and they were promised a term of 50 to 60 years. I can't remember, but I do have the flyer from that day, and there were other things that were promised to the community, to the land, and to the animals that have not been fulfilled.</p> <p>But I will be doing my best to make sure at least the time commitment is fulfilled. We've already overfilled the land, so what's gone from the reason the landfill is there is so that we can have a cleaner environment because people were dumping trash on the roads and the land. We just hadn't figured out how to manage having urban society and getting rid of our trash because they don't have. They didn't have dirt anymore, you know, in living in an apartment, you can't compost, you can't burn your trash. There's a lot of things you can't do. So we end up with these trash piles and so Coffin Butte was a solution back in 1970 something, early seventies. And what's happened now is corporate greed and politicians, and who have agendas for other things. And once you tie money to our environment, the environment is going to lose, and we need to untie that. So but what you, what we need to hear for this hearing is that there is not a plan from the citizens to keep this as a long term landfill. This will be shutting down as soon as possible in the community's opinion, and that is their desires. I just hope that our efforts to keep our environment clean. I know that's what we're all really here for. I hope they don't get pushed aside as other ideas come into play, and thank you very much for taking our participation in your hearing.</p>	
<p>Commenter: Becky Merja</p> <p>I urge you to take any action necessary to reduce the air pollution caused by Coffin Butte Landfill. This huge industrial complex continues operating under a permit that expired more than a decade(s) ago, over that time the stench has increased in frequency and intensity. I have lived in Soap Creek Valley since 1979. My home is 4 miles Southwest of Coffin Butte Landfill. I, along with many residents of the area, have filed complaints with DEQ stating that the odor has continually gotten worse over the years. The landfill operator's response consistently dismisses these complaints stating that there "were no issues with the gas wells, all gas wells were pulling gas normally, no odor was detected beyond the working face..." The current system does not mitigate smell, and smell reflects emissions of other landfill gases that carry particulate matter. Please don't allow increases in air pollutants, please require more stringent / frequent monitoring by a third-party using drones, please require soil as daily cover. Republic Services needs to be held accountable for this major air polluter and mitigate its methane, stench and particulate emissions.</p>	<p>DEQ expects there to be some odors associated with landfill gas leaving the site. This proposed permit requires the landfill to perform monthly visual inspections of the landfills cover and conduct quarterly surface emission monitoring. If a leak is detected, the landfill has 10 days to take corrective action and if initial corrective action is not effective additional landfill gas collection must be installed within 120 days.</p> <p>DEQ has modeled emissions of particulate matter, nitrogen oxides and sulfur dioxides and found that the National Ambient Air Quality Standards are not being violated.</p> <p>As previously noted, DEQ issued a pre-enforcement notice on November 6, 2025 that cites a number of air quality violations at the landfill and includes corrective actions including a request to conduct surface emissions monitoring with drones, and to submit a design plan to expand the gas</p>

	<p>collection and control system to meet federal and state requirements.</p>
<p>Commenter: R. Foster:                  May 20, 2025                  Dear DEQ Air Quality Dept.,                  ACD Title V 56587 Republic Services May 20, 2025 this DEQ hearing is not listed on line at DEQ for May 20 2025 Public Hearings. Comment to the May 20, 2025 TitleV ACD 56587 hearing record in opposition.</p> <ol style="list-style-type: none"> <li>1. I object to the expansion of ACD Title V 56587 chemical increase tonnages to this permit for Republic Services. This puts an undue burden on the public to except and have to live with carcinogenic chemicals raining down on their properties, onto area soil, into area surface and well water used for drinking, irrigation and EFU use. Fish and wildlife are not represented in this permit to the impacts on the environmental they live in and the pollution that will occur from this permit increases, in tonnages of highly toxic or hazardous not native to their life ways, man made chemicals into their ecosystem as their home.</li> <li>2. My experiences looking for information on DEQ website on May 20, 2025 for this hearing and this permit information finding at the DEQ for Air Quality: The look up system for DEQ hearings is not bring up May 20, 2025 TitleV ACD # 56589 Republic Services hearing date and time information when queried on May 20, 2025. So, this system on the DEQ website appears to not list this public hearing in the hearing look up and may not be working well, and could limit how many people attend this public hearing tonight. I was having trouble today, May 20, 2025 finding this permit to review and comment to it. Can DEQ Air Quality Department section of the DEQ website please more clearly, or directly, provide a link to active permits titleV on the Air Quality webpage? There does not seem to be a clear indicate selection to find active ACD permits that the public can: review, and comment on and find out about when a hearing is for a specific ACD Permit application, and when the deadline for the last public comments are for ACD Permits. This lack of direct clear and user friendly web information about where to find these permits, limits public involvement in these DEQ hearings and for DEQ permit reviews by the public. The new DEQ Permit look up system did not bring up this permit. If IT tracks back and looks at my meta data as my search record, from May 20, 2025 and looks at how I entered my request to look up this ACDTitleV permit, it will show you how many times I tried to enter the permit number, the name of the ACD applicant, and that it was a titleV ACD permit and the permit number. This permit look up system is too sensitive, and requires the public to have considerable patients when they are using this new look up file system. This new permit look up system should be tested more by the public to find and show issues with it. First issue is this new permit look up system goes ahead and keeps looking for each letter and number that is being typed in and then you have to wait to try to type in a complete title and permit number to look up. This rapid look up system, of each letter and number, as you type it in, is rather frustrating, and possibly sends most folks to decide, to not participate</li> </ol>	<ol style="list-style-type: none"> <li>1. Although some plant site emission limits are increasing, DEQ has modeled emissions of particulate matter, nitrogen oxides and sulfur dioxides and found that the National Ambient Air Quality Standards are not being violated.                       DEQ has not yet assessed the health risks from the air toxics being emitted from the landfill. DEQ's Cleaner Air Oregon program is continuing to call additional facilities into the program and will at some point in the future evaluate the air toxic health effects from this facility. Based on an initial screening analysis, the landfill was included in Group 3 for call in, based on lower expected health risk.</li> <li>2. The hearing was listed in the DEQ online calendar and notice was included in the Your DEQ Online system, and access was verified. Because the online system was recently changed, it may be helpful to contact the Your DEQ Online Helpdesk or access instructions at <a href="https://www.oregon.gov/deq/Permits/Pages/Your-DEQ-Online.aspx">https://www.oregon.gov/deq/Permits/Pages/Your-DEQ-Online.aspx</a></li> <li>3. The permittee submitted a complete and timely permit renewal application in 2013, one year prior to permit expiration. For that reason, according to DEQ rules, the permit is administratively extended until the renewal permit is issued.</li> </ol>

<p>any further in trying to find a permit using this new look up system. I asked the 1-800 contracted DEQ telephone operator today to how to find TitleV ACD 56589 Republic Service information and this contractor operator for the 1-800 line, was out to lunch at 11:30am May 20 and on a first call to 1-800 contractor, I got sent to Public Records on my first call to try to find this information.</p> <ol style="list-style-type: none"> <li>3. TitleV 56589 Republic Services Coffin Butte Regional Landfill expired ACD TitleV permit they have used since 2014.</li> <li>4. PM2.5 Primary and Secondary For MERP on page 133, Secondary PM2.5 and smaller particulate Formation why is DEQ using Morrow County PM2.5 data?</li> <li>5. DEQ received a pollution report in early 2025 from a location in Benton County, south 1/8 of a mile from Coffin Butte Regional Landfill on Highway 99 for white dust coming off the Highway in moving clouds of unknown toxic or hazardous dust in spring 2025. This dust was PM2.5 or smaller primary or secondary particulate pollution. Photo documentation on the VNEQS Website show PM2.5 or small particles as possibly: Primary PM2.5 or smaller particulate white colored dust video of the tippers at the active north landfill face, documented dust flying off the active landfill into the Soap Creek Valley from tippers moving trash. This dust travels for miles out from the active landfill and from the landfill haul road, Coffin Butte Road, Camp Adair Road, Highway 99, Dallas Independence Highway... This dust pollution mixes into the local and regional air shed from Coffin Butte Regional Landfill and from the landfill generated dust on roadways areas entering and exiting Coffin Butte Road are air born dust pollution that should be directly considered and linked to this permit. The monitoring for and regulation of PM2.5 Primary and Secondary particulate may not be occurring at Coffin Butte Regional Landfill currently since this permit uses references from Morrow County data for PM2.5 primary and Secondary sources.</li> <li>6. Roadside spraying of water onto the active haul road on the north landfill appears to be occurring on a regular basis by Republic Services or their contractors. Spraying water at some of the entrance intersection of to Coffin Butte Road and the intersection of Highway 99 and Camp Adair Road and on one side of Camp Adair Road occurs. White dust reported as air pollution to the DEQ, was air born, south of the sprayed intersection area on Highway 99 where water was not being sprayed. How is DEQ monitoring this permit for dust and primary and secondary PM2.5 at this pollution source for Permit 56589?</li> <li>7. PFAR are documented to come from Landfills, in landfill gas emissions. PFAR in landfill gas is noted to be higher then in landfill leachate in the scientific record. The flares at PNG and for Republic</li> </ol>	<ol style="list-style-type: none"> <li>4. The background level is determined from modeling protocol and is a statewide value.</li> <li>5. The Corvallis area is considered in Attainment with National Ambient Air Quality Standards for PM2.5 and all other criteria pollutants. Monitors are located in regional areas, with a calibrated monitor in the city of Corvallis. Modeling is used to add emissions from the permitted facility to expected background. The landfill's emissions would not be included in the background value. The permit does include particulate emissions from onsite paved and unpaved roads and truck tipping. The emissions you mentioned in your comment are accounted for in the proposed permit and modeling of these particulate emission showed continued compliance with the national ambient air quality standards.</li> <li>6. The proposed permit requires watering of the roads surfaces and regular visible emission checks to make sure particulate matter is not leaving the facility.</li> <li>7. DEQ is not familiar with the PFAR acronym but believes you are referring to PFAS per- and poly-fluorinated alkyl substances and will respond to this comment with that assumption. PFAS is in the list of air toxics DEQ's Cleaner Air Oregon program evaluates. Coffin Butte has not been called into this program yet. DEQ is currently calling in group 2 sites. Coffin Butte landfill is part of group 3.</li> </ol> <p>This proposed permit does not include an expansion to the south side of Coffin Butte Rd. Coffin Butte would need to apply for a permit modification, with land use approval by the county, before construction or operation in the expanded area.</p>
--	--

Service all are emitting over the life of these flare, tons of PFAR into the air shed of this area. PFAR as PM2.5 or smaller dust material is moving out from the 291160 Coffin Butte Road, and falling out/washing out in rain, in a radius around the 291160 Coffin Butte Road for the life of the operation of this cogeneration plant and the life and operation of the enclosed flare and any new enclosed flare that Republic Services builds here. PFAR is a carcinogenic airborne contaminant that contaminates air, soil and water and is forever. When will TitleV ACD permit include PFARs in the list of toxic and hazardous AC chemicals that are directly being generated by the landfill industry? PFAR release from this co generation plant and Republic Flare have been generating PFAR since this plant opened and since this Box Flare went on line. PFAR are a known carcinogen and directly cause lung damage and containment: air, water and soil. PFAR is a chemical component in odor reports that occurring from: North Corvallis, Lewisburg, E.E.Wilson, NE Albany, North Peavy Arboretum Road, Pettibone Road, Soap Creek Valley, Tampico Road area, Arlie, Coffin Butte rural residential zones ... Landfill leachate/PFAR PFAR in landfill leachate is being dumped almost directly into the Willamette River at this point, 365 days a year at an increasing volume with Cell 6 unregulated by DEQ in this permit and by Benton County, with no LUCS or acknowledgment at all by Benton County to the operation of Cell 6 6A underway since x date in 2025. Leachate from the exiting closed/on hold North landfill, and from the operating Cell 6 and 6A which is projected to become even bigger than the currently closed/on hold North Landfill, and from Tampico expansion landfill that is underway currently at Benton County Planning as LU24-027 as a Conditional Use Permit(CUP) for Expansion of Coffin Butte Regional Landfill at Tampico Ridge, south of Coffin Butte Road all will be generating landfill leachate. People living near to this landfill and along roadway where 24 Oregon County, two Oregon cities, and One Washington City and possibly from several other US states, are sending trash to Cbutte Regional Landfill also have to deal with PFAR and Roadside dust linked to the hauling of toxic and hazardous (special wastes such as asbestos, home demolition debris, oil contaminated soil...) materials to CBRegional Landfill in Benton County.

8. Roadside testing of chemical content should be seriously considered in this ACD Permit evaluation, as road run off is causing deformations in fish at study locations. Road pollution to and from CB Regional Landfill: How does this permit take into consideration the pollution from the long distance transport of toxic and hazardous liquids, and solids and Special Wastes to this landfill?
9. Odor reporting: There are multiple grad schools, elderly care facilities, commercial businesses, entire communities, Ag/EFU zone, recreational users, State of Oregon E.E. Wilson wildlife which are all impacted by ACD for Odor from this landfill. Odor reporting by the public to Benton County for the LU24-027 conditional use permit to expand Coffin butte Regional Landfill, at Benton County Planning

8. This proposed renewal of the existing air permit evaluated air emissions only; however, the facility also has a solid waste and stormwater permit. The air quality modeling did include nearby sources of emissions and results showed compliance with the national ambient air quality standards. We have not yet evaluated the health effects of the 600+ air toxics that our cleaner air Oregon program investigates.
9. DEQ's complaint system does provide a space for complainants to share a lot of information about their complaint such as their location. Their location does show up on a map in our complaint system. It does take time to fill out this information so some people leave it blank or ask for their information to remain confidential. When information is marked as confidential it is not allowed to be released in a public records request. DEQ recognizes that filling out information can be difficult and time consuming for some individuals and therefore offers a number to call and verbally report items of concern. Here is the phone number to file a complaint 887-997-7888.

10. The regulations do not require the landfill to collect all of the landfill gas generated. Therefore DEQ expects some odors to be emitted from the landfill.

We are able to find historic weather characteristics of the general area of the landfill through various websites.

On a monthly basis the landfill is required to measure the temperature of each well that is extracting landfill gas. Well temperature measurements and associated temperature limits are in place to minimize the chance of the landfill catching on fire.

currently, shows a large amount of odor reports in public Testimony, over a very large area. Odor reporting to DEQ takes time, and Republic Services contractor who evaluated Odor reporting data from DEQ data, for LU24-027 CUP application to Benton County Planning in 2024-2025 was able to use only one report from DEQ Odor and Pollution reporting on line to DEQ data as he said that the reports to DEQ by the public, on their reporting system, lacked specific information such as location and time of day. For this contractor for the applicant Republic Services, to use these State of Oregon Data, from DEQ as public record Odor and pollution reports in their findings for their current 2024 application to expand Coffin Butte Regional Landfill into the south side of Tampico Ridge as LU24-027 CUP. DEQ Odor and Pollution report took me 13 minutes recently, to fill out for odor report at Mountain View Elementary at Lewisburg, Oregon from Coffin Butte Regional Landfill odor. I try to supply all the data to each DEQ Odor or pollution online report. Can the DEQ make the odor and pollution report system easier to use, say by having a pin map where people can pin their location so that this gives a location? Reporting Odor or pollution or fire reports to the Republic Services website also may have problems that these reports may not get shared to the DEQ by Republic Services.

10. Fire reporting goes unreported to anyone by Republic Services, so smoke from the landfill degrades air quality, and is going unreported to the DEQ or to City of Adair Fire Dept. Fires at CBRLandfill may not be part of this TitleV ACD permit analysis. Fire frequency may be increasing at this location, per the documented in testimony to the record, LU24-027 CUP trips to this landfill by Adair Rural Fire Dept. volunteers. Using remote heat sensing flir technology, at this landfill, may show large areas of heat sinking going on in this landfill, indicating fire may occur at any time, at this increasing locations. So, this time consuming process, to fill out the DEQ pollution report form, may be a waste of time to the public to report Odor, fire or other pollution issues going on at or coming from CoffinBRLandfill. Reporting Landfill Odors to Benton County also may have problems if BC fails to get this information to the DEQ on time. Reporting odor to Republic Services website also could limit how this data is reviewed or considered at DEQ, so may be a waste of time to the public to report odor or pollution or about landfill fires to Republic Service. The public is relying on the DEQ for assistance and mitigation against fire, air contamination as odor trespass and as toxic and hazardous chemicals in area air, water, soil going out x miles from this landfill. When Republic Service reports back to DEQ from Odor or pollution reports they report the weather and how the landfill is operating at the time for a Odor or pollution report. I assume that DEQ is unable to verify the weather data that Republic provides to the DEQ? Should DEQ have the weather reporting done by an independent contractor, and not Republic Service to make sure that weather reports are accurate and factual since the DEQ may not be able to fact check any weather reports from Republic Service? There are no private weather stations operating near Coffin Butte Regional Landfill to ask them to share their data, to double check against what Republic Services reports to the DEQ that the DEQ

11. Cell 6 is included in the currently approved LUCS and is not part of the expansion plan. Development of Cell 6 and 6A is part of the approved solid waste permit, and total emissions are included in the air permit. This permit does not include the area south of Coffin Butte Road.

12. In late 2025, EPA formally referred air quality compliance issues to DEQ for enforcement. This included findings from 2022 and 2024 EPA inspections and a follow up information request. DEQ issued a Pre-Enforcement Notice to Coffin Butte on November 6, 2025, citing the landfill for a number of violations, including documented monitoring deficiencies and control equipment capacity issues. A formal DEQ enforcement action will follow the pre-enforcement notice. The enforcement action is separate from the permitting action. The permit action updates the existing permit and includes additional monitoring and testing for improved compliance.

releases in batch form months after their report to the public as their response for an odor, pollution or fire report, from this landfill. NOAA weather data may be to remote and not small enough to location, information record, to use to compare to this landfill address location for weather data. Camera data records, from Republic Services at the active landfill faces, all of them, should show how this landfill is operating to confirm that odor reports match up to the amount of open landfill and lack of daily cover over x acres at y time. This camera data would be legal evidence to show in real time what occurred on what date at what time, to match up to odor and pollution reporting by the public, to the DEQ. Republic Service may not be reporting correctly to the DEQ for daily operations in their response to odor, pollution and fire reports to the DEQ. A video record of the open landfill/active landfill/working surface of the landfill area, will secure real time factual evidence for odor and pollution reporting, to the DEQ. Permit enforcement: DEQ fails to fine Republic Services, so the DEQ is failing the public in their efforts to report ODOR and Pollution issues. Many people have stopped reporting odor and pollution issues because they see that the DEQ is not enforcing their permits to Republic Services for the operation of CBRegional Landfill.

11. Cell 6 and 6A are evidence of lack of public knowledge of the opening and operation of this landfill face. Benton County I assume, has no LUCS for Cell 6 and 6A landfill and DEQ has not shared information about Cell6 and 6A to the public. Cell 6 6A is a landfill that Benton County has said nothing about. The public has been asking DEQ for copies of various air, water, solid waste management issued permits for Cell 6 6A new landfill and the public hear zero back from DEQ staff or possibly, have been told to send in a FOI Act request. Cell 6 6A will be larger then the current North closed (on hold) landfill which appears to have been covered and is not excepting trash as of X Date in 2025. Does this permit account for the operation of Cell 6 6A to be larger then the North closed(on hold) landfill? Linking north closed landfill to Tampico Ridge expansion cell: Does this permit account for the North landfill closure (on hold) and Tampico Ridge landfill to become connected and to have to permanently close Coffin Butte Road? Or in x years, will Republic Service have to seek a renewal for this permit if the Tampico Ridge LU24-027 CUP landfill expansion will be connected to the North closed (on hold) landfill using a simple road closure Vacation form issued by Benton County Public Works Dept. Tampico Expansion landfill LU24-027 life expectancy is 4-5 years. Cell 6 6A life expectancy is unknown due to no LUCS present to it at BC Planning Dept. The projected size of Cell 6 6A landfill area will be larger then the entire closed (on hold) North landfill area, north of Coffin Butte Road. Coffin Butte Road closure in 4-5 years: With LU24-027 CUP for Expansion of Coffin Butte Regional Landfill, this expansion into Tampico Ridge may in 4-5 short years, be planned by Valley Landfill Inc and Benton County to be able to connect up to the closed elevation (650 feet) of the North Landfill and cover and close permanently, Coffin Butte Road, as was proposed in 2023 in: LU24-025 CUP application to Benton County, for the expansion of CBRLandfill and closure of Coffin Butte Road. Does this TitleV ACD Permit 56589, take into account the probable

expansion of Coffin Butte Regional Landfill to connect up LU24-027 with the closed(on hold) North Cell of CBRegional Landfill, if this permit lasts a decade? LUCS DEQ reliance on Benton County to implement conditions of approval for land use code application in LUCS is failing DEQ. Benton County has never implemented any Conditions of Approval from any application to operated or expand CBRLandfill by Republic Services. The LUCS for TitleV 56589 may be invalid due to the fact that BC never implements or enforces any Conditions of Approval to Republic Services. LUCS validity to BC also does not enforce any land use code or BC comprehensive plan guidelines. BC is in business with Republic Services as a Host County in the '2020-2040 Franchise Operation Agreement' and in the 'Franchise Hauling Agreement'. BC receives tipping fees from the operation of this landfill. With unlimited dumping that the '2020-2040 Franchise Operation Agreement' triggers, or has triggered on X date, BC will receive more tipping fee money to their General Fund form unlimited dumping. BC is interested in remaining in business together with Republic Services for the long term operation of this Regional Landfill that has been allowed by BC to exist in this wrong location environmentally. Unlimited municipal and Special Wastes tonnage coming into CBRLandfill as of X date in 2024-2025: If unlimited dumping is occurring and already is underway, as of X date, regardless of the passage or denial of LU24-027 CUP To Expand CBRLandfill, at CBRLandfill, Does the TitleV ACD 56589 take into account unlimited dumping? Methane volume generation will increase, PM2.5 primary/secondary will increase, landfill leachate generation will increase, odor, noise, groundwater, surface pollution will increase. The Willamette River is being polluted from untreated almost, raw, landfill leachate pollution with PFAR and 1000s of other landfill 79hchemicals, metals, oxides, acids, bases, plastic micro particles and radioactive waste. Leachate from CBRegional Landfill volume is increasing, as amount of leachate from Cell6 6A, the future, Tampico ridge expansion landfill, and from the closed(on hold) North Landfill is trucked to Salem and other Oregon municipalities to dilute and outfall for pennies per tanker load, into the Willamette River. Leachate regulation needs to be on the EPA and DEQ to do list as it has been impacting area rivers and municipal drinking water supplies for decades. Landfill gas: Landfill gas generation hopefully is fully considered in this permit and for the need to increase landfill gas flare volume from gas to be generated from: Tampico Ridge landfill expansion area and from Cell6 6A operation as it grows to become larger then the North landfill area. Hopeful both these landfill sites and the North closed(on hold) landfill are all Include" In the analysis for this Title V ACD Permit for landfill gas generation.

12. EPA has issued a citation to Republic Services to see their records for operation to verify what they are saying about methane generation and Flare operation at this permit's location. EPA actions in 2024 2025 against Republic Services for this location: How Does the EPA legal, or pre legal action request for gas well and monitoring records from Republic Service impact the issuance of this permit? If Republic Service reported incorrect gas well log standard emission loss as fugitive escaping landfill gases, as incorrect data they gave to the DEQ.

<p>Have the DEQ corrected these reporting errors from the invalid Republic Services data, in this permit's analysis and findings? Thanks, R.Foster</p>	
<p>Commmeter: Jan Wulling Fence line air monitoring please!</p>	<p>Air dispersion modeling has been completed at the fence line and beyond for some criteria pollutants. The pollutants that have been checked are below the national ambient air quality standards.</p>
<p>Commenter: Mallory Glaser Hi there, I want to request that the coffin butte landfill air quality be monitored in real time. I regularly experience terrible odors from this landfill and I worry about its poisoning of the surrounding air. Thank you, Mallory Glaser Long time resident of Lane County</p>	<p>Air dispersion modeling has been completed at the fence line and beyond. The pollutants modeled show levels compliant with the national ambient air quality standards.</p> <p>Odors from landfills are expected as the rules do not require all of the landfill gas to be collected and controlled.</p> <p>DEQ does have an air toxics program and will evaluate the health effects from the landfill's emissions. Coffin Butte has not yet been called into the program but will be in the coming years.</p>
<p>Commenter: Mason Leavitt, Beyond Toxics</p> <p>To: The DEQ Western Region Air Quality Permit Coordinator From: Beyond Toxics Date: 5/11/2025</p> <p>On behalf of thousands of members who are interested in air quality and environmental health in Oregon and particularly those impacted by Coffin Butte Landfill, I am writing to request a 14-day extension beyond May 23rd for the DEQ to receive written public comment pertaining to the Coffin Butte Title V permit. Beyond Toxics is a statewide environmental justice organization founded in 2001. We work to uplift voices from Oregon communities disproportionately impacted by pollution and climate change. Coffin Butte Landfill is of great importance to our members, and the landfill is currently being heard by the Benton County Planning Commission for an expansion application. Residents are stretched thin with these dual hearings and extending more time for the Title V permit will allow greater public participation in this decision.</p> <p>Additionally, we have heard from our members that two days between the scheduled DEQ hearing and the comment deadline is not enough time for members of the public to digest that information and respond accordingly. We would sincerely appreciate extending the public comment period by 14 days so that more Oregonians have the opportunity to submit written comments that aresought by the DEQ.</p> <p>Thank you for your consideration, Mason Leavitt --Mason Leavitt</p>	<p>Public Comment period was extended until Jun 6, 2025, as requested.</p>

<p>GIS Analyst and Programs Coordinator Beyond Toxics mleavitt@beyondtoxics.org (541) 645-5972</p>	
<p>Commenter: Bruce Cowger I strongly urge you to take whatever measures possible to reduce the air pollution from the Coffin Butte Landfill, owned by Valley Landfills and operated by Republic Services. My wife, Donna, and I live 5 miles southwest of the Coffin Butte landfill in northern Benton County. When we moved here in 1985, we never smelled any odor from the landfill. Nor was there any “dump smell” in the 1990s. But, starting about twenty years ago, the smell became apparent at our house whenever the wind blows from the east. Since that time, the landfill has grown enormously, becoming one of the few active landfills in the Willamette Valley. This growth has steadily increased the frequency and severity of “dump smell” at our house. Besides the obnoxious odor that can deter us from enjoying the outdoors, we are very concerned about the effects of liquid and solid toxics borne by aerosols emanating from the landfill and carried in all directions according to the prevailing wind. The landfill operator, understandably, wants to ignore aerosols generated by the landfill but we in Benton County cannot afford to become an example of deleterious health effects from long-term landfill aerosols which settle onto our gardens, our residences, and then diffuse downward into our drinking water. Therefore, please understand that the Coffin Butte Landfill is a major air polluter, seemingly unresponsive to requests to mitigate its methane, odor, and aerosol output, and take whatever steps available to reduce this nuisance and hazard. Thank you.</p>	<p>DEQ does have an air toxics program and will evaluate the health effects from the landfill’s emissions. Coffin Butte has not yet been called into the program but will be in the coming years.</p>
<p>Commenter: Janet Ohmann I've lived in Soap Creek Valley, near Coffin Butte Landfill, since 1995. The last time DEQ considered a Title V operating permit was 2003-2005. Public concern and comment was (and remains) high, and I have a folder on my computer filled with testimony letters submitted to DEQ at that time. Commentors requested denial of the permit, or permitting on an annual basis with renewals granted only upon reasonable progress in solving the odor problem. So, here we are in 2025 (20 years later!), and the issues raised in written testimony and at the public hearing have not improved -- they've gotten worse! Despite the worsening situation with the landfill, the air quality permit has not been revisited since 2005. The following issues, summarized in the Presiding Officer Report (undated) from 2005, remain the same today: 1. Extreme odors are being emitted from the landfill. 2. The odors and fumes from the landfill are a health hazard. 3. There is a general lack of long range planning for landfill expansions and work which may result in an increase in odors. 4. Monthly reports (submitted to DEQ), as required by the existing permit, do not accurately reflect the complaints received. 5. Landfill activities have taken place that required prior approval from DEQ. 6. The permit renewal period should be for one year rather than five years. 7. The public notice included a statement regarding reduced odors, but there is no ambient air monitoring to back that statement. These issues are of even greater concern in 2025 because of new scientific understanding of the toxic effects of PFAS, and the fact that Coffin Butte has been shown to be a super-emitter of the planet-warming methane gas. The growing landfill generates even more gas and toxins. For details on these and additional air quality issues, please refer to the ample relevant testimony that is being submitted for the landfill expansion</p>	<ol style="list-style-type: none"> <li>1. The regulations do not require the landfill to collect all of the landfill gas generated. Therefore DEQ expects some odors to be emitted from the landfill. DEQ issued a Pre-Enforcement Notice on November 6, 2025, citing a number of air quality violations including monitoring deficiencies and control equipment capacity issues. Resolution of those issues may improve the odor issues because they should improve the collection and control of landfill gas.</li> <li>2. DEQ has an air toxics program that is called Cleaner Air Oregon. When Coffin Butte Landfill is called into the program DEQ will evaluate the risk from the Coffin Butte emissions.</li> <li>3. DEQ has asked Coffin Butte landfill to submit an updated gas collection and control design plan and has included a compliance schedule in the permit to require</li> </ol>

<p>application. Please do the right thing for our community and planet: protect our air quality and deny this permit.</p>	<p>installation of additional emission control equipment.</p> <ol style="list-style-type: none"> <li>4. It is unclear which monthly reports the commenter is referring to. DEQ has cited violations for some reporting inaccuracies in a recent pre-enforcement notice issued November 6, 2025.</li> <li>5. It is unclear which landfill activities the commenter is referring to. DEQ is unaware of any activities Coffin Butte has taken without approval associated with air emissions.</li> <li>6. DEQ air permitting rules state permits are to be given a five year term.</li> <li>7. See response to item 1.</li> </ol>
<p>Commenter: Gary Andes          This is Gary Andes again with some additional thoughts and comments following the public hearing on 5/20/25 concerning the renewal Title V permit for Valley Landfill.</p> <ol style="list-style-type: none"> <li>1. I understand that the new flare has been source tested, although I don't know for what pollutants. The emission calculations for the new flare should utilize whatever factors were generated from that testing rather than the manufacturer specs or AP-42 values used in the draft detail sheets. As I have previously commented, the renewal permit should require the new enclosed flare to be tested for SO<sub>2</sub>, NO<sub>x</sub>, PM, and CO as well as methane destruction.</li> <li>2. The issue of dust occurring during the tipping operations at the landfill came up during the hearing. Contrary to my comments during the hearing, an estimate was indeed shown in the detail sheets under the Aggregate Insignificant emissions table. However, the value shown is only 0.011 tons/year or only 22 lbs/year with no calculations provided. This seems like a huge underestimation of the dust coming from tipping operations. I personally have seen huge clouds of dust occur from some loads. Those loads probably contained mostly dirt or drywall fines from construction contractors. I believe that the detailed calculations for dust from tipping need to be shown in the review report and maybe redone depending on what assumptions went into the calculations. I believe that the vast majority of the waste tonnage at the landfill comes from commercial trash haulers which would have the trash bagged and produce little dust. However, the drywall fines and dirt loads received at the landfill from private contractors or the public have the highest likelihood of dust generation. Hopefully, the landfill could make an estimate of the tonnages of dirt or fines received. Possibly, the AP-42 emission values for dumping sand or dirt could then be used to estimate the dust from tipping operations. I suspect that the dust from dumping at the tipper consists mainly of PM with some PM<sub>10</sub> but little to no PM<sub>2.5</sub>.</li> </ol>	<ol style="list-style-type: none"> <li>1. The initial flare source test included methane and NMOC emissions, but did not include PM, NO<sub>x</sub>, SO<sub>2</sub> or CO emissions. Those pollutants will be tested in the future.</li> <li>2. Emissions from tipping operations were updated using AP-42 13.2.4-1. In addition, cell development and closure emissions use AP-42 11.9-1 for bulldozing overburden, and have been updated to specify PM size in the emission calculations. Because the cell development and closure emissions estimates increased, those were added to the PSEL as an emissions unit and removed from AI.</li> <li>3. Landfills are typically permitted with a five year duration; however, the PSEL program allows the permittee to choose the throughput to be used for permitting.</li> <li>4. The permit requires quarterly monitoring of reduced sulfurs in the landfill gas. The landfill does keep records of the types of waste, but since that is not required for permit conditions or applicable requirements, it is not included in the reporting.</li> </ol>

3. I still strongly believe that the LandGEM should be used to estimate landfill gas generation rates through 2035 rather than 2030. In addition, I think that more realistic waste acceptance rates for 2025 through 2035 should be generated rather than the 1,500,000 ton/year used for 2024 through 2030 in the draft permit. If all of Covanta and Riverbend Landfill waste is now coming to Coffin Butte, it only would amount to a max of 300,000 tn/year not the nearly 600,00 tons/year increase from 2023 to 2024 shown in the draft permit. Thus, the LandGEM calculations might show that the 2035 landfill gas generation would be no greater than that shown for 2030 in the draft permit.

4. Currently, the Title V permit and this draft do not require the landfill to report the tonnage of waste accepted each year or the types of waste accepted. I believe for various purposes that the landfill should be recording and reporting the total waste accepted each year, as well as breaking that waste down into categories, such as true municipal/household waste, industrial waste, construction waste, liquid waste, and sulfur containing wastes (and their S content). This latter category will be useful in correlating with and watching the S levels in the generated landfill gas.

5. Based on #3 above if implemented, the emissions should be remodeled using realistic scenarios of flare and engine operation. Essentially, the modeling should be done with the new flare and the engines both operating at full capacity since that is what they should already be doing to try to reduce fugitive landfill gases currently being generated.

6. As I understood it from the hearing, the CAO emission inventory for the facility was done in 2016. Obviously, the landfill and its emissions have grown considerably since that time and will continue to grow. DEQ should require that a new CAO emissions inventory be submitted in the very near future reflecting the 2035 potential toxic air contaminant emissions.

7. EPA has found violations at the landfill and will likely undertake enforcement action regarding those violations. DEQ should check in with EPA Enforcement staff to ascertain what possible actions EPA will require (besides a likely civil penalty) the landfill to take regarding additional monitoring or whatever. Those requirements should then be put into the permit now before it is finalized.

8. I understand that the facility exceeded its NMOC PSEL in 2024 (which might not have occurred had the permit been renewed earlier) and that the new flare may have also had some sort of violation. These violations and DEQ's enforcement actions should be described in an updated Compliance History section of the review report.

9. I reiterate that I believe that the landfill should be required now to install another flare or PNGC to install an additional engine to continue to reduce the gap between generated landfill gas and collected/combusted gas. In my mind the landfill is already behind in trying to reduce fugitives based on the gas values I have seen. This additional collection and combustion will only help to reduce offsite odors and public complaints.

If another public notice or hearing are required after DEQ makes changes to the draft permit, I would request to be notified of such.

5. Modeling analysis was revised to also include running the flare at capacity while the PNGC engines are running at capacity. All pollutants were below NAAQS limits.
6. The original CAO emission inventory was completed in 2016. Facilities must submit a triennial air toxics emission inventory and the last submittal was for operating year 2023, submitted in 2024.
7. EPA recently referred the information from its inspections and follow-up records request to DEQ for enforcement. DEQ issued a Pre-Enforcement Notice on November 6, 2025, citing a number of air quality violations including monitoring deficiencies and control equipment capacity issues. As a next step, DEQ will issue a formal enforcement order. Once that order is resolved, it may be incorporated into future versions of the permit.
8. The review report has been updated to reflect enforcement history.
9. The landfill is preparing for the next stage of gas control but has not yet submitted an application for construction approval. Because the revised LandGEM model shows significantly higher LFG generation, DEQ has added a compliance schedule to the permit to require installation of additional LFG control equipment.

<p>When the permit is finalized I would request a hard copy (not electronic) of the permit, review report, detail sheets, Hearing Officer report, and response to public comments be sent to me at:</p> <p>Gary Andes 35740 Clipper Court Nehalem, OR 97131</p>	
<p>Commenter: Mark Henkels I live approximately 7.5 miles south of Coffin Butte Landfill. I am on the south side of Logsdan Ridge. The landfill's emissions and odors should not reach my residence, but they do sometimes, especially in the past few years. In some incidences it makes me not work outside since it is very unpleasant. I rarely file complaints of the odor because it's a bit of a hassle. My few filed complaints were when it was really bad and I had the time. I, and many others, no longer file complaints because there is no point to it. So the number of reports underestimates the extent of the problem. Basically, it's not worth the effort to complain since the state accepts Republic Service's measurements more than the experiences of regular citizens. On December 20, 2024, I absolutely smelled a terrible stench that I know came from the dump. It was inversion weather conditions and the smell was powerfully offensive. So I filed a complaint with the DEQ. The DEQ respondent, Laura McWhorter, was very friendly and quick in action. But here is the content of the reply: "From: Koster, Paul To: MCWHORTER Laura * DEQ Cc: EISELE Michael * DEQ; Learch, Brent; Kienholz, Broc; Stone, Jeremy Subject: Complaint from December 20, 2024 Date: Tuesday, December 24, 2024 5:54:22 AM Good Morning Laura, After reviewing the conditions at Friday at Coffin Butte, the winds were calm 0-2 mph from the E/NE and no odors were detected off site by the odor patrol conducted during the early afternoon on 12/20. Therefore, we are unable to confirm the odor from the complaint. Thank you, Please note I will no longer be associated with Sunshine Canyon Landfill after December 31, 2024. While I will continue to support the SCL team after this transition, please direct or include all inquiries after 12/31 to Kate Downey @ kdowney@republicservices.com Paul D. Koster II Environmental Manager" This is not a valid response to my complaint. I know the difference between landfill odors and other possibilities. Furthermore, I had random conversations with others who also experienced the same odor issue the same day. So, while the DEQ responded quickly, their reliance on Republic Services reporting does not serve the public well. Real people are experiencing real discomfort, and probably significant health risks, from the emissions from Coffin Butte far more than the formal record indicates. The problems with Republic Services self-monitoring is also strongly demonstrated by the surface methane emissions situation. As is well documented in your records, studies by both the federal EPA and the Oregon DEQ have shown that Republic's reporting of surface methane emissions is inaccurate and seriously underestimates the number and extent of leaks in the surface and operations. Oregon's efforts to limit methane and other greenhouse gases cannot be effective if we leave reporting on Coffin Butte's emissions primarily to Republic Services. And the federal EPA is basically out of the regulatory business for a while. Until the state itself has the resources to consistently monitor Coffin Butte Landfill's emissions and stringently enforce</p>	<p>Odors from landfills are expected because not all of the landfill gas generated is required by rule to be collected. However DEQ has issued a pre-enforcement notice on November 6, 2025, that includes a number of air quality violations including monitoring deficiencies and control equipment capacity issues. Resolution of those deficiencies should improve the odor.</p>

<p>the standards, the Coffin Butte Landfill Title V Air Permit should not be renewed. Thank you for your attention.</p>	
<p>Commenter: Hillary White          I live in Corvallis where our air quality has lacked precise monitoring. LRAPA offers Eugene residents current air stagnation information. Please do a better job of protecting Benton County residents from unhealthy air. Simply telling us to shut ourselves indoors is not good enough. Ensure our healthful breathing by THOROUGH monitoring the existing Coffin Butte Landfill. Do not let Republic Services do their own inspections. I am against your extending a permit to allow Republic Services to go on as it is. There is a problem. Put a stop to this and insist they take their trash elsewhere. The existing dump has several years remaining. Our climate is already out of hand and methane is one of the culprits. Do not take this lightly. I haven't read your permit, but it seems there would be a provision for extreme malfunctions. I consider methane fire plumes a reason to deny existing permits, despite the deadline date on the permit. I don't have many years to wait myself. Fix this serious problem now. Do not put it on the back burner: methane.          Hilary White</p>	<p>DEQ has an air toxics program that is called Cleaner Air Oregon. When Coffin Butte Landfill is called into the program DEQ will evaluate the risk from the Coffin Butte emissions.</p> <p>DEQ has issued a pre-enforcement notice to Coffin Butte Landfill citing a number of air quality violations, including monitoring deficiencies and control equipment capacity issues. DEQ has also requested that the landfill take corrective actions to return to compliance. As a next step, DEQ will issue a formal enforcement order, which includes penalty assessment and requires any corrective action that has not been completed.</p>
<p>Commenter: Laura Tully          Hello,          I am a Benton County resident and live approximately 5 miles from the Coffin Butte landfill. I am writing to express my concerns about air quality and monitoring at the Coffin Butte landfill. Last July the local paper reported about an EPA inspection at the landfill that showed methane emissions exceeding federal thresholds and many more sites of leaks than the landfill operator (Republic Services) had measured and reported. Some values showed the level of methane was at explosive levels. Given that the landfill operator isn't taking the responsibility to properly monitor and remediate these leaks, I am quite worried about the possibility of bad consequences. Methane is known to be a very potent global warming gas, which contributes to higher temperatures, wildfire risk and other environmental issues. In addition, methane contributes to ground level formation of ozone (smog), which can affect me personally due to asthma and other residents that suffer from similar medical conditions. I have no trust in Republic Services to monitor and manage this landfill safety. I am asking the Oregon DEQ to step up the enforcement of DEQ requirements of this landfill and force Republic Services to respond to air and water quality issues in a rapid, thorough manner. Clearly relying on them to perform this work hasn't worked well. If they refuse or continue to avoid responsibility, then withholding their permits until a proven track record is demonstrated should be required.          Regards,          Laura Tully</p>	<p>DEQ issued Coffin Butte landfill a pre-enforcement notice on Nov. 6 2025 that was referred to the DEQ office of compliance and enforcement for a formal order. The pre-enforcement notice listed seven violations that include insufficient monitoring and an undersized landfill gas collection and control system.</p>
<p>Commenter: Faye Yoshihara          Dear DEQ Permit Writer, your on-line portal does not allow attachments, so am emailing my attached testimony in a PDF format to ensure inclusion of images. Thank you,          Faye Yoshihara           Dear Oregon DEQ, Title V Permit Writer for Site ID 216651, Coffin Butte Road</p>	<p>DEQ issued Coffin Butte landfill a pre-enforcement notice on Nov. 6, 2025, that was referred to DEQ's office of compliance and enforcement for a formal enforcement order. The pre-enforcement notice listed seven violations including insufficient</p>

After listening to your Title V Permit renewal public hearing on May 20, 2025, I am writing to comment about what I believe are the inadequate conditions and voluntary compliance being asked of the applicant. Republic Services/Valley Landfills' current operational conditions create a nuisance for surrounding property owners and residents. With increasing frequency, we live with the negative air quality impacts, obnoxious and noxious odors, which we experience as "dump days". I will focus on only one of the many landfill stench odors we experience, hydrogen sulfide (H<sub>2</sub>S). I am submitting examples of data confirming obnoxious levels of hydrogen sulfide (H<sub>2</sub>S), mixed with other foul-smelling molecules near the Soap Creek Schoolhouse, 4 miles southwest of the dump. I do not know how to convert your proposed PSEL of 11 tons/year to parts per million or billion. However, the applicant used an assumed value of **36 ppm** for their Title V permit in their proposed expansion CUP application. This is an undue burden on our community. The EPA states that the public recognizes H<sub>2</sub>S at **2 – 3 ppb** (billion). Our data shows 250 - 500 ppb, or 0.25 - 0.50 ppm. I experience the vagaries of how landfill stench moves on my daily jogs, as winds are impacted by cloud cover, elevation, topography, temperature and humidity. At mid-valley and tucked behind a knoll at 500 feet, we get both Pacific Regional Compost (PRC) and Coffin Butte Landfill (CBL). At the bottom of our ¼ mile driveway, at 400 feet, dump odors are more frequent. I look outside for inversion or cloud banks, which direction they are moving and the color to decide which way to go. Sometimes I get a visual cue, other times not.

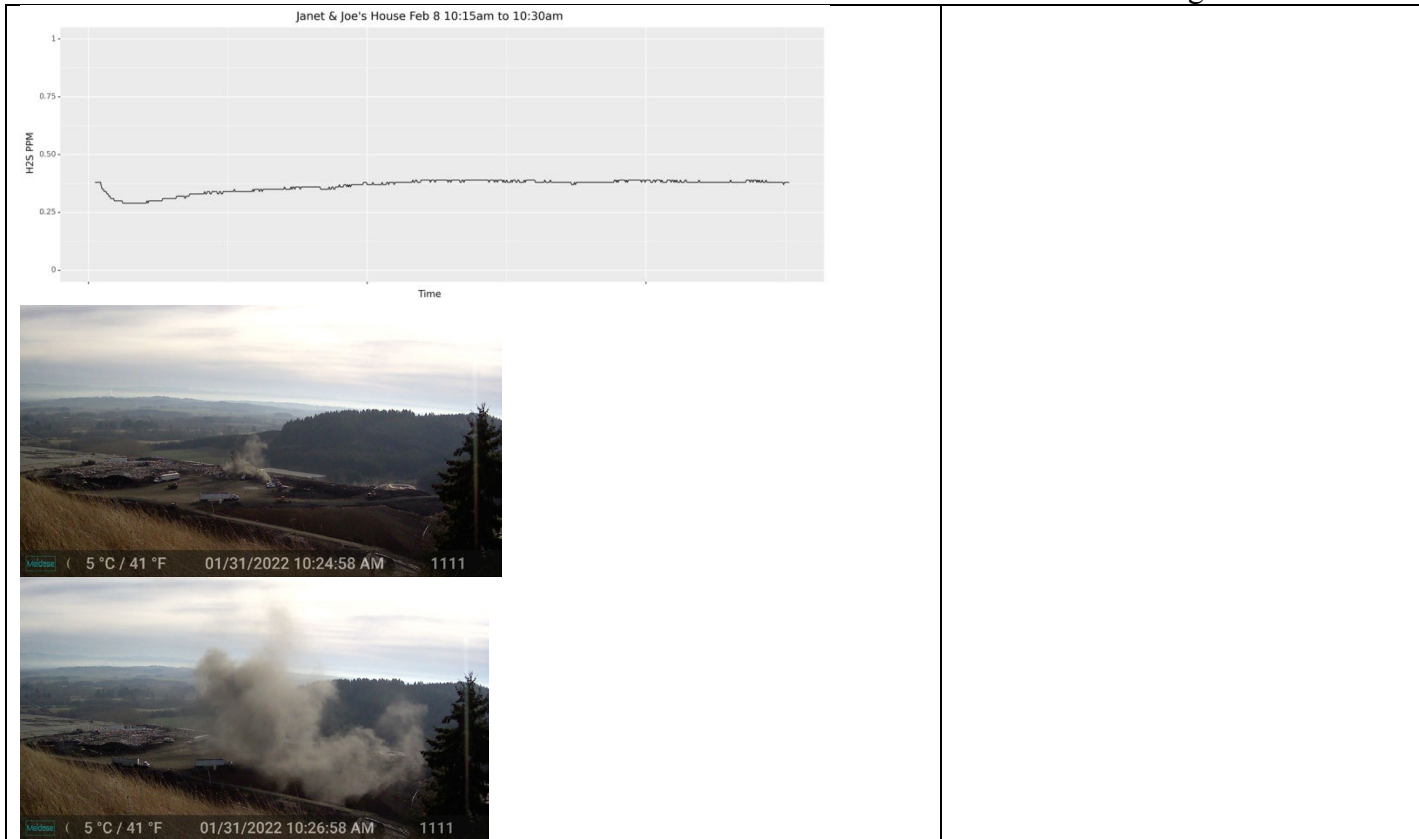
I have occasionally reported to DEQ when the odors are nauseating and only at my house. One DEQ report had Republic Services investigation that said nothing was smelled by their staff, however a dead skunk was seen on the road. Soon after, I reported on a blast from PRC, so they and you would know, we know the difference between compost, landfill stench and skunk. In a former life, I worked in sensory science, where there is a condition, called anosmia or smell blindness, that can be caused by over exposure to a particular molecule. One known cause is exposure to hydrogen sulfide which causes paralysis of the olfactory nerve.

I've heard "acrid, chemical, vomit, feces, bad fart, rotten cabbage, sulfur, ammonia and nail polish remover" amongst other descriptors. While each person may perceive differently, our noses are incredibly accurate instruments, as we have verified in our air quality monitoring. Odors are also disbursed by human caused air currents. I am submitting still images, but we also have video of garbage trucks tipping their loads, creating swirling clouds drifting in multiple, shifting directions over time. Near neighbors know when a leachate truck is being filled. Far neighbors smell the smallest molecules, including hydrogen sulfide, that stay airborne for much, much longer.

Republic Services/Valley Landfill operational conditions do not comply with existing law. Please do not renew the applicant's Title V permit. Take into consideration the public's perspectives and the insightful comments of the retired DEQ permit writer who wrote the last Title V permit and spoke at the public hearing. Coffin Butte Landfill has grown from a small, locally owned dump to an industrially sized facility that is a nuisance to our community, everyone living in the airshed and with their methane leaks, the rest of the world. Thank you for giving me the opportunity to express my concerns.

monitoring and an undersized landfill gas collection and control system.

The pre-enforcement notice included the following corrective action: "By Feb. 1, 2026, have a third party with expertise in landfill design and maintenance conduct a full inspection of the Coffin Butte landfill cover integrity, including areas under both interim and final cover, and submit a report of the inspection findings to DEQ. The report must include: 1) a review of the cover type and cover integrity for each grid of the landfill, 2) documentation, including photographs for each grid showing any cracks, holes or other penetrations in need of repair, 3) a list of needed repairs to restore cover integrity, and 4) recommendations for ongoing cover monitoring and maintenance. Submit the report for DEQ approval along with a proposed timeline for implementing cover repairs."



Commenter: Gary Andes

This is Gary Andes again with a couple more comments and thoughts concerning the above permit renewal. Members of the public had concerns during the recent hearing about dust blowing off the landfill, primarily during tipper operation. Based on the public comments and my own experience at landfills, I would request that DEQ place two additional conditions in the renewal permit as follows.

1. Require the landfill to perform a survey of all US landfills (not just Republic's) for controls on tipping operations to reduce blowing dust. Require this survey be completed within one year of permit issuance with a report submitted to DEQ with recommendations, if any, for controls to install or operational procedures to use. DEQ would then approve the recommendations, if any, and modify the permit or issue Notices of Construction as appropriate.
2. Require the tipper operator at the landfill to log all blowing dust from tipping operations for two years after permit issuance. The operator should note the date, time, duration of dust plume, direction of dust plume, type of dust (dirt, gypsum board fines, boiler ash, etc.), and the estimated quantity of dust in the tipped load (based on scale reading and estimate of % dust in load) for each incident. The annual log of these dust events should be required to be submitted in the annual report for the facility.
3. I was told that the landfill can only receive 1,100,000 tons of waste per year currently according to the Benton County approvals. If so, then the 1,500,000 tons used in the draft permit LandGEM calculations for 2024 through 2030 are inappropriate to use. I was also told that the landfill is using more than one working face and that the total working face area exceeds that allowed by the Solid Waste permit. This could lead to more fugitive gas, odors, and

1. & 2. & 5. DEQ issued Coffin Butte landfill a pre-enforcement notice on Nov. 6, 2025, that was referred to DEQ's office of compliance and enforcement for a formal enforcement order. The pre-enforcement notice included the following corrective action: "By Feb. 1, 2026, have a third party with expertise in landfill design and maintenance conduct a full inspection of the Coffin Butte landfill cover integrity, including areas under both interim and final cover, and submit a report of the inspection findings to DEQ. The report must include: 1) a review of the cover type and cover integrity for each grid of the landfill, 2) documentation, including photographs for each grid showing any cracks, holes or other penetrations in need of repair, 3) a list of needed repairs to restore cover integrity, and 4) recommendations for ongoing cover

<p>complaints. I believe that you may want to discuss the above two items with the DEQ staff person who handles the Solid Waste permit (used to be Hugh Gao) to see if the latter is a Solid Waste permit violation.</p> <p>4. I was also told that the landfill may be still receiving Covanta ash despite it being shut down through "mining" of the ash monofill north of Woodburn. Another item maybe to discuss with Solid Waste as this would continue to provide a source of sulfur into the landfill.</p> <p>5. You might want to check with Doug Welch in ER to see if any of those drier landfills in ER have any dust controls during tipping and how he calculated dust from tipping (assuming he did).</p>	<p>monitoring and maintenance. Submit the report for DEQ approval along with a proposed timeline for implementing cover repairs.</p> <p>3. The 1,100,000 ton of waste per year limit is not inclusive of all waste allowed to be received by the landfill.</p> <p>4. Coffin Butte is no longer receiving ash from the monofil.</p>
<p>Commenter: Mark Yeager Testimony from Mark Yeager, Corvallis, Oregon, June 3, 2025. Title V Air Quality Permit for Coffin Butte Landfill, 02-9502-TV-01 <b>Permit Review Report Comments</b> My review of the Permit Review Report prepared by DEQ, there is no date on the report, but it has a footer indicating "Revised 11/21/2019," my comments are as follows:</p> <p>1. On Page 5, under Section 5, Permit condition changes, it states under Condition 4, 3rd bullet, "and now the entire landfill is lined." That is an incorrect statement. In fact, both Cells 1 and 1A have no lining, simply a clay layer with no plastic liner system in place. This statement is also repeated in the Facility Description section on page 7, 2nd paragraph. Again, Cells 1 and 1A are unlined cells.</p> <p>2. There is no discussion or identification of the basis for the gas wellhead temperature variation or increase from 131 degrees (55 C) to 145 degrees (62.5 C) under Condition 27c of the proposed permit. Underground landfill fires are a consistent and persistent threat at all landfills, and this one more than most because of its documented history of mismanagement of the gas collection system and noncompliance with methane emission limits.</p> <p>3. Item 8 on page 8 of the Review Report states that landfill gas generation is based on waste acceptance rates. The basis for these calculations in this permit development process was in error because it assumed a waste acceptance rate of 1.5 million tons per year while the current operating franchise agreement with Benton County limits waste volumes to 1.1 million tons per year. Further on page 37 of the Review Report, LandGEM model inputs shows 1.5 million tons per year beginning in 2024 and continuing at that level until 2030. This needs correcting.</p> <p>4. Page 17, Item 25 under Hazardous Air Pollutants includes a list of pollutants. This list does not include PFAS chemicals that have been documented to be part of the fugitive emissions from all landfills.</p> <p>5. Further, this section refers to a gas collection efficiency of 75% as the basis for these calculations. Clearly, given the EPA inspections in 2022 and 2024, this facility is operating nowhere near that level of efficiency, so 75% cannot be used as the basis for these calculations.</p> <p>Respectfully submitted, Mark Yeager</p>	<p>1. The review report has been revised to accurately note that Cells 1 and 1A are clay lined.</p> <p>2. The temperature variation was based on a prior submittal for the existing permit; however, the permittee requested that DEQ remove the temperature exception from the permit. All wells will be required to meet the temperature limit in the rules.</p> <p>3. The franchise agreement limits the landfill to 1,100,000 tons of municipal solid waste permit year; however, there is no limit on wastes from natural disasters. The facility is responsible for complying with the franchise agreement, separately from the air permit.</p> <p>4. PFAS are not listed as Hazardous Air Pollutants by EPA for regulation under Section 112(b) of the Clean Air Act, that are used to determine if a facility is a major source of HAPs and subject to additional regulatory requirements. PFAS are included in the Oregon list of Toxic Air Contaminants and toxic air contaminant emission inventories are available at <a href="https://www.oregon.gov/deq/aq/air-toxics/Pages/Air-Toxics-Background.aspx">https://www.oregon.gov/deq/aq/air-toxics/Pages/Air-Toxics-Background.aspx</a>.</p> <p>5. Using the Table HH-3 calculation from 40 CFR Part 98, the landfill gas collection efficiency was over 80% in 2024. Since EPA updated AP-42 Chapter 2.4 for landfills which is an emission calculation guide, in the future, DEQ will require use of the HH-3 to determine collection efficiency.</p>

Commenter: Mark Yeager  
 The attached Benton County report is submitted as public comment for the referenced draft air quality permit.

**2024 Coffin Butte Landfill Community Member Concerns Annual Staff Report**

An excerpt:

Two hundred thirty-three complaints about the Coffin Butte Landfill were reported in 2024 as detailed in the table below. Some complaints included numerous topics while others focused on a single concern. The complaints were organized into themes as illustrated in the following chart. The complaints received were fairly evenly distributed by topic, with the exception of odor complaints. Odor complaints were 59% of all of the concerns reported.

Mark Yeager



**2024 Coffin Butte Landfill Community Member Concerns Annual Staff Report**

Prepared By: Bailey Payne, Benton County Community Development Department, Solid Waste Program

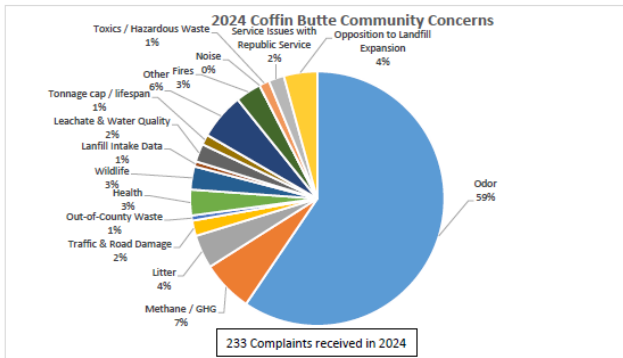
Preparation Date: February 19, 2025

The duties of Benton County's Disposal Site Advisory Committee (DSAC) are outlined in Oregon state law—specifically in ORS 459.325, which includes the requirement that "the committee shall prepare an annual written report summarizing the local citizens' concerns and the manner in which the owner or operator is addressing those concerns" which will be considered by the Department of Environmental Quality (DEQ) as part of issuing and renewing a solid waste permit.

Benton County staff and the DSAC have prepared the following report summarizing community member concerns regarding Coffin Butte Landfill in 2024, which may be used by DSAC to meet the requirements of ORS 459.325. Concerns listed in this report have been compiled using information from the complaints received by Benton County staff, complaints received by the Oregon DEQ and Republic Services and concerns presented during DSAC meetings.

Two hundred thirty-three complaints about the Coffin Butte Landfill were reported in 2024 as detailed in the table below. Some complaints included numerous topics while others focused on a single concern. The complaints were organized into themes as illustrated in the following chart.

The complaints received were fairly evenly distributed by topic, with the exception of odor complaints. Odor complaints were 59% of all of the concerns reported. In response, Coffin Butte Landfill has reported that it has expanded its methane capture system to reduce fugitive gasses from escaping and regularly makes repairs to tarps and wells.



in both EPA inspections in 2022 and 2024. It is inappropriate to consider renewal of this Title V permit while this facility is still under investigation by EPA for the methane exceedances documented in the two recent inspections. In addition, the odor complaints related to this facility have dramatically increased in the last 8 years as the tonnage volume to the dump has nearly doubled in that timeframe initially spiking in 2017 and maintaining that baseline and gradually increasing to nearly 1.1 million tons per year. I have attached the 2025 memo from the Disposal Site Advisory Committee for 2024 describing the odor complaint volume.

**2. Assumed Tonnage Volume**

The DEQ uses an annual garbage input volume of 1,500,000 tons per year in its calculations for estimating air pollutant loading and annual limits. There is no description of where that number came from or how it was derived. Further, it is completely contrary to the annual tonnage limit prescribed by the facility franchise agreement between Valley Landfills, Inc. and Benton County. I have attached the franchise agreement to this submission.

Respectfully submitted,  
Mark Yeager

Testimony from Mark Yeager, Corvallis, Oregon, June 3, 2025.

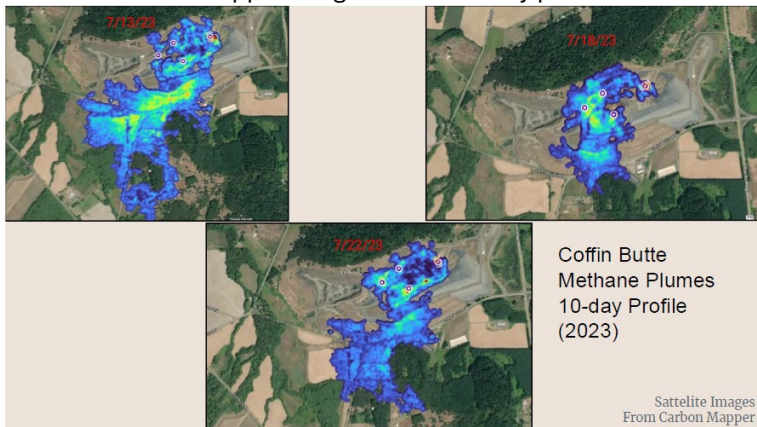
Title V Air Quality Permit for Coffin Butte Landfill, 02-9502-TV-01

**3. Basis For Calculating Annual Pollutant Limits**

During the public hearing on May 20, 2025, DEQ staff asserted that the method for calculating annual pollutant loads was based on EPA’s rule of thumb modeling assumption of 25% fugitive emissions. This assumption is far from reality particularly given the massive gas collection system leaks documented in both EPA inspections in 2022 and 2024. It is inappropriate to consider renewal of this Title V permit while this facility is still under investigation by EPA for the methane exceedances documented in the two recent inspections. Those leaks continue today – the satellite Carbon Mapper images and measurements show massive and persistent methane leaks coming from this facility:

[https://data.carbonmapper.org/?details=CH4\\_6A\\_500m\\_-123.23217\\_44.70071%3Fstatus%3Dnot\\_deleted#13.5/44.69821/-123.21818](https://data.carbonmapper.org/?details=CH4_6A_500m_-123.23217_44.70071%3Fstatus%3Dnot_deleted#13.5/44.69821/-123.21818)

Here are Carbon Mapper images over a 10-day period in 2023:



To assert, as DEQ staff did during the public hearing, that the 25% fugitive emissions assumption is representative or protective of public health is preposterous and cannot be justified. Particularly given the fact that review of this AQ permit does not consider the combined air quality impacts from the PNGC Power facility co-located at the dump. Further, since there are no

Table HH-3 methodology for PSEL compliance in the future.

2. The franchise agreement limits the landfill to 1,100,000 tons of municipal solid waste permit year; however, there is no limit on wastes from natural disasters. The permittee must comply with the franchise agreement separately from the air permit.
3. While Carbon Mapper provides useful information, this information is not directly linked to DEQ’s authority to regulate landfill gas emissions, which uses other measurement methods. DEQ issued a Pre-Enforcement Notice on November 6, 2025, citing multiple air quality violations. A formal enforcement order will follow. The current permitting action incorporates stricter regulatory requirements that apply to the landfill. As noted in the modeling review report attached to the permit review report, the emissions from PNGC were included as a competing source in the NAAQS analysis, and all pollutants included in the analysis were in compliance with the NAAQS.
4. DEQ has also noticed an increase in the number of odor complaints in the last few years. Resolving the violations identified by DEQ in the November 6, 2025 Pre-Enforcement Notice may address some of the odor issues because DEQ is requesting corrective actions that will reduce fugitive landfill gas emissions.
5. Thank you for sharing this photo and comment. It has been shared with our solid waste division as the solid waste permit requires daily cover.
6. See response to #1 above

ambient air quality monitors located anywhere near these facilities, neither DEQ nor EPA have any notion of the true depth of impact on air quality in the vicinity of this dump.

4. In addition, the odor complaints related to this facility have dramatically increased in the last 8 years as the tonnage volume to the dump has nearly doubled in that timeframe –initially spiking in 2017 and maintaining that baseline and gradually increasing to nearly 1.1 million tons per year. I have attached the 2025 memo from the Disposal Site Advisory Committee for 2024 describing the odor complaint volume.
5. Finally, the landfill operator routinely leaves the site uncovered or partially covered at the end of the working day, due to lack of time or availability of suitable cover material, allowing landfill gases to escape uncontrolled. See photo below:



**6. Assumed Tonnage Volume**

The DEQ uses an annual garbage input volume of 1,500,000 tons per year in its calculations for estimating air pollutant loading and annual limits. There is no description of where that number came from or how it was derived. Further, it is completely contrary to the annual tonnage limit prescribed by the facility franchise agreement between Valley Landfills, Inc. and Benton County. Section 5(b) of the December 2020 franchise agreement states:

*5. Impact of Solid Waste Volume; Limit on Solid Waste; Tonnage Cap.  
 (a) The parties acknowledge that there may be adverse effects to the County's infrastructure and environmental conditions due to increased annual volumes of Solid Waste accepted at the Landfill.  
 (b) Franchisee intends to seek governmental approval to expand the Landfill on the real property legally described on the attached Exhibit C and incorporated by reference herein("Expansion Parcel"). The parties agree that until Franchisee's governmental applications to expand the Landfill onto the Expansion Parcel are granted (following any and all appeals to final judgment) (the "Application"), the total tonnage of Solid Waste deposited by Franchisee at the Landfill during any calendar year shall not exceed One Million One Hundred Thousand (1,100,000) tons, of which Franchisee shall limit the total tonnage of Solid Waste received at the Landfill to allow for Seventy-Five Thousand (75,000) tons of Solid Waste from the County exclusively (the "Tonnage Cap").*

I have attached the franchise agreement to this submission. Since the referenced “governmental approval to expand the Landfill” has not been granted, the DEQ cannot use 1,500,000 tons garbage loading as the basis for calculating air pollutant volumes or limits.

That means it's back to the drawing board for this permit.

<p>Respectfully submitted,                  Mark Yeager, PE                  Excerpt from Attached Franchise Agreement (full exhibit is available on request):</p> <p>5. <u>Impact of Solid Waste Volume; Limit on Solid Waste; Tonnage Cap.</u></p> <p>(a) The parties acknowledge that there may be adverse effects to the County's infrastructure and environmental conditions due to increased annual volumes of Solid Waste accepted at the Landfill.</p> <p>(b) Franchisee intends to seek governmental approval to expand the Landfill on the real property legally described on the attached Exhibit C and incorporated by reference herein ("Expansion Parcel"). The parties agree that until Franchisee's governmental applications to expand the Landfill onto the Expansion Parcel are granted (following any and all appeals to final judgment) (the "Application"), the total tonnage of Solid Waste deposited by Franchisee at the Landfill during any calendar year shall not exceed One Million One Hundred Thousand (1,100,000) tons, of which Franchisee shall limit the total tonnage of Solid Waste received at the Landfill to allow for Seventy-Five Thousand (75,000) tons of Solid Waste from the County exclusively (the "Tonnage Cap"). The County agrees that the Tonnage Cap shall not apply to any Solid Waste generated from fire, flood, other natural disaster or any Force Majeure event.</p>	
<p>Commenter: Mark Yeager                  Testimony from Mark Yeager, Corvallis, Oregon, June 5, 2025.                  Title V Air Quality Permit for Coffin Butte Landfill, 02-9502-TV-01  <b>Dust Clouds (Particulate Emissions) from Coffin Butte Landfill</b>                  Coffin Butte is permitted as a municipal solid waste landfill, but the landfill also receives construction and demolition debris and industrial waste. Disposal of these wastes and the associated airborne emissions can pose health and environmental threats to the surrounding community. Situations involving plumes of particulates rising up from the landfill have occurred frequently and do not appear to be accounted for in the proposed Title V permit. See attached comment letter and exhibits.                  Mark Yeager                  Testimony from Mark Yeager, Corvallis, Oregon, June 5, 2025.                  Title V Air Quality Permit for Coffin Butte Landfill, 02-9502-TV-01  <b>Dust Clouds (Particulate Emissions) from Coffin Butte Landfill</b>                  Coffin Butte is permitted as a municipal solid waste landfill, but the landfill also receives construction and demolition debris and industrial waste. Disposal of these wastes and the associated airborne emissions can pose health and environmental threats to the surrounding community. Situations involving plumes of particulates rising up from the landfill have occurred frequently and do not appear to be accounted for in the proposed Title V permit. The landfill operator contends that these particulate plumes are contained on site and are not a violation of either their solid waste disposal permit or their Title V air quality permit. To the contrary, the photographic evidence submitted here demonstrates that these plumes are, in fact, impacting off site property and facilities, including Coffin Butte Road (a public roadway frequented by vehicles and bicyclists) and nearby farm and rural residential properties. Further, the landfill has a public dumping area on site where residents and other landfill users are exposed to these particulate matter plumes. During late Summer 2023 a large plume of what looked like smoke was observed rising from the top of the Coffin Butte Landfill. Photographs of air pollution (Exhibit 1, attached) and other photos of Coffin Butte operations (Exhibits 3 &amp; 4, attached) are visual evidence of air pollution coming from the landfill operation as trucks dump wastes at the landfill. The plume from this industrial waste disposal appears to reach 250 to 400 feet high and be 700 to 800 feet wide. These photos provide visual evidence of air emissions rising up from the landfill, leaving the site, and impacting public roads, neighbors and the surrounding community.</p>	<p>The permit does include particulate emissions from tipping operations although it was generated using an average moisture content of a load of waste and not specific to dry loads shown in the photographs provided.</p> <p>DEQ recently sent the landfill a pre-enforcement notice on Nov. 6, 2025. The pre-enforcement notice requested the following corrective action:                  By Feb. 1, 2026, have a third party with expertise in landfill operations and dust control conduct a study of fugitive dust control management and options for the Coffin Butte landfill. The study must include: 1) a review of the types of loads received at the Coffin Butte landfill that generate significant dust plumes when tipped, 2) a review of VLI's current practices for managing fugitive dust from tipping operations, 3) a review of industry best practices for managing fugitive dust from tipping operations, and 4) recommendations for fugitive dust management at the Coffin Butte landfill. Submit the study, along with a Fugitive Dust Control Plan for the Coffin Butte landfill to DEQ for approval.</p>

The Solid Waste Disposal Site Permit granted to Valley Landfills, Inc. (VLI) – the owner/operator of Coffin Butte - requires VLI to control air emissions, including dust, malodors, air toxics, etc. (Ref. 1 Section 9.14), and these requirements should be reflected by reduced particulate emissions limits and enforcement of requirements through the Title V permit. The material being deposited into the landfill that caused the large white plume in this instance came from an industrial operation in Corvallis. Exhibit 5 shows the material in a bag with a closeup of the label.

Exhibit 5



Respectfully submitted,  
Mark Yeager

**Exhibit 1 White Plume**

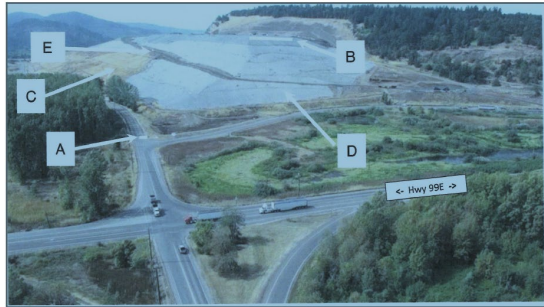
The white plume dimensions are difficult to estimate. Assuming the trash truck is 13 feet tall, the plume seems to be on the order of 400 feet to tall and 700 feet wide in the top photo. Shortly thereafter the plume height seems to be on the order of 250 feet to 400 feet tall and more than 800 feet wide. In both photos the plume is moving to the south. For location information, see Exhibit 2.





Source: Benton County Information Request file:  
387477003\_257117073993496\_3158731807361671211\_n.jpg

Exhibit 2 Coffin Butte Landfill Location Orientation Looking West



- A - Approximate location Plume Photos taken
- B - Approximate location truck tipping area / working face of landfill
- C - Soil covered area (typical)
- D - Plastic or rubber covered area (typical)
- E - Haul road for vehicle traffic within the landfill.

Source: "Neighborhood Posting" around 021624  
File: Landfill Photo Plume Orientation

### Exhibit 3 Bursting Bagged White Wastes

PAGE 1 OF 3

Source: Benton County Information Request file:  
10000000\_24116829357964857\_5063349022712076000\_n.mp4



Tipping of typical industrial tote bags of wastes from Republic tip trailer. Note "white" layer on compacting dozer (right side of photo).



Some tote bags split open releasing white solids / particulates to atmosphere.

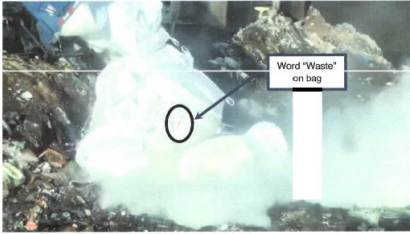
Bursting Bagged White Wastes

Page 1 of 3

**Exhibit 3 Bursting Bagged White Wastes**

PAGE 2 OF 3

Source: Benton County Information Request file:  
10000000\_24116829357964857\_5063349022712076000\_n(1).mp4



Waste designation on tote bag evident as "red" lettering.



Bursting Bagged White Wastes

Page 2 of 3

**Exhibit 3 Bursting Bagged White Wastes**

PAGE 3 OF 3

Explosive release of solids from some tote bags.



Plume of particulates forming near and above compacting dozer.



Deposition of white solids on dozer. Plume moving up and to right. Coffin Butte Ridge evident in top left of photo.

Bursting Bagged White Wastes

Page 3 of 3

**Exhibit 4 Additional Particulate Generation & Dispersal**



Source: Benton County Information Request file:  
393490263\_85623245567647\_7833039896963206454\_n.???????

**Additional Particulate Generation & Dispersal**



wraqpermits@deq.oregon.gov

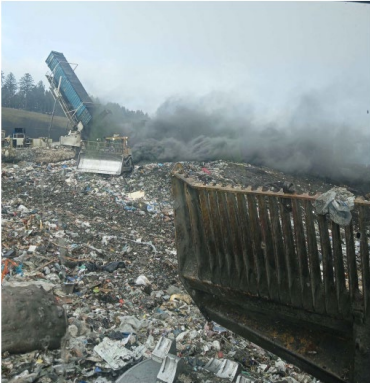
Testimony from Mark Yeager, Corvallis, Oregon, June 5, 2025.  
Title V Air Quality Permit for Coffin Butte Landfill, 02-9502-TV-01

**Dust Clouds (Particulate Emissions) from Coffin Butte Landfill**

Additional photographic evidence of large dust plumes (particulate matter) coming from Coffin Butte Landfill.

Respectfully submitted,

Mark Yeager



Commenter: Robert White

I believe that the continued extension of the antiquated permit under which Republic Services is operating should not be extended. A new permit should be provided that includes updated regulations and increased monitoring

1. Because the permittee submitted a timely and complete renewal application in 2013, a year prior to permit expiration, DEQ must administratively extend the permit.

<p>frequency of ambient air. Adherence to The National Ambient Air Quality Standards must be the minimum level required. Republic Services cannot be expected or allowed to do “self monitoring” of the data. The past record has been shown to be totally inadequate if not misleading. We are also concerned that the EPA should not be the only agency responsible for enforcement due to anticipated severe cutbacks by the present federal administration. Oregon DEQ must determine methods for meaningful enforcement.</p> <p>Thank you for your consideration.</p> <p>Robert White 4050 NE Fair Acres Dr Corvallis, OR 97330</p>	<p>Per OAR 340-218-0130(2): If a timely and complete renewal application has been submitted, the existing permit will remain in effect until final action has been taken on the renewal application to issue or deny a permit.</p> <ol style="list-style-type: none"> <li>2. The air quality analysis did show compliance with the National Ambient Air Quality Standards, including impacts from the engines at PNGC.</li> <li>3. The Title V permitting program requires monitoring by the permittee with certification by responsible officials. DEQ reviews all submittals and is responsible for enforcement of the permit requirements. EPA does oversight inspections and has additional monitoring capabilities that DEQ does not have. For those inspections only, EPA is the lead on enforcement; however, EPA has recently requested that DEQ lead the enforcement action to follow up on the information gathered during EPA’s 2022 and 2024 inspections and follow up information requests. DEQ issued a Pre-Enforcement Notification on November 6, 2025, citing violations and requesting corrective actions. A formal enforcement order will follow.</li> </ol>
<p>Commenter: Jane Williams, California Communities Against Toxics California Communities Against Toxics PO Box 2050 * Rosamond, CA 93560 Oregon DEQ Western Region Air Quality Permit Coordinator 4026 Fairview Industrial Drive SE, Salem, OR. June 5, 2025</p> <p>Dear Colleagues,</p> <p>Thank you for extending the comment period and allowing these comments to be submitted on the proposed Title V permit for the Coffin Butte Landfill. We have reviewed the last 2 inspection reports on the Coffin Butte Landfill and been shocked by their lack of compliance with the NSPS and NESHAPs requirements. Given that residents and commercial activity occur within a mile of the landfill we believe that enhanced transparency and monitoring are required to ensure that the landfill complies with its operating permit (which is now over a decade overdue). As the Oregon DEQ well knows the Title V program requires monitoring sufficient to ensure compliance, and clearly the facility operators have not been following even the most basic requirements that the</p>	<p>On Nov. 6, 2025, DEQ issued a pre-enforcement notice to the landfill citing a number of violations including inadequate surface emission monitoring as well as inadequate collection and control of landfill gas. The pre-enforcement notice has a corrective action request for the facility to submit a significant permit modification to use drone technology to complete surface emission monitoring.</p> <p>The landfill is required to monitor the temperature of their wells each month to help with the prevention of fires. Although satellite technology has</p>

Clean Air Act rules demand. We suggest that the facility and the state enhance the current monitoring protocols with the use of satellite monitoring data. We recognize that for methane monitoring, satellite data exists as well as drones and robotics. For wellhead monitoring there are also highly automated systems instead of measuring that relies on more labor-intensive human-centered measurements. Enhancing the monitoring of the landfill and reporting the results of that monitoring would give the operators a motive to be more accountable to the public and help streamline the oversight of the state. Creating a monitoring dashboard of critical parameters at the landfill that give a picture into its compliance would help the agency and the public to ensure that the landfill is not operating in its “hot rod” mode and risking subterranean fires such as has occurred at Chiquita Canyon in California. That dashboard could contain the semi-annual wellhead temperature requirements as well as the CO2 and O2 measurements as well as satellite monitoring data for surface temperatures, criteria pollutants, and formaldehyde. It is now feasible to “see” many of the pollutants, such as O2, NO2, and H2CO, being emitted from landfills using data from the TEMPO satellite:  
[https://tempo.si.edu/data\\_for\\_scientists.html#:~:text=Accessing%20TEMPO%20Data,found%20in%20the%20TEMPO%20storymap.](https://tempo.si.edu/data_for_scientists.html#:~:text=Accessing%20TEMPO%20Data,found%20in%20the%20TEMPO%20storymap.)) This satellite is now operational and is in a geo-stationary orbit over North America. The entire state of Oregon is contained within its measurement pathway and the satellite reports data during daylight hours. As combustion byproducts (like formaldehyde) rise along with surface temperatures, both the public and regulators can “see” subsurface combustion events before they become unmanageable. The data collected during the daytime by the Moderate Resolution Imaging Spectroradiometer (MODIS) on NASA’s Terra satellite (<https://modis.gsfc.nasa.gov>) as well as the VIIRS satellite (<https://www.earthdata.nasa.gov/data/instruments/viirs>) which reads surface temperatures twice daily at a 360 meter grid can provide accurate data on surface temperatures at landfills across Oregon and serve as an early warning system for subsurface elevated temperature events that can turn into landfill fires. Once subsurface landfill fires start, they are incredibly difficult and expensive to stop. Leachate produced by landfills which are on fire becomes toxic waste due to contamination from combustion byproducts. Hazardous air pollutant emissions rise and affect the health and wellbeing of communities hosting the landfill. These impacts are widespread in the damage they cause to public health, the wellbeing of community members, the health of livestock, flora, fauna, and property values. We urge the Oregon DEQ to seriously consider requiring enhanced monitoring provisions in this Title V permit due to the serious violations that have been found at this facility over the past decade as well as the facility’s co-disposal of incinerator ash which enhances the chance that it will catch fire. The USEPA has issued a fact sheet on disposal practices which cause elevated subsurface temperatures that specifically identifies co-disposal of incinerator ash as a contributing factor to landfill fires; Coffin Butte has been disposing of incinerator ash for many years and is therefore at a higher risk of experiencing a fire in the future.  
<https://www.epa.gov/system/files/documents/2022-04/elevated-temperature-landfillsfactsheet-1.pdf>.  
 Thank you for the opportunity to comment on this Title V permit and we hope that the state of Oregon takes the responsibility for preventing landfill emissions and fires seriously given the extreme adverse consequences from these landfill emission.

improved and provides useful data, it is not yet reliable enough to require use and is not required by either state or Federal regulations

<p>Cordially, Jane Williams Jane Williams Executive Director California Communities Against Toxics</p>	
<p>Commenter: Lindsey Hutchison, Michelle Emmons, and Heather King, Willamette Riverkeeper Hello, Please accept these attached comments on the Coffin Butte Landfill Title V Permit on behalf of Willamette Riverkeeper. Please let me know if you have any questions. -- Lindsey Hutchison, Staff Attorney Willamette Riverkeeper Email: lindsey@willametteriverkeeper.org (she/her/hers) To Whom it May Concern:</p> <ol style="list-style-type: none"> <li>Willamette Riverkeeper is submitting these comments due to concerns we have over the proposed Title V permit for the Coffin Butte Landfill. Willamette Riverkeeper is a 501(c)3 nonprofit working to protect and restore the Willamette River and its tributaries. One primary concern we have is the almost 200% increase in particulate matter emissions, from 24 tons per year to 70 tons per year. This does not include the additional increases of small particulate matter (PM10) and fine particulate matter (PM2.5). The permit proposes to increase PM10 emissions by 11 tons per year (from 14 to 25) and PM2.5 by, we assume, 11 tons per year (from “NA” to 11). Overall, DEQ is proposing to increase all particulate matter emissions by 68 tons per year.</li> </ol> <p>PM10 and PM2.5 are “inhalable into the lungs and can induce adverse health effects.” When inhaled, these particles can induce tissue damage and lung inflammation. Other health impacts associated with short-term exposure of PM2.5 are “premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days.” These effects have been primarily observed in infants, children, and older adults with pre-existing conditions. Of all the common air pollutants, “PM2.5 is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and world-wide.” Short-term exposure to PM10 has mainly led to the worsening of respiratory diseases, including asthma and COPD.5 Both PM2.5 and PM10 exposure are most likely to adversely affect older adults with chronic heart or lung disease, children, and asthmatics.</p> <p>In addition to the negative health effects, particulate matter emissions also have a detrimental impact on the environment. Particulate matter can affect visibility and can contribute to climate change. Particulate matter emissions can also adversely affect ecosystems, “including plants, soil, and water through deposition of PM and its subsequent uptake by plants or its deposition into water where it can affect water quality and clarity.”</p>	<ol style="list-style-type: none"> <li>The particulate matter emissions increase triggered modeling to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS). The modeling did show that the PM<sub>10</sub> and PM<sub>2.5</sub> concentrations met both short term and annual limits, including background concentrations and contributions from competing sources (the PNGC engines). While all particulate matter sizes had increased emissions, PM<sub>2.5</sub> was not regulated when the current permit was issued, so it is not an increase of 11 tons/year, it represents no prior limit because that size fraction was not regulated in 2009. Because the NAAQS are designed for human health and environmental protection, compliance with the NAAQS is used to determine the limits of pollutant emissions. Any future increases in particulate emissions will need to be modeled prior to DEQ increasing the permit limits.</li> <li>Total reduced sulfur and hydrogen sulfide were previously emitted below permitting thresholds, so are being added at this time. Sulfur dioxide, hydrogen sulfide and total reduced sulfur emissions all increased from additional waste accumulation and decomposition, plus improved data from sulfur sampling of the landfill gas. Sulfur dioxide emissions were modeled and showed compliance with the NAAQS. A cumulative impact assessment is not required, and this facility is not subject to Federal Major New Source Review requirements because emissions are below the Federal threshold of 250 tons/year, and this facility is</li> </ol>

<p>2. Besides increasing particulate matter emissions, this permit is proposing to increase sulfur dioxide by 3 tons per year, total reduced sulfur from “NA” to 13 tons per year, hydrogen sulfide from “NA” to 11 tons per year, and non-methane organic compounds by 23 tons per year. As with particulate matter, other air pollutants can pollute waterways. Pollutants such as sulfur “can lead to excess levels of acid in lakes and streams, and damage trees and forest soils.” Atmospheric deposition of sulfur “is a major stressor to natural ecosystems, often leading to acidification and eutrophication of both terrestrial and aquatic ecosystems.” Coffin Butte Landfill is located near the E.E. Wilson Wildlife Area and various waterways, which could be negatively impacted by the increased emissions. Willamette Riverkeeper urges the DEQ to conduct a cumulative impact assessment on nearby waterways and habitats, including potential air-to-water deposition pathways that affect the E.E. Wilson Wildlife Area and its surrounding tributaries.</p> <p>3. We also seek clarification as to why the current greenhouse gas emissions limit is listed as “NA” and the proposed limit is 282,500 tons per year. How much is the facility currently emitting, and why is there no current limit? Is the 282,500 tons per year an increase or decrease in greenhouse gas emissions? <b>Willamette Riverkeeper requests that DEQ provide baseline data and justification for how this emissions threshold was established and whether it aligns with Oregon’s climate goals and GHG reduction targets.</b></p> <p>4. While Willamette Riverkeeper recognizes the proposed reduction of nitrogen oxides, carbon monoxide, and volatile organic compounds, these reductions do not compensate for the significant increase in emissions of other pollutants proposed for this landfill. Allowing these increases and requiring no apparent mitigation for the negative effects they will have on human and environmental health is irresponsible and unreasonable. <b>Willamette Riverkeeper urges DEQ to protect our people, our wildlife, our natural spaces, and our waterways by disapproving the proposed increase in emissions and maintaining the current regulations.</b></p> <p>5. Finally, Willamette Riverkeeper urges Oregon DEQ to encourage the facility to consider alternatives to expanding the Coffin Butte Landfill that would reduce the environmental and public health risks in the Willamette Valley. This includes developing smaller, modern waste transfer stations or micro-landfills in less ecologically sensitive areas, reassessing the capacity of underutilized facilities, and accelerating statewide waste diversion efforts—such as banning landfill disposal of organic waste and expanding composting infrastructure. These actions would reduce pressure on Coffin Butte, better distribute environmental impacts, and align with Oregon’s climate and materials management goals. Thank you for your consideration.</p> <p>Sincerely,  Michelle Emmons  Co-Executive Director and Upper Willamette Riverkeeper  michelle@willametteriverkeeper.org  Heather King  Co-Executive Director and Lower Willamette Riverkeeper</p>	<p>located in an Attainment area for all criteria pollutants.</p> <p>3. As with PM<sub>2.5</sub>, greenhouse gases were not regulated when the permit was last issued in 2009. The baseline emission rate is set from actual emissions in 2010, in accordance with OAR 340-222-0048(1)(b), which is the year that DEQ began regulating GHG. The GHG reports are available on DEQ’s website. Because the permit was issued prior to GHG regulations, no limit was established at that time. This permit action serves to set a GHG emission limit. In addition, this permitting action incorporates OAR Chapter 340, Division 239, Oregon’s landfill gas emissions rules. Those rules are part of the state’s broader climate policy, and require additional methane surface emission monitoring, well monitoring, corrective actions, and a higher methane destruction efficiency from control devices.</p> <p>4. As mentioned previously, if the permittee meets all requirements, including modeling compliance with the NAAQS, DEQ is obligated to issue the permit. DEQ did add new monitoring to verify compliance with the NAAQS and sampling to provide assurance of the emission calculations.</p> <p>5. This permit action does not address the landfill expansion.</p>
--	--

<p>heather@willametteriverkeeper.org</p> <p>Commenter: Environmental Integrity Project and Beyond Toxics</p> <p>Attached please find public comments on the Draft Title V Permit for the Coffin Butte Landfill (Permit No. 02-9502-TV-01) from the Environmental Integrity Project and Beyond Toxics. (Note: Full comments are available upon request, and are summarized here).</p> <p>To Whom It May Concern,</p> <p>The Environmental Integrity Project (“EIP”) and Beyond Toxics (collectively, “Commenters”) respectfully submit the following comments on the above-referenced Draft Title V Permit (“Draft Permit”) proposed by the Oregon Department of Environmental Quality (“DEQ”) for the Coffin Butte Landfill (“Coffin Butte” or “the landfill”), operated by Valley Landfills, Inc. (hereinafter “Valley” or “VL”). We appreciate the opportunity to make these public comments. We hope that you will take into consideration our comments and recommendations.</p> <p>Introduction</p> <p>DEQ has proposed to renew the Title V permit for the Coffin Butte Landfill and proposed to concurrently approve a significant modification of the permit that would allow increases in facility-wide emissions limits for certain pollutants. The proposed significant permit modification includes increases, additions, or alterations of plant site emission limits (“PSELS”) for pollutants that are produced by the decay of waste in the landfill, specifically: non-methane organic compounds (“NMOC”), volatile organic compounds (“VOC”), carbon monoxide (“CO”), hydrogen sulfide (“H2S”), total reduced sulfur (“TRS”), greenhouse gases (“GHG”) and hazardous air pollutants. The Title V permit record contains essentially no acknowledgment of Valley’s expansion of the landfill over time or its plans to expand the landfill in the future, though this is documented in records relating to other permits and approvals. Instead, DEQ impermissibly proposes to increase the PSELS to allow increased emissions associated with activities only through the year 2030, without regard to the full scope of the planned expansion.</p> <p>DEQ may not finalize the Draft Permit as written. There are multiple deficiencies in DEQ’s analysis of these proposed PSEL increases and in the terms of the Draft Permit and contents of the Draft Review Report. Specifically, these include the following:</p> <ol style="list-style-type: none"> <li>1. DEQ may not consider only landfill emission increases through 2030 in its New Source Review analysis. DEQ must aggregate in its review all emissions associated with substantially related activities in the landfill expansion.</li> <li>2. DEQ may not increase the PSELS for NMOC, VOC, CO, H2S, TRS, or GHG via a modification of the landfill’s Title V permit. It must require Valley to apply for and obtain an Air Contamination Discharge Permit for these increases.</li> <li>3. Because of errors in its calculations, DEQ has substantially underestimated increased emissions from landfill gas. When these errors are corrected, DEQ will likely be required to perform a State New Source Review analysis for VOC emissions. DEQ has failed to perform this analysis.</li> <li>4. DEQ must recalculate its emissions of hazardous air pollutants from the landfill to determine whether the landfill will be a major source of hazardous air pollutants after errors are corrected.</li> <li>5. If the landfill is not a major source of hazardous air pollutants, it is a synthetic minor source of hazardous air pollutants and must comply with</li> </ol>	<ol style="list-style-type: none"> <li>1. DEQ’s permitting program is delegated from EPA, including the New Source Review program, and it differs significantly from the Federal program. Because emission increase accounting continues from baseline year (1978) through any future year, project aggregation is not required. The PSEL program allows the permittee to set the potential to emit at either capacity or a lesser throughput. It has been DEQ practice to permit municipal solid waste landfills with emissions calculated through the permit term or some years beyond the permit term but not at full landfill capacity. Future permit actions may trigger New Source Review; however, it would be difficult and unreasonable to model additional pollution control equipment that does not exist at this time. In addition, this permit action does not address the landfill expansion. Coffin Butte will need to apply for a permit modification prior to use of the expansion area. A separate public comment period would be provided for that permit action, if it occurs.</li> <li>2. DEQ allows PSEL increases at permit renewal from increases that result from capacity existing at baseline, but these increases are evaluated to determine if they trigger New Source Review. An increase in emissions above the permitted PSELS during the permit term would require a significant modification and can include State Type B New Source Review, if applicable. In this case, the permittee did apply for a significant modification to increase PSELS. Only a Type 3 or 4 changes that involve construction or modification of an emissions unit would require an ACDP; however, DEQ does not agree that additional</li> </ol>
---	---

<p>associated requirements, including the requirement to obtain an Air Contaminant Discharge Permit.</p> <p>6. DEQ must revise the Draft Permit and Draft Review Report to address subjects that must be included but are absent from either or both of these documents, including:</p> <ul style="list-style-type: none"> <li>Clarity in regard to the landfill emission units;</li> <li>The expansion and permitting history of the site; and</li> <li>The origin of permit requirements, including whether the PSEL are subject to EPA requirements for plantwide applicability limits (PALs).</li> </ul> <p>DEQ must fix or explain certain deficiencies in regard to monitoring.</p> <p>7. DEQ Must Revise the Draft Permit and the Draft Review Report to Use Consistent Identifiers for the Municipal Solid Waste Landfill Emission Unit or Units.</p> <p>DEQ uses inconsistent terms to identify the emissions unit (or units) for emission from decaying municipal solid waste (MSW) in the MSW landfill at Coffin Butte. DEQ must revise the Draft Permit and the Draft Review Report to correct use of inconsistent terms for the MSW landfill unit(s) and emissions therefrom. It must further provide a clear explanation in the revised permit and review report of the landfill cells included in each MSW landfill emission unit. Without consistent terms for an emissions unit, members of the public cannot easily understand analyses of potential requirements for that unit or reference permit requirements for that unit. DEQ’s failure to use clear and consistent terms for emissions units for the MSW landfill places the burden on the public to try to determine the scope of multiple statements in the permit record.</p> <p>Regardless of the identifier(s) that it uses, DEQ must revise the Draft Permit and the Draft Review Report to (1) use consistent terms to refer to the MSW landfill and emissions from the decay of waste therein; and identify the specific landfill cells that are included in any and all such units. The current permit identifies unit LF-1 as encompassing cell 0 in the landfill and unit LF-2 as encompassing cells 1-4 in the landfill.</p> <p>8. DEQ Must Revise the Draft Review Report to Describe the Permitting History of the Coffin Butte Landfill.</p> <p>The Draft Review Report includes no discussion of the history of expansion into cells at the Coffin Butte Landfill beyond cells zero and one. Similarly, there is a very limited, and possibly incomplete, discussion of the Coffin Butte Landfill’s permitting history that appears limited to activity from only 2009 to present. If the landfill has ever received an Air Contaminant Discharge Permit, it is not mentioned in the Draft Review Report. DEQ must revise the Draft Review Report to discuss the expansion and permitting history of the Coffin Butte Landfill. Further, it is Commenters’ understanding, based on a June 5, 2025 communication from DEQ, that the agency’s position is that a permit has already been issued authorizing emissions from cell 6 at the Coffin Butte Landfill. This is not consistent with any available information. As discussed in more detail below, the Coffin Butte Landfill’s current Title V permit and associated statement of basis (review report) describe the permitted emission units as encompassing cells zero through 4. If DEQ’s position is that emissions from cell 6 have already been authorized in a permit issued under the Clean Air Act, DEQ must identify with specificity the permit that it believes provides this authority and explain how it grants such authority. DEQ must provide this</p>	<p>waste accumulation, including new landfill cells, constitutes a modification with a physical change or change to operations. Because this area was included in the Design Plan and permitted design, emissions from those units would not require a permit to construct. In addition, capacity the landfill LUCS and the county zoning included the area encompassing all cells that are in the permit (Cells 1-6), and, and the permit included emissions from cell development and closure. which also support the conclusion that expansion into additional cells is allowed within the permit.</p> <ol style="list-style-type: none"> <li>3. Because AP-42 Chapter 2.4 was updated in August 2024, and the LandGEM model was updated in May 2025, both dates after the permit was drafted, the permit was correct at the time; however, because the changes to the emission calculation guidelines are significant, DEQ is recalculating emissions and will provide another public comment period with the revised emission calculations. That will include a State New Source Review analysis for VOC.</li> <li>4. Hazardous air pollutant emissions were recalculated using the revised AP-42 and LandGEM emission calculation methods.</li> <li>5. Because the landfill is already on a Title V permit, it is not required to obtain an ACDP for consideration as a synthetic minor source of hazardous air pollutants. Title V monitoring, reporting and inspection frequencies are equivalent to ACDP permits for sources of HAPs.</li> <li>6. The review report was revised to provide more detail on the landfill emission units included in the permit and the timeline for the use of various cells. Because the proposed expansion is not part of this permit action, a note was</li> </ol>
---	--

<p>information in revisions to the review report and in its response to public comments.</p> <p><b>9. Valley May Not Avoid Federal New Source Review by Impermissibly Failing to Aggregate Emissions from All Substantially Related Landfill Expansion Activities.</b> DEQ is proposing to concurrently renew the Coffin Butte Landfill’s Title V permit and approve a significant modification of that permit increasing certain PSEs. However, DEQ is proposing to impermissibly approve emissions increases at the landfill only through 2030 despite the fact that a larger landfill expansion is planned.</p> <p>Given the already-substantial emissions increases associated with the proposed Draft Permit, which extends through 2030, it is very likely that additional review would be required if DEQ were considering emissions associated with the entire planned expansion at the landfill. DEQ must consider all emissions increases from substantially related landfill expansion activities and it must require Valley to submit a new application providing this information.</p> <p><b>A. EPA Aggregation Policy</b></p> <p>When analyzing a proposed facility modification, the EPA has recognized that it is necessary to accurately define what constitutes the ‘project’ under review to ensure that the proper emissions increase resulting from the project is used when comparing it with the applicable [New Source Review] significance threshold at Step 1 of the [New Source Review] applicability analysis. Otherwise, a source could conceivably carve up a higher-emitting project into two or more lower-emitting projects’ and avoid triggering major [New Source Review] requirements.</p> <p><b>B. DEQ May Not Impermissibly Fail to Aggregate Emissions from Substantially Related Activities, Which Include Expansion of the Landfill into Cell 6.</b></p> <p>DEQ may not fail to aggregate substantially related activities that are part of the same landfill expansion. DEQ must require Valley to revise and resubmit its application seeking approval of emissions increases associated with the entire planned landfill expansion. Further, Valley must submit an application for an Air Contaminant Discharge Permit and not a modification of its Title V permit. There is almost no textual discussion in the Draft Review Report of the activities corresponding to the proposed PSEL increase for NMOC and other landfill gas pollutant.</p> <p>Treating the nominal permit expiration date of 2030 (if issued in 2025) as the date through which emissions increases are permitted cannot serve as a rational basis for the proposed permit decision. DEQ must review emissions increases from the entire project, meaning all substantially related activities, at once. At minimum, this must include the expansion into all parts of cell 6.</p> <p><b>C. DEQ Must Consider Whether the Proposed Landfill Expansion South of Coffin Butte Road is Part of the Same Project.</b> In addition, Valley is currently in the process of seeking a conditional use permit from Benton County for an additional expansion of the Coffin Butte landfill that would be located south of Coffin Butte Road. This proposed expansion appears to include about 59 acres of landfilling area for a 6-year extension of the landfill’s life. DEQ must also consider whether this planned expansion is substantially related to the other activities and, therefore, part of the and project</p> <p><b>D. Part III Conclusion</b></p> <p>DEQ may not impermissibly carve up one higher-emitting project, the landfill expansion, into multiple lower-emitting projects for purposes of New Source</p>	<p>included in the review report that this permit does not include the proposed landfill expansion to the south of Coffin Butte Road. As noted in #1, DEQ has been delegated by EPA for the permitting program, including the Title V program, and DEQ’s program does not use PALs. Monitoring requirements and any changes are discussed in detail below.</p> <p>7. Due to changes in emissions unit designation from the prior permit, some terms were not consistently updated. Changes have been made to clarify the emissions units, particularly LF (landfill with gas collection and control), LF-Fug (the fugitive emissions coming from the landfill). The designation LF-1 no longer exists, since waste from Cell 0 was moved into the current landfill LF (Cells 1-6).</p> <p>8. Because the permit was last issued in 2009, the expected permit duration through 2014 would have only included Cells 0-4; however, due to the extended time period since the last permit issuance, the landfill has expanded into other cells that were included in the land use approval and the Design Plan. Because the 2007 Design Plan and prior permit applications included a waste design capacity of 39,600,000 tons, the lateral expansion into Cells 5 and 6 are not considered a modification. This evaluation is consistent with the definitions of lateral expansion and modification in 40 CFR Part 63, Subpart AAAA. See also EPA’s conclusion on this from the Applicability Determination Index: <a href="https://cfpub.epa.gov/adi/index.cfm?fuseaction=home.dsp_show_file_contents&amp;CFID=5721917&amp;CFTOKEN=df917c1f6f7437fb-9A070728-D69D-08CA-DFADF5E0E5D9B095&amp;id=9900011">https://cfpub.epa.gov/adi/index.cfm?fuseaction=home.dsp_show_file_contents&amp;CFID=5721917&amp;CFTOKEN=df917c1f6f7437fb-9A070728-D69D-08CA-DFADF5E0E5D9B095&amp;id=9900011</a></p> <p>Since the emissions are calculated facility -wide using LandGEM and</p>
--	--

Review. DEQ must review emissions increases from all substantially related activities at Coffin Butte together. If emissions from cell 6 are not already permitted, then expansion into cell 6 is substantially related to expansion into cell 5 and other parts of the landfill. DEQ must require Valley to submit an application for an Air Contaminant Discharge Permit for all emissions increases for the planned landfill expansion. This application must include a map showing landfill cell locations as well as the size and waste tonnage associated with each cell and projected expansion timeline. Emissions estimates corresponding to cells and expansion timeline must be provided as well. In addition, as discussed below in Sections III and VI, Valley is already required to obtain an Air Contaminant Discharge Permit for the proposed increases through 2030. At minimum, this includes disposal of waste into all parts of cell 6. In addition, DEQ must consider whether the expansion south of Coffin Butte Road is part of the same project.

**10. The Proposed PSEL Increases for Landfill Gas Pollutants Are Major Modifications and May Not Be Permitted via a Significant Title V Permit Modification. DEQ Must Require Valley to Obtain an Air Contaminant Discharge Permit.**

Although not fully explained in the Draft Review Report, DEQ is proposing to increase site-wide pollution limits, known as PSELs, for NMOC and other landfill pollutants produced primarily by decaying MSW in the landfill. DEQ is proposing to do so in response to a February 2023 application from Valley for a significant modification of the Title V permit. Oregon’s regulations prohibit DEQ from increasing PSELs over a certain threshold via a significant Title V permit modification. If the PSEL increase rises to the level of a “major modification,” then DEQ must require the permittee to obtain a separate permit, an Air Pollutant Contaminant Discharge Permit, instead. There is almost no textual explanation provided regarding DEQ’s analysis of whether the PSEL increases for landfill gas pollutants constitute a major modification. However, DEQ apparently concluded that that: (1) increased PSELs for NMOC, TRS, H2S, and GHGs are above the levels that would make these increases major modifications but (2) determined that major modification requirements do not apply because these emissions increases are the not the result of a “physical change or change in the method of operation” at the landfill. Instead, DEQ appears to have incorrectly applied an exemption to the definition of major modification for emissions increases due to increased use of existing facilities or equipment. DEQ must treat the increased PSELs for NMOC, TRS, H2S, GHGs, and VOC as major modifications and require Valley to apply for, and obtain, an Air Contaminant Discharge Permit for these increases. If DEQ is claiming that it permitted or approved in 1977 all equipment or facilities that will be used to produce the 2030 emissions for which the PSEL increases are sought, it must state so and provide the 1977 permit or approval. Any such approval would have to be issued in accordance with OAR 340 division 210, as required in OAR 340-224-0025(2)(b)(B),

VOC emissions were calculated using the default assumption that VOC constitutes 39% of NMOC,79 which was previously allowed in EPA’s AP-42 Compilation.80 In August 2024, EPA removed this default from the AP-42 Compilation, recognizing that VOC is, instead, a good surrogate for NMOC.

included cell development and closure emissions as Aggregate Insignificant Emissions, starting to use additional landfill cells was permitted. Additional detail on the facility approval and history were added to the review report.

9. DEQ’s permitting program is a state delegated NSR program. As such, the NSR timeline is not a set project based timeline but includes all increases since the baseline period (1977-78). EPA’s aggregation policy does not apply, and the NSR requirements are in OAR Chapter 340 Division 224. Under Oregon rules, NSR is triggered when the PSEL increases are greater than or equal to the netting basis plus the Significant Emission Rate. DEQ rules allow permittees to set the PSELs at a projected throughput which becomes a Federally enforceable limit on Potential to Emit once the permit is issued. As mentioned in #2 and #8, DEQ believes that landfill growth into new cells, if included in the LUCS and the Design Plan, does not represent a major modification because emissions from all cells are included in the design capacity. The proposed landfill expansion south of Coffin Butte Road cannot be included in this permit action because DEQ has not received a permit modification application for the expansion. A map of the currently approved landfill, with cell designations was added as an attachment to the review report to clarify the area included in the permit.
10. As mentioned in #2, #8 and #9, DEQ believes that landfill growth into new cells that were part of the Design Plan, design capacity, and land use approval does not constitute a major modification. Because this facility is not a Federal Major Source, a major

<p>DEQ’s calculations assume that Coffin Butte’s landfill gas collection and control system (“GCCS”) is operating – in other words, collecting gas from the waste mass - at 75% efficiency. DEQ states that it is using this default value because it is provided in the AP-42 Compilation and EPA’s regulations at 40 CFR 98 Subpart HH. However, EPA has revised both the Subpart HH regulation and Chapter 2.4 of the AP-42 Compilation to change this assumption.</p>	<p>modification would not trigger Federal Major NSR, and the air quality analysis conducted for the significant modification is the only requirement for State Type B NSR.</p>
<p>11. DEQ must re-calculate emissions of Hazardous Air Pollutants from landfill emissions using lower GCCS collection efficiency and determine whether the Coffin Butte Landfill is a major source of HAP. If Valley does not already have an Air Contaminant Discharge Permit setting forth conditions that limit HAP below the 25 tpy major source threshold, then DEQ must require it to apply for and obtain one. DEQ must revise the Draft Permit to ensure that associated monitoring and reporting requirements are set forth in that permit. If DEQ believes that the Coffin Butte landfill is not a synthetic minor source of HAP, it must explain how it reached this conclusion, including clear and comprehensive potential-to-emit calculations, in its response to comments.</p>	<p>As mentioned in #3, AP-42 was revised in August 2024, after this permit was drafted. Due to the significant changes in the emissions calculation guidance, DEQ is revising the VOC emissions calculations and will put the permit on public notice again. In addition, the permittee has reported the collection efficiency calculated using Table HH-3 in 40 CFR Part 98, and it is currently 80-82%. However, the permittee has requested to use a 65% collection efficiency as a conservative estimate for determining PSEL for fugitive emissions from the landfill, but DEQ will require the use of HH-3 for PSEL compliance demonstration. Because the HH-3 calculation will change from year to year, depending on cell growth and closure activities, a set percentage is needed to determine the PSEL.</p>
<p>12. DEQ does not address the possible emissions associated with loading leachate into the trucks. Given community members’ concerns with odors they associate with the practice of loading leachate into the trucks, Commenters request that DEQ explain whether they assert that zero emissions are released when the trucks are loaded with leachate. Additionally, Commenters request that if this is not DEQ’s position, that DEQ quantify the emissions associated with loading leachate onto the trucks.</p>	<p>11. HAP emissions were re-calculated based on revisions to AP-42 and LandGEM. No additional permit is required.</p>
<p>13. Neither the Draft Review Report nor the Draft Permit include a discussion of EPA’s PAL program or the additional requirements imposed in permits where this approach is used. If the PSELs are, in fact, implemented under the PAL program, then DEQ must revise the Draft Permit and the Draft Review Report to acknowledge EPA’s requirements for PALs</p>	<p>12. Leachate emissions were included in aggregate insignificant emission estimates. That estimate would include emissions from the leachate ponds and truck loading.</p>
<p>14. Commenters strongly urge DEQ to complete any steps necessary to obtain approval of Oregon’s plan for implementing EPA’s 2016 Emission Guidelines for MSW landfills under section 111(d) of the federal Clean Air Act. EPA’s approval of the new rules as Oregon’s state 111(d) plan will facilitate and expedite enforcement of the new rules and will also help to streamline the Title V permit renewal process.</p>	<p>13. DEQ’s permit program is delegated from EPA and does not include PAL permitting.</p>
<p>15. DEQ must either explain how monitoring for 30 minutes once a week using Method 22 assures compliance with the requirement to minimize fugitive emissions or include in the final permit adequate monitoring requirements to assure compliance with the requirement to minimize fugitive emissions. Additionally, DEQ must also explain how monitoring for minutes once a week using Method 22 (in Condition 103, referencing Condition 7) and reporting requirements (in Condition 103, referencing Condition 10) assure compliance with the requirement in Condition 102 that Coffin Butte not cause or allow particulate matter to become airborne from paved and unpaved roads. The Draft Permit contains “reasonable precautions.” DEQ correctly mandates the use of the reasonable precautions—e.g. wet</p>	<p>14. DEQ received approval for implementing EPA’s 2016 Emission Guidelines for MSW landfills under section 111(d) of the federal Clean Air Act on October 8, 2020. Those rules are included in OAR 340-236-0500. The OAR Chapter 340 Division 239 rules are separate from that approval since they address methane emissions</p>

<p>suppression—in Conditions 6.a.-6.g. However, the Draft Permit fails to specify the required frequency, quantity and duration of dust suppression techniques. Accordingly, DEQ must specify the required frequency, quantity and duration of the “reasonable precautions” outlined in the Conditions 6.a.-6.g. to prevent particulate matter due to source activities from becoming airborne.</p> <p>16. DEQ does not explain in the Draft Permit nor Review Record their conclusion that visible emissions are unlikely to occur from the flare. Therefore, DEQ impermissibly includes Condition 17.c. in the Draft Permit. This is especially important because Valley cannot assure compliance with the 20% opacity limit in Condition 17.a. if it is not required to monitor opacity, especially where this is a standard that applies at all times and would need continuous monitoring to determine compliance. However, for the tipplers, DEQ did not include a condition that no visible emissions are expected and thus no monitoring is required. Therefore, Commenters incorporate by reference the above arguments regarding the lack of clarity in the Draft Permit and inadequate monitoring to assure compliance with the 20% limit to the tipplers.</p> <p>17. The Draft Permit includes a list of wells with a higher operating value (“HOV”) of 71°C (159°F) that was approved by DEQ on June 29, 2009. It is unclear from the permit record whether Valley submitted supporting data that the elevated temperature does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens. Therefore, Commenters request that DEQ confirm that Valley Landfills submitted this demonstration and supporting data when establishing this HOV for temperature for these wells. Commenters also ask DEQ whether Valley Landfills indicated that there were physical signs of a fire such as smoke or subsidence in the area around the wells at which they requested HOVs. Commenters note that the 2013 permit application includes a request for a 149°F HOV for six wells, one of which is a well listed in Condition 88.k of the Draft Permit. Where the operator requested a HOV of 149°F for six wells, including 2B0V0U03, and the Draft Permit contains a HOV of 159°F (including for Well 2B0V0U03), is the HOV in the Draft Permit a typographical error that should instead read as 65°C (149°F)? If this is not a typographical error in Condition 88.k, can DEQ explain why Well 2B0V0U03 is included in the wells with a 159°F HOV, which is ten degrees higher than what was requested by Valley Landfills in 2013? Can DEQ confirm if the HOV for the wells listed in Condition 88.k was requested for only six weeks? If the answer to the above question is “yes,” can DEQ explain why the HOVs are still included in the Draft Permit?</p> <p>(Note: Supporting Attachments A through F, are available upon request).</p>	<p>specifically, so do not correlate to the Federal emission guidelines.</p> <p>15. DEQ issued a Pre-Enforcement Notice on November 6, 2025, noting the photo evidence submitted by members of the public showing plumes of dust from the landfill’s tipping operations. DEQ requested a copy of the facility’s Method 22 records, and requested the following corrective action: By Feb. 1, 2026, have a third party with expertise in landfill operations and dust control conduct a study of fugitive dust control management and options for the Coffin Butte landfill. The study must include: 1) a review of the types of loads received at the Coffin Butte landfill that generate significant dust plumes when tipped, 2) a review of VLI’s current practices for managing fugitive dust from tipping operations, 3) a review of industry best practices for managing fugitive dust from tipping operations, and 4) recommendations for fugitive dust management at the Coffin Butte landfill. Submit the study, along with a Fugitive Dust Control Plan for the Coffin Butte landfill to DEQ for approval</p> <p>16. Visible emission monitoring for the flare was added to the permit.</p> <p>17. The DEQ approval letter from Jun 9, 2009 indicated that the landfill had provided data based on methane, carbon dioxide and carbon monoxide levels that the elevated temperature does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens. In addition, the May 16, 2013 request letter for a variance for six additional wells, provided sufficient justification for approval; however, the temperature in that request was lower than the variance included in the permit and has been corrected.</p>
--	--

	<p>However, the landfill is no longer requesting a temperature variance for any wells, so that clause has been removed from the permit.</p>
<p>Commenter: Hubert &amp; Barbara Hettwer          Regarding the Coffin Butte Landfill article in the Statesman Journal, we cannot understand why the methane gas is not used/captured as a fairly clean energy source for generating electricity, cooking, heat, or production of hydrogen. My husband remembers this being done about 40 years ago in Oregon City. It is done all over the world. There would be no problem expanding the landfill if the methane were captured and not let to escape to smell up the neighborhood and perhaps harm the climate.          According to landfill-gas.com in 2023</p> <ul style="list-style-type: none"> <li>• 573 operational landfill gas facilities were active by year's end</li> <li>• 23 new facilities came online (a 4.2% increase), marking the strongest annual growth since 2014</li> <li>• Overall biogas production capacity increased by 6.1%</li> <li>• Capital investment in new LFG facilities grew by 5.9%</li> </ul> <p>It doesn't seem that limiting landfill space is the best answer, but rather using the methane to our advantage. We need a place for our garbage, so we are in favor of granting the permit to temporarily raise the pollutant limit while working on developing a methane capture system at Coffin Butte and re-opening the Brooks burner.          Hubert &amp; Barbara Hettwer</p>	<p>The majority of the Coffin Butte landfill gas is captured and sent to an adjacent facility, Pacific Northwest Generating Cooperative that burns the landfill gas to produce electricity.</p> <p>Coffin Butte will have to add capacity for controlling landfill gas emissions, and they will evaluate whether production of renewable natural gas is an option.</p>
<p>Commenter: Ken Eklund          Hello DEQ,          As comment on the Title V Air Quality Permit for Coffin Butte Landfill, 02-9502-TV-01, I'm attaching an "explainer" for the data provided to us by Carbon Mapper, regarding the history of Carbon Mapper's remote surveys of the landfill since summer 2023.          This data is a preview of what the regulatory environment will be for Coffin Butte Landfill when the rules called for by Senate Bill 726 take effect, so it is important for the permittees to see it now, to be able to adequately prepare for that day. That was my thinking, anyway! (Large attachment not included)          – Ken Eklund</p>	<p>Thank you for this. DEQ is currently working on the initial steps of the rulemaking required by Senate Bill 726.</p>
<p>Commenter: Lisa Arkin</p> <p>COMMENTS SUBMITTED TO THE RECORD          RECOMMENDING MODIFICATIONS TO THE DRAFT TITLE V PERMIT  <b>Initial Comments</b>          In response to public concerns about the draft Title V permit for Coffin Butte Landfill during the public hearing held on May 20, 2025, DEQ staff commented that they were reluctant to make any of the recommended changes because the facility's permit was "long overdue" and something to the effect that changing the draft permit at this point would slow the process down. Both of these excuses have no relevance to the purpose of the public hearing and the renewal of the Title V permit. <i>The DEQ staff, in their service to the public, are obligated to receive, consider and, if legal and sound recommendations are submitted to better protect air quality and human health, improve the draft by incorporating such recommendations, or provide substantive proof as to why the agency cannot.</i></p>	<p>DEQ reviews each comment and updates proposed permits when appropriate. DEQ made several changes to this proposed permit based on comments received during the comment period.</p> <p>To address dust generated when dumping dry loads, DEQ recently sent the landfill a pre-enforcement notice on Nov. 6, 2025. The pre-enforcement notice included the following corrective action: "By Feb. 1, 2026, have a third party with expertise in landfill operations and dust control conduct a study of fugitive dust control management and options for the Coffin</p>

Furthermore, the existing Coffin Butte Title V permit, which expired in 2014 over a decade ago, is not the public’s problem or fault. On October 31, 2023, Beyond Toxics alerted the DEQ that the 2009 Title V permit for Coffin Butte was outdated and a new permit was overdue. Again, on May 16, 2024, the DEQ was alerted about substantive regulatory gaps in the permit. DEQ air quality permit writer(s) refused to meet to discuss those concerns. It was not until the draft Title V permit #56589 was posted that the public had the opportunity to review it and submit substantive comments in response. To be told in so many words that “it is too late to change the draft” or “making changes will delay the issuance of the final permit” are excuses meant to disregard valid and well-researched input from concerned members of the public. This is antithetical to the purpose of the open comment period. The DEQ’s staff stated reluctance to incorporate new information into the final permit maintain the status quo of the current inadequate regulatory conditions for the Coffin Butte landfill.

**Summary Statement**

I would like to reference and incorporate by reference comments submitted by Gary Andes (former DEQ air permit writer), Beyond Toxics and California Communities Against Toxics. I urge the DEQ to adopt their recommendations to improve and strengthen the current draft permit. Additionally, I urge the DEQ to consider and incorporate the following recommendations:

**Fugitive Emissions - Condition 7:** The monitoring requirement of making a visual inspection once per week for 30 minutes is inadequate and easily open to manipulation. This method is inadequate because it doesn’t provide verifiable data. Workers at Coffin Butte, Beyond Toxics and members of the public have shared photographs and videos of large plumes of dust generated as dump trucks place trash at the open face (the DEQ provided no response to this evidence). The plumes were extensive enough to move beyond the facility’s property.

- Recommendation: The DEQ should require air monitoring for particulate matter and air toxics by requiring Coffin Butte to install air quality monitors, including nephelometers, to accurately monitor fugitive emissions.

**Nuisance conditions – Conditions 8, 9 and 10:** The draft Title V permit DEQ permit is written with vague nuisance conditions, specifically nuisance caused by odor.

- Recommendation: DEQ should include provisions that ensure failure to control nuisance odors are treated as a violation of the permit and that the consequences of violating nuisance conditions and timelines for DEQ to issue a notice of violation are clearly written into the permit.

**Install gas collection – Conditions 27a and 28a. ii.:** Condition 28a. ii of the proposed permit requires the installation of a gas collection system in an area, a landfill cell, or a group of cells in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade. I urge the DEQ to instead require earlier gas collection system installation and expansion within two years

of waste placement in the updated permit. A recent EPA report found that “an estimated 61 percent of methane generated by landfilled food waste is not captured by landfill gas collection systems and is released to the atmosphere. Because food waste decays relatively quickly, methane emissions often occur before landfill gas collection systems are installed or expanded.” Fifty percent of the carbon in food waste degrades into landfill gas within just 3.6 years, with appreciable amounts of gas produced within one to three years. Because food waste decays relatively quickly, methane emissions often occur before landfill

Butte landfill. The study must include: 1) a review of the types of loads received at the Coffin Butte landfill that generate significant dust plumes when tipped, 2) a review of VLI’s current practices for managing fugitive dust from tipping operations, 3) a review of industry best practices for managing fugitive dust from tipping operations, and 4) recommendations for fugitive dust management at the Coffin Butte landfill. Submit the study, along with a Fugitive Dust Control Plan for the Coffin Butte landfill to DEQ for approval.”

DEQ issued a pre-enforcement notice on November 6, 2025, citing a number of air quality violations including monitoring deficiencies and control equipment capacity issues. DEQ has requested corrective actions that will reduce landfill gas emissions, and expects that this will also reduce odor issues.

Division 239 rules require installation of wells connected to the gas collection system within 60 days of the area requiring control, which includes all areas except the working face. In addition, the surface emission monitoring requirements can also require well installation.

As required by rule, before DEQ approves increase well temperatures DEQ requires a study to be done to make sure the increase will not lead to a higher risk of fire in the landfill.

<p>gas collection systems are installed or expanded. The EPA’s draft strategy for organics diversion states that since food waste decays relatively quickly, those emissions often occur before landfill gas collection systems are required to be installed or expanded.</p> <ul style="list-style-type: none"> <li>• Recommendation: DEQ should require Republic Services to install and expand the gas collection system within two years after waste is placed in any cell or group of cells, including active waste placement locations, rather than the more extended time frame of five years currently allowed. Earlier expansion of gas collection systems could reduce fugitive methane emissions significantly.</li> </ul> <p><b>Temperatures at Wellhead – Condition 27 c: The US EPA established rules for internal wellhead temperatures. See 40 CFR 60.36f.</b> Under the proposed permit, the DEQ allows wellhead temperature exceedances of 62.8 degrees Celsius (145 degrees Fahrenheit). This is far above the federal 55-degree Celsius safety/fire-hazard threshold. Currently the proposed permit allows wellhead temperatures to be 62.8 degrees <b>or even higher</b> if the landfill requests it. This is a tremendous fire safety risk. Public safety would be better served if Coffin Butte were held to the 55-degree Celsius threshold for all wells.</p> <ul style="list-style-type: none"> <li>• Recommendation: DEQ should re-evaluate this allowance and instead require the landfill to operate under necessary safety thresholds of 55-degree Celsius and improve their wellhead maintenance practices.</li> </ul>	
<p>Commenter: Ken Eklund</p> <p><b>Subject: more complete and accurate portrayal of community concerns about Coffin Butte Landfill</b></p> <p>The volunteers on Benton County’s Disposal Site Advisory Committee (DSAC) are charged by the state to listen to community concerns about the landfill and to compile them into a Community Concerns Annual Report (CCAR) each year, which is sent to Oregon DEQ. Coffin Butte Landfill is familiar with DSAC and its mission, as one of DSAC’s members is the landfill’s Designated Representative and their votes on the CCAR are a matter of record. Many of the concerns expressed by the community are about air quality – notably odor, climate damage, and toxics release (especially PFAS), which are all symptoms of the same root cause: uncontrolled release of landfill gas. These CCARs thus provide valuable insight into how the landfill is impacting the community from the point of view of “boots on the ground.” What I’ve seen in DSAC meetings over the years is that Republic has no answer for the hundreds of concerns that the people of the community bring forward. More often, there’s a shrug and a reference to regulatory enforcement, as if it’s up to regulatory enforcement to solve the problem, not Republic. (note: 2021-2024 attached reports not included but available on request)</p> <p>Sincerely, Ken Eklund Past Chair, Disposal Site Advisory Committee of Benton County</p>	<p>DEQ expects there to be odors associated with landfill gas emissions. This proposed permit requires the landfill to perform monthly visual inspections of the landfills cover and quarterly to do surface emission monitoring. If a leak is detected the landfill has 10 days to take corrective action and if initial corrective action is not effective additional landfill gas collection must be installed within 120 days. DEQ’s Pre-Enforcement Notice, issued on November 6, 2025, cites the landfill for violating some of these requirements. A formal enforcement order will follow. DEQ expects that the resolution of these issues will reduce landfill gas emissions which have caused some of the complaints from the public.</p>
<p>Commenter: Kevin Kenaga</p> <p>Permit number 02-9502-TV-01. Oregon Department of Environmental Quality please do not renew this permit. Coffin Butte landfill has been shown to be a super methane emitter by the EPA’s two inspections and also by Carbon Mappers technology. Republic Services has evidenced their inability to manage the Coffin Butte landfill by not being</p>	<p>Methane emissions are allowed by state and federal rules. These emissions are accounted for in the greenhouse gas plant site emission limits in the proposed permit. Because DEQ did not regulate greenhouse gases in 2009 when the permit was last</p>

<p>able to control the methane emissions. To simply renew this permit would allow Republic Services to continue operating an out of control system. You have the EPA reports and access to Carbon Mapper which is enough evidence to reject this permit renewal application and require Republic Services to start over with a new permit application. Oregon DEQ doesn't need to have the EPA finalize their report for you to reject this permit application, you have the authority based on all the evidence submitted by others as testimony. Oregon deserves better than our DEQ just going forward with this renewal process. Republic Services operation at the Coffin Butte landfill has been much more than a nuisance to the community for much too long. A nuisance as evidenced by the number of air quality complaints that have been submitted as testimony by others. Please deny this permit renewal application. Kevin Kenaga</p>	<p>issued, GHG emissions were not included at that time. The proposed permit includes a GHG limit. DEQ issued a pre-enforcement notice on November 6, 2025, citing a number of air quality violations including monitoring deficiencies and control equipment capacity issues. A formal enforcement action will follow. DEQ expects that the resolution of these issues will reduce landfill gas emissions which have caused some of the complaints from the public.</p>
<p>Commenter: Virginia Scott</p> <p>I am concerned about air quality and odor from Coffin Butte Landfill for several reasons and concerned about the increase in these issues if the landfill expansion is approved. I moved out to the Soap Creek Valley in the mid 1990's approximately 6.4 miles SW of the Coffin Butte Landfill. During the first almost two decades, the only time that I smelled the landfill was when I drove past it from Coffin Butte Road up Highway 99 to about Robinson Road on my weekly trip to Salem. I almost always had to put the car's air on recirculate for this short stretch of the journey. Since I pass the landfill weekly, I am quite familiar with its aroma. For example, I also pass the former dairy at Rickreall and I never mistake landfill odor for dairy odor. Over the past several years, I frequently smell the Coffin Butte Landfill odor inside my home even with the windows closed. These odors are strong enough to cause a headache and nausea. I frequently smell the Coffin Butte Landfill odor down on the north end of Corvallis, too. And quite significantly on March 1, 2025, I picked up the distinct stench of the dump when I dropped down from Sulphur Spring Road on to Lewisburg Road and the smell remained strong and present until I reached Southwest Brooklane Drive at Highway 34 just south of the OSU campus, a whopping 12.3 miles away from the Coffin Butte Landfill. Clearly the odor and toxic emissions are not staying on Republic Services property, and clearly the odors and toxic emissions are affecting a significant population including the residents of the Soap Creek Valley, Adair Village, North Corvallis and the surrounding rural populations. I am frustrated when my reports of odors to the ODEQ receive a response from Republic Services of "no problem here, everything is functioning correctly" or "we don't smell it, so there is no problem." Both are dismissive lies by Republic Services. When I moved out to the Soap Creek Valley in the mid 1990's the trees on my property were draped in usnea longissimi lichen. The presence of this lichen is an indicator of good air quality. The quantity of usnea longissimi lichen on my property has diminished significantly, with a precipitous decline in the last decade. This decline, I understand, is an indication of poor air quality. The lichen is telling you that we have an air quality issue. The residents are telling you that we have an air quality issue. The Oregon DEQ is the department of environmental quality with the responsibility to safeguard our environmental quality built right into the department name. I am quite disturbed to think that the Oregon Department of</p>	<p>DEQ expects there to be odors associated with landfill gas. This proposed permit requires the landfill to perform monthly visual inspections of the landfills cover and quarterly to do surface emission monitoring. If a leak is detected the landfill has 10 days to take corrective action and if initial corrective action is not effective additional landfill gas collection must be installed within 120 days. DEQ has issued a pre-enforcement notice on November 6, 2025, citing a number of air quality violations including monitoring deficiencies and control equipment capacity issues. A formal enforcement action will follow. DEQ expects that the resolution of these issues will reduce landfill gas emissions which have caused some of the complaints from the public.</p> <p>The area surrounding the Coffin Butte Landfill has been shown to be in compliance with the National Ambient Air Quality Standards (NAAQS). However NAAQS have only been established for a limited number of pollutants.</p> <p>DEQ has not yet assessed the health risks from the air toxics being emitted from the landfill. DEQ's Cleaner Air Oregon program is continuing to call additional facilities into the program and will at some point in the future</p>

<p>Environmental Quality would consider reissuing this Title V Air Quality Permit to Republic Services, that it would be issued with an increase to the permitted emissions, that it does not include PFAS limits, and that it would be based on the self-reporting by Republic Services, who the ODEQ, the EPA, and the Oregon citizens know to misrepresent all of their prior self-reporting. Republic Services cannot be relied upon to adhere to a Title V Air Quality Permit. Republic Services is not adhering to it now and will not be adhering to it in the future. We are counting on the Oregon DEQ to defend our precious environment quality.</p> <p>Sincerely, Virginia Scott</p>	<p>evaluate the air toxic health effects from this facility.</p>
<p>Commenter: Marcy Follett</p> <p>Dear DEQ Permit Coordinators,</p> <p>In my previous profession I was a Process Technician with 21 yrs experience in testing and quality control. I urge DEQ to amend Republic Services' Title V permit to require <b>event-triggered methane monitoring</b> at Coffin Butte Landfill, addressing chronic underreporting of super-emitter events. Current quarterly inspections fail to capture leaks caused by:</p> <ol style="list-style-type: none"> <li>1. <b>Quarry Blasting</b> <ul style="list-style-type: none"> <li>- Require pre- and post-blast testing at:</li> <li>- Perimeter wells within 200m of blast zones</li> <li>- Historical high-leak sites (per EPA 2022 inspection data)</li> <li>- Exempt transient spikes <b>only if</b> baseline (&lt;500 ppm) is restored within 24 hours.</li> </ul> </li> <li>2. <b>Extreme Weather</b> <ul style="list-style-type: none"> <li>- Mandate automated testing within 4 hours of:</li> <li>- Barometric pressure drops (&lt;29.92 inHg)</li> <li>- Rainfall &gt;0.5 inches</li> <li>- Temperature swings &gt;20°F</li> </ul> </li> <li>3. <b>Maintenance Activities</b> <ul style="list-style-type: none"> <li>- Real-time monitoring during all cover repairs/well servicing using handheld detectors (e.g., MultiRAE Lite).</li> <li>- 48-hour follow-up tests to confirm no delayed migration.</li> </ul> </li> </ol> <p><b>Accountability Measures</b></p> <ul style="list-style-type: none"> <li>- Public dashboards showing blast/weather/maintenance logs with linked methane data.</li> <li>- Surprise audits if event-triggered leaks exceed EPA action levels.</li> </ul> <p>Republic's <b>\$14.6B revenue</b> and history of gaming quarterly tests (e.g., 60+ unreported leaks in 2022) prove they can afford this. Oregon communities deserve proactive protection, not reactive compliance.</p> <p>Sincerely, Marcy Follett</p>	<p>The proposed permit includes all state and federal monitoring requirements for the landfill. DEQ will have new rules for monitoring methane emissions from Coffin Butte landfill by the start of 2027, as required in Senate Bill 726. These new rules will be placed into Coffin Butte's permit after they are finalized.</p>
<p>Commenter: Bill Gellatly</p> <p>Hello, I'm Bill Gellatly, a resident of Corvallis and a retired engineer from High tech. I spent 37 years with Tektronix, mostly in Beaverton and Wilsonville. In retirement, I have been able to get involved in the many areas that have tweaked my curiosity.</p> <p>My work has informed my scientific curiosity through all of those years and I have returned to the town of my father's roots to make the very best of the university environment .</p>	<p>Title V permits are designed to be updated every 5 years. As long as the permittee submits a complete and timely permit renewal application the permit's term is extended until it is renewed by DEQ. Although DEQ strives to renew these within 12 months of receiving the renewal application we often do not meet this goal.</p>

The geology the soils and the local weather all come to play in making an attractive environment. How we use this environment is a function of how well we are able to live our daily lives. What we buy to consume, but do not use has to go somewhere.

What I am hoping to achieve with my testimony is to make clear that in order for your work as implementers of new regulations, regulators, and as enforcers, has everything to do with how we can best mitigate the issues of the environment that threaten us so badly in the face of Climate Change. I've only been introduced to this DEQ permit process in the last few days. I have had the opportunity to scan the key elements of it and have arrived at a few concerning conclusions.

First, I am concerned with the timing. If the intended cycle has been five years, has that just been a guideline or is it a piece of methodology that is part of your procedures.

As a science guy I understand that correlation must be brought to valid connection to causation in order to be useful. I hope that this slide presentation clearly does NOT state all of the details of the underlying the present and proposed permit and its implications.

In YOUR slides inviting public comment, I do not see anything about monthly, weekly, daily or hourly emission rates. My purpose is to speak to the importance of variables that enter into the outcomes for emissions at this facility.

The most basic fundamentals of quality, reliability, predictability, measurement and reaction is based on facts.

In the earliest days of Oregon's Department of Environmental quality I know that this these intentions were well in practice.

Over the years there have been funding issues with the DEQ and I do not believe that the same best science is at work.

The balance of economic issues here and across our country forces us to make difficult daily tradeoffs that affect our ability to put our best foot forward in the face of these pressures.

The most basic fundamentals of quality, reliability, predictability, measurement, validation and reaction is based on facts that reflect real operating conditions. Where there is no enforcement, there is NO LAW.

The most basic fundamentals of quality, reliability, predictability, measurement and reaction is based on facts.

I implore you to consider what this view of your permit process allows any business to do by careful honest intent to do well or by intentional use of the process to do everything possible to maximize profits .

I adamantly oppose the present information that I can glean from this permit review for the public.

Thank you for your attention,  
 Bill Gellatly

The emission factors in the permit can be used to estimate emissions on different time frames. However their main purpose is to calculate emissions from the landfill each month. The previous 12 months of emissions are added together to make sure they are in compliance with their 12 month rolling plant site emission limits.