

**LANE REGIONAL AIR PROTECTION AGENCY
TITLE V OPERATING PERMIT
REVIEW REPORT**

**Lane County Short Mountain Landfill
84777 Dillard Access Road
Eugene, Oregon 97405**

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LIST OF ABBREVIATIONS THAT MAY APPEAR IN THIS REPORT

AMB	Ambient
AQMA	Air Quality Management Area
ASTM	American Society of Testing and Materials
CFR	Code of Federal Regulations
CO	Carbon monoxide
COMPL	Compliance
COMS	Continuous opacity monitoring system
COND	Condition
CRED	Credit
DEQ	Oregon Department of Environmental Quality
dscf	dry standard cubic feet
EF	Emission factor
EPA	United State Environmental Protection Agency
EU	Emissions unit
FCAA	Federal Clean Air Act
gr/dscf	grains per dry standard cubic feet
HAP	Hazardous air pollutant
ID	Identification code
I&M	Inspection and maintenance
LRAPA	Lane Regional Air Protection Agency
MB	Material balance
Mlb	1000 pounds
MON	Monitoring
NA	Not applicable
NESHAP	National emission standard for hazardous air pollutants
NO _x	Oxides of nitrogen
NSPS	New source performance standard
NSR	New source review
O ₂	Oxygen
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
O&M	Operation and maintenance
Pb	Lead
PCD	Pollution Control Device
PM	Particulate matter
PM ₁₀	Particulate matter less than 10 microns in size
PSD	Prevention of significant deterioration
PSEL	Plant Site Emission Limit
SCHED	Schedule
SPEC	Special
SO ₂	Sulfur dioxide
ST	Source test
VE	Visible emissions
VMT	Vehicle mile traveled
VOC	Volatile organic compound

INTRODUCTION

1. This permitting action is a renewal Title V permit for Lane County’s Short Mountain Landfill (SML). The Title V permit is required by LRAPA 34-200 (this section cites OAR 340-218-0020 through 220-0190 and OAR Divisions 244 and 248), Title 40 CFR 60.32c(c) and Title 40 CFR 60.752(c). The threshold levels (cited in both of these latter federal rules) that trigger the requirement to attain a Title V permit are 2.5 million megagrams or 2.5 million cubic meters of landfill waste design capacity. SML’s design capacity exceeds these levels, therefore it is subject to Title V permitting. The following changes have been made to the permit since its original issuance on April 27, 2001. These include revisions being made for this renewal as noted:

Date	Permit Revision	Reason For Revision
12/5/01	Administrative Amendment	Added introductory paragraph at start of page 4 of the permit to explain regulatory responsibilities of SML and Emerald People’s Utility District, which was the subject of a challenge to the original permit (permit text remains).
9/23/02	Off-Permit Change	Added leachate management systems – no revision required
12/11/02	Administrative Amendment	Changed reference to the responsible official and phone number
Current draft renewal, 1/07	Added requirements in current permit draft for NESHAP*	SML became subject to Title 40 CFR 63 Subpart AAAA January 16, 2004 (see §63.1935(b))
Current draft renewal, 1/07	Revised emissions analysis and PSELS	Better methodology and consistency

* National Emission Standards for Hazardous Air Pollutants.

2. In accordance with LRAPA 34-200 and 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.
3. SML was issued its initial Title V permit in 2001. The Title V permit is a requirement of the New Source Performance Standards (NSPS) for municipal landfills with greater than the aforementioned thresholds. Emissions determinations, which are used to establish baseline emissions and plant site emission limits, have been revisited for this review and renewal.

PERMITTEE IDENTIFICATION

4. This Title V permit identifies the applicable air quality requirements for the municipal solid waste landfill operated by Lane County's Public Works Department, Waste Management Division at 84777 Dillard Access Road, Eugene, Oregon. The landfill is commonly known as Short Mountain Landfill (SML).

FACILITY DESCRIPTION

5. SML accepts municipal solid waste (MSW) for disposal. The landfill does not accept hazardous waste but maintains a separate disposal area for medical sharps and non-friable asbestos. SML began receiving waste in 1976. Major activities at the site include receipt and disposal of municipal solid waste and management of the landfill, which includes leachate management, landfill gas management, and waste segregation and cover management. (Landfill leachate is not treated onsite, but is hauled via tanker truck to the Glenwood transfer facility where it is discharged to the Eugene-Springfield Water Pollution Control system.) The entire landfill site encompasses approximately 580 acres. The projected longevity of this landfill site, given current projections of future waste volumes, extends to the year 2087.

EMISSIONS UNITS AND POLLUTION CONTROL DEVICE IDENTIFICATION

6. The emissions units at this facility are the following:

Emission Unit (EU)	EU Description	EU Emission Limit / Control Measure	Control Device / I.D.
F-LFG	Fugitive Landfill Gas	Monitoring: 500 ppm at site perimeter;	G-CCS
PIR	Paved Industrial Roads	PSELS, 20% opacity limit	Dust suppression
UPR	Unpaved Roads	PSELS, 20% opacity limit	Dust suppression
G-CCS	Landfill Gas Collection and Control System	<i>Collection System:</i> Wellhead LFG temp <55°C; ground surface methane concentration <500 ppm above background	NA
		<i>Control System:</i> 98% reduction or <20 ppm NMOC	Diesel Power Generators @ EPUD *
AIE	Aggregate Insignificant Emissions: Landfill Cell activities and onsite motor vehicle operation	1 ton/yr limit for each pollutant	NA

* The EPUD (Emerald People's Utility District)-owned and -operated IC engines are the emissions control device for landfill gas pursuant to Title 40 CFR §60.752(b)(2)(iii)(B).

7. Insignificant Emission Units (IEU)

The draft permit includes requirements applicable to processes and activities determined to be insignificant in accordance with LRAPA 34-060, comprises both Aggregate Insignificant Emissions and Categorically Insignificant Activities. The standards applicable to IEUs are for visible emissions (20% opacity limit) and particulate matter (0.1 gr/dscf limit). The bulk of IEUs comprise equipment and activities with no emissions control devices (e.g., small natural gas fired space heaters). IEUs are understood to emit below the applicable standards as indicated by the absence of visible emissions. For these reasons, LRAPA has determined that IEUs do not require monitoring, record keeping, or reporting to ensure regulatory compliance.

The following table summarizes Aggregate Insignificant Emissions pursuant to LRAPA 34-060 and OAR 340-200-0020:

Pollutant	Activity	Emissions (tons/yr)
PM/PM ₁₀	Cell development and closure	0.66
	Onsite motor vehicle operation	0.33
Total		0.99
NO _x	Onsite motor vehicle operation	0.05
SO ₂	Onsite motor vehicle operation	≤ 1

The following Categorically Insignificant Activities are subject to all applicable requirements pursuant to LRAPA 34-060 and OAR 340-200-0020:

- Constituents of a chemical mixture present at less than 1% by weight of any chemical or compound regulated under OAR Chapter 340, Divisions 20 through 32, 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
- Evaporative and tail pipe emissions from on-site motor vehicle operation
- Distillate oil, kerosene, and gasoline fuel burning equipment rated at less than or equal to 0.4 million Btu/hr
- Office activities
- Janitorial activities
- Personal care activities
- Grounds keeping activities including, but not limited to building painting and road and parking lot maintenance
- On-site recreation facilities
- Maintenance and repair shop
- Air cooling or ventilating equipment not designed to remove air contaminants generated by or released from associated equipment
- 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
- Temporary construction activities

- Accidental fires
- 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
- Electric motors
- Storage tanks, reservoirs, transfer and lubricating equipment used for ASTM grade distillate or residual fuels, lubricants, and hydraulic fluids
- 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
- Pressurized tanks containing gaseous compounds
- Storm water settling basins
- Fire suppression and training
- Emergency generators and pumps used only during loss of primary equipment or utility service

EMISSION LIMITS AND STANDARDS, MONITORING, AND RECORDKEEPING

8. Federal Requirements

Landfill NSPS: SML is subject to Title 40 CFR Subpart Cc – *Emissions Guidelines and Compliance Times for Municipal Solid Waste Landfills* (§§60.30c – 60.36c) and Title 40 CFR Subpart WWW – *Standards of Performance for Municipal Solid Waste Landfills* (§§60.750 – 60.759), which include the general performance requirements of Title 40 CFR 60 Subpart A. In accordance with 40 CFR 60.752(b) of this rule, the permittee chose to design, install and maintain a landfill gas collection and control system, which was completed in the 1990s, and remains operational. The draft permit includes requirements pertaining to the operation of the collection and control system, as specified at 40 CFR 60.752(b)(2), as well as all applicable requirements under these rules.

Landfill NESHAP: In addition to the above, SML is subject to Title 40 CFR Subpart AAAA (§§63.1930 – 63.1990) – *National Emission Standards for Hazardous Air Pollutants (NESHAP): Municipal Solid Waste Landfills*, which gives criteria for applicability determination at §63.1935(a) and (b), and means of compliance at §63.1955(a). Title 40 CFR 63.1955(a)(1) allows the subject source to comply with this NESHAP by complying with the landfill NSPS (see Landfill NSPS). Compliance with the NESHAP is met in large part by complying with the NSPS in accordance with Title 40 CFR 63.1955(a). However, two (2) additional requirements apply pursuant to the NESHAP:

- 1) The development and retention of a start-up, shutdown and maintenance (SSM) plan as part of the maintenance requirements at 40 CFR 63.1955(c), Table 1 of §63.1990, and 63.6(e); and
- 2) Six-month reporting, rather than annual reporting as given in §60.757(f), in accordance with §63.1980(a). The draft permit includes conditions addressing these additional requirements.

Since SML has already elected to comply with Title 40 CFR 60.752(b)(2)– design, installation and operation of a collection and control system (CCS), specified in this and other sections of the landfill NSPS, the permittee is not required to determine non-methane organic compounds (NMOC) pursuant to §60.754 (the purpose of NMOC determination in this part of the rule is to assess whether a CCS is required). However, determination of NMOC is required for ongoing compliance demonstration with the PSEL.

The draft permit also includes requirements for controlling fugitive dust emissions and related monitoring and recordkeeping. Air pollution episodes, nuisance-related air emissions, and federal risk management planning pursuant to Title 40 CFR Part 68 are also covered.

9. **PIR and UPR (Paved And Unpaved Roads)**

Requirements pertaining to fugitive roadway dust, which stems from vehicular traffic for delivery of waste as well as maintenance of the site, and its abatement, are included in the draft permit. Emissions estimates for these sources are part of the calculations contained in the baseline analysis and establishment of PSELS. These estimates make up the appendices to this report.

10. **Monitoring, Recordkeeping and Reporting**

Monitoring, recordkeeping and reporting requirements are included in the draft permit in accordance with the landfill NSPS (Title 40 CFR 60.756 through 60.758) and the landfill NESHAP (Title 40 CFR 63.1980(a) & (b); §63.1985, Table 1; and general requirements at §§63.10(b)(2)(i) -- (b)(2)(v)). Also included in the permit are general record-keeping requirements for Title V facilities.

PLANT SITE EMISSION LIMITS (PSELS)

11. Below is a summary of the baseline emissions rates (BERs), netting basis, and PSELS. All of these have been revised for this review and renewal based on better methodology and consistency. The appendices to this report provide the bases for the baseline analysis as well as the PSELS.

Baseline and PSEL Summary

Pollutant	Proposed BER (tons/yr)	Previous BER (tons/yr)	Proposed Netting Basis (tons/yr)	Plant Site Emission Limit (PSEL)		
				Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	Change in PSEL * (tons/yr)
PM	9.9	82.4	10	174.1	34	-140.1
PM ₁₀	2.1	29.7	2	54.4	16	-38.4
PM _{2.5}	0.29	NA	0	NA	1	NA
VOC	0	3.0	0	78.4	39	-39.4
CO	0.02	0.2	0	7	7	0
NO _x	0	NA	0	1	1	0
SO ₂	0	NA	0	1	1	0
H ₂ S	0	NA	0	NA	9	+9
NMOC	0.06	3.0	0	78.4	49	-29.4

* New analyses were performed for this review to establish BERs and PSELS. All changes in PSELS stem from better emissions methodology than was available during the previous permit cycle.

12. **Significant Emission Rates (SERs)**

The following tabular listings compare each SER with the difference between each BER and the respective PSEL. As mentioned, new analyses were performed to establish BERs and PSELS for this renewal. These constitute better, more consistent, methodology (see Appendices A and B to this report, which utilize AP42 and US EPA LandGEM).

Pollutant	SER	Quantity PSEL Above BER
PM	25	24
PM ₁₀	15	14
VOC	40	39
CO	100	7
NO _x	40	1
SO ₂	40	1
H ₂ S	10	9
NMOC	50 *	49

* NMOC is listed at Table 2 of OAR 340-200-0020, the SER list, which is adopted for Title V permitting by LRAPA 34-190.

PSEL COMPLIANCE MONITORING

13. Monitoring to ensure compliance with the PSELs is included in the permit immediately following the PSEL section and summarized in permit Table 5. These requirements are outlined in the following table. Additionally, emission factors are outlined in permit Table 7. Details of these factors are given in Appendix A of this report.

Monitoring Requirements

Emissions Unit(s)	Process Parameter	Units	Measurement Frequency	Measurement Method
UPR	Vehicle miles traveled (VMT) on unpaved roads*	VMT	Monthly/Annually	Records
PIR	VMT on paved roads*	VMT	Monthly/Annually	Records
LFG	Municipal solid waste in place	Mg	Monthly/Annually	Records
LFG	Landfill gas generated	MMft ³	Annually, using EPA Model calculation	Records

* VMT to be tracked includes only vehicles that deliver refuse. Staff travel on-site has been determined to be an aggregate insignificant activity.

HAZARDOUS AIR POLLUTANTS EMISSIONS

14. The following table summarizes estimated HAP emissions from landfill gas. These estimates utilize the default values of Table 2.4-1, AP-42 and the same projected landfill gas volume as is used for the gaseous pollutants listed in the appendices to this report. Leachate is being haul via tanker truck to the Glenwood transfer facility where it is discharged to the Eugene-Springfield water treatment system. Onsite leachate treatment has not been performed for some time, and is not expected to be performed onsite in the foreseeable future, pending design of a new treatment system. Estimated HAP emissions are well below federal major source thresholds. However, SML remains subject to the aforementioned NESHAP pursuant to Title 40 CFR 63.1935(a)(3).

Estimated HAP Emissions

HAP	Fugitive LFG (lb/yr)
1,1,1-trichloroethane	66
1,1,2,2-tetrachloroethane	194
1,1-dichloroethane	242
1,1-dichloroethene	20
1,2-dichloroethane	42
1,2-dichloropropane	21
Acrylonitrile	348
Carbon disulfide	46
Carbon tetrachloride	0.6
Carbonyl sulfide	31
Chlorobenzene	29
Chloroethane	84
Chloroform	3.7
Dichlorobenzene	32
Dichloromethane	1262
Ethylbenzene	507
Hexane	587
Mercury	0.06

HAP	Fugitive LFG (lb/yr)
Methyl isobutyl ketone	194
Perchloroethylene	643
Trichloroethene	384
Vinyl chloride	480
Xylenes	1332
Total Aggregate HAPs	6,548 (3.27 tons/yr) *

* Over 80% of HAP emissions are regulated as NMOC in the associated draft permit. A fraction of NMOC is also regulated as VOC.

COMPLIANCE HISTORY

15. A complaint appears in LRAPA files, dated May 31, 1996, (Complaint No. 24429), in which the complainant cited dust from truck traffic at the landfill. No enforcement action was taken and the complaint report states that the complainant was contacted and informed that a permit was being developed at the time, which would address the fugitive dust issue.

Multiple odor complaints were received at LRAPA over an approximate 2-week period beginning in mid-December, 2006. Confirmation was made by LRAPA that the odors originated at SML. On December 28, 2006, during a landfill site visit as part of an odor investigation, SML personnel reported to LRAPA that a specific section of the property, on its southeast side, is the likely source of the odors. This section is reportedly covered in aggregate that is believed to be porous, allowing landfill gas to be emitted as fugitives. SML has reportedly stated their intent to address this problem immediately, which is understood to include the addition of multiple gas collection wells in this area. Corrective action is expected to take approximately two (2) weeks.

As previously discussed (see Section 10 of this report), SML is subject to the Landfill NSPS and the Landfill NESHAP. The latter of these was promulgated in 2002; therefore, it has been added to the draft permit for this renewal. Two (2) additional requirements are given in the Landfill NESHAP that were not included in the previous permit. These are:

- 1) Develop and maintain a SSM plan in accordance with Title 40 CFR 63.1990 Table 1, and
- 2) Provide semi-annual reports in accordance with Title 40 CFR 63.1980(a), which supplants the annual reporting requirement of the landfill NSPS at Title 40 CFR 60.757(f).

These additional requirements have been added to the permit draft for this renewal. Moreover, the permittee has stated that they are in compliance with all regulatory requirements including those given by the Landfill NESHAP.

SOURCE TEST RESULTS

16. The draft permit establishes the standard general procedures for stack testing in accordance with LRAPA 34-070 and OAR 340-212-0120. The landfill owns and operates no stack sources for standard sampling.

However, SML is responsible, by permit conditions, for ensuring that the emissions control system meets the standards of Title 40 CFR 60.752(b)(2)(iii)(B), the landfill NSPS (the standards set here for control systems are 98% reduction in NMOC or less than 20 ppmv NMOC). Performance testing is required for demonstrating compliance with the standards of this rule. The separately owned power generating facility (Emerald People's Utility District (EPUD)) conducted the required testing on September 20, 2001, which fulfilled these requirements. Test results averaged 14.2 ppmv of NMOC, falling below the above-listed standard of 20 ppmv.

EMISSIONS DETAIL SHEETS

17. Appendix A to this review report contains tabular emissions estimation summaries. Appendix B to this report contains further details and emissions calculations. The latter of these consists of MS Excel spreadsheets.

PUBLIC NOTICE

18. This permit was on public notice from **June 19, 2007**, to **July 19, 2007**. No comments were submitted in writing during the comment period.
19. This proposed permit was sent to EPA on February 13, 2008, for a 45-day review period. Because there were no substantive changes to the permit after the public comment period, LRAPA requested and EPA may agree to an expedited review of five (5) days. In any event, the public will have 105 days (45-day EPA review period plus 60 days) from the date the proposed permit is sent to EPA to appeal the permit with EPA. The permit will be issued following EPA's review.

SLL/cmw
3/5/08