Lane Regional Air Protection Agency
Standard Air Contaminant Discharge Permit

Review Report

Emerald People's Utility District –
Short Mountain Generation Facility
84777 Dillard Access Road
Eugene, Oregon 97405
https://www.epud.org/

Source Information:

Primary SIC	4911
Secondary SIC	--
Primary NAICS	221118
Secondary NAICS	--
Source Category (LRAPA title 37 Table 1)	B:25. Electrical power generation from combustion, excluding units used exclusively as emergency generators and units less than 500 kW.

Source Category (LRAPA title 37 Table 1)	C:5 All sources having the potential to emit more than 100 tons or more of any regulated pollutant, except GHG, in a year.
	C:6 All sources having the potential to emit more than 10 tons or more of a single hazardous air pollutant in a year.
Public Notice Category	III

Compliance and Emissions Monitoring Requirements:

Unassigned emissions	N
Emission Credits	N
Special Conditions	N
Compliance schedule	N

Source test [date(s)]	See Permit
COMS	N
CEMS	N
Ambient monitoring	N

Reporting Requirements

Annual report (due date)	Feb 15
Semi-annual Report (due date)	August 15
SACC (due date)	August 15
Greenhouse Gas Report (due date)	March 31

Quarterly report (due dates)	N
Monthly report (due dates)	N
Excess emissions report	Y
Other reports	N

Air Programs

NSPS (list subparts)	N
NESHAP (list subparts)	N
40 CFR part 64 Compliance Assurance Monitoring (CAM)	N
Regional Haze (RH)	N
TACT	N
40 CFR part 68 Risk Management	N
Cleaner Air Oregon (CAO)	N
Synthetic Minor (SM)	N
SM-80	N

Title V	Y
Major FHAP Source	Y
Federal Major Source	N
Type A State New Source Review	N
Type B State New Source Review	N
Prevention of Significant Deterioration (PSD)	N
Nonattainment New Source Review (NNSR)	N

Permittee Identification

1. Emerald People's Utility District – Short Mountain Generation Facility ("the facility" or "EPUD") owns and operates a landfill gas electric power generation facility located at 84777 Dillard Access Road, Eugene, Oregon. The facility began operation in 1992.

2. The facility operates under the primary Standard Industrial Classification (SIC) code of 4911 – Electric Services and the primary North American Industry Classification System (NAICS) code of 221118 – Other Electric Power Generation.

General Background

3. EPUD owns and operates an electrical generation facility at Lane County Short Mountain Landfill (SML). The facility has four (4) 820 kilowatt (1,144 hp) 4-stroke lean burn internal combustion generators (engines) that combust landfill gas (LFG) collected from SML to create electricity, which is distributed directly to EPUD's power grid. EPUD has a contract with SML to control SML's collected landfill gas (LFG). SML holds a Title V Operating Permit (Permit No. 204740) with LRAPA and SML is subject to 40 CFR part 60 subpart Cf and 40 CFR part 63 subpart AAAA.

   In 1990, EPUD applied to install seven (7) LFG engines to be installed in stages at the site. A full BACT analysis and Ambient Air Impact Modeling were performed and submitted with the application and reviewed according to LRAPA title 38 regulations for Prevention of Significant Deterioration (PSD). The PSD analysis was reviewed and approved in 1990. EPUD installed Engines #1 and #2, emission units (EUs) 3RC 374 and 3RC 375, in May 1991 and commenced operation in February 1992. Engines #3 and #4 (EUs: 4EK 30 and 4EK 29) were installed in March 1993 and commenced operation in November 1993. The initial plan to install seven (7) engines was deferred due to lower than anticipated gas production by the landfill. EPUD decided to withdraw the request for the proposed installation of seven (7) engines. By only permitting the four (4) engines that were already installed, the facility's emissions for NO_X and CO were below the major source threshold of 100 tons per year (tpy) and therefore, the facility was not required to apply for a Title V operating permit.

   EPUD operates a treatment system that consists of PM filtration the reduces PM to 0.3 microns, an air-to-air exchanger that reduces the dew point of the LFG and 'knocks-out' the water, and a compressor that compresses the LFG to 3 psi. This system meets EPA's definition of a treatment system and therefore, EPUD is not subject to 40 CFR part 60, subpart Cf or 40 CFR part 63 subpart AAAA and does not have to demonstrate that the engines can meet the 98% destruction rate or reduce the outlet non-methane organic compounds (NMOC) concentration to less than 20 parts per million by volume (ppmv) per the federal regulations.

Reason for Permit Action and Fee Basis

4. This is a permit modification of the existing Standard Air Contaminant Discharge Permit (ACDP) to amend the emission factors for PM, PM_{10}, $PM_{2.5}$, CO, and NO_X and increase the landfill gas throughput. EPUD proposed to change the emission factors for PM, PM_{10}, $PM_{2.5}$, NO_X, CO to the average of the results of the performance tests done in March 2022 and 2023. For formaldehyde the highest average from the performance tests will continue to be used as the emissions factor. The increase to throughput and averaging to the emissions factors has increased the emissions for CO and formaldehyde, but has decreased emissions for PM, PM_{10}, $PM_{2.5}$ and NO_X. The proposed modification is considered a Type 3 change under LRAPA 34-035.

5. A Non-PSD/NSR Simple Technical Permit Modification fee has been assessed for the modification to the permit. The basis for this fee is there will be revisions to the PSELs. The emissions increase does not trigger any air quality modeling.

Attainment Status

6. EPUD is located outside of the Eugene-Springfield Air Quality Management Area. The facility is located in an area that has been designated attainment/unclassified for PM_{10}, $PM_{2.5}$, NO_2, CO, SO_2, ozone (VOC) and Pb. The facility is located within 100 kilometers of three (3) Class I air quality protection areas: Waldo Lake Wilderness, Diamond Peak Wilderness area and Three Sisters Wilderness area.

Permitting History

7. LRAPA has reviewed and issued the following permitting actions to this facility:

Date Issued/Valid Through	Permit Action Type	Description
04/01/1990 – 03/31/2000	ACDP	Initial permit for seven (7) IC Engines and one (1) Standby Gas Flare
07/15/1991	Modification	Reduced the number of engines being installed to four (4) and removed flare
08/20/93	Modification	Corrected emission factors
05/14/2001 – 05/13/2006	ACDP	Renewal
12/05/01	Modification	Amended reporting requirements and corrected expiration date to 05/13/2006
4/27/2006 – 04/26/2011	Standard ACDP	Renewal
12/05/2011 – 12/5/2016	ACDP	Renewal
01/10/2023 – 01/10/2028	ACDP	Renewal w/ modification
Upon issuance	Modification	Increase to throughput and changed emission factors for PM, PM_{10}, $PM_{2.5}$, NO_X and CO

Emission Unit Descriptions

8. The emission units (EU) regulated by the permit are the following:

Emission Unit ID	Description	Facility ID Number	PCD ID	Date Installed
3RC 374	Caterpillar 3516 820 kW (1,144 bhp) 4-stroke lean burn internal combustion engine	#1	None	05/1991
3RC 375	Caterpillar 3516 820 kW (1,144 bhp) 4-stroke lean burn internal combustion engine	#2	None	05/1991
4EK 30	Caterpillar 3516 820 kW (1,144 bhp) 4-stroke lean burn internal combustion engine	#3	None	03/1993
4EK 29	Caterpillar 3516 820 kW (1,144 bhp) 4-stroke lean burn internal combustion engine	#4	None	03/1993

Operating Scenario

9. EPUD operates all engines according to the amount of incoming LFG flow.

Nuisance, Deposition and Other Emission Limitations

10. Under LRAPA 49-010(1), the permittee must not cause or allow air contaminants from any source subject to regulation by LRAPA to cause a nuisance. Compliance is demonstrated through

documentation of all complaints received by the facility from the general public and following procedures to notify LRAPA of receipt of these complaints.

11. Under LRAPA 32-055, the permittee must not cause or permit the emission of particulate matter which is larger than 250 microns in size at sufficient duration or quantity as to create an observable deposition upon the real property of another person. Compliance is demonstrated through documentation of all complaints received by the facility from the general public and following procedures to notify LRAPA of receipt of these complaints.

12. Under LRAPA 32-090(1), the permittee must not discharge from any source whatsoever such quantities of air contaminants which cause injury or damage to any persons, the public, business or property; such determination is to be made by LRAPA. Compliance is demonstrated through documentation of all complaints received by the facility from the general public and following procedures to notify LRAPA of receipt of these complaints.

General Emission Limits

13. The facility is subject to the visible emissions limitations under LRAPA 32-010(3). For sources, other than wood-fired boilers, no person may emit or allow to be emitted any visible emissions that equal or exceed an average of 20 percent opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour.

14. The facility is subject to the visible emission limitation under LRAPA 32-015(2). For non-fuel burning equipment installed, constructed or modified on or after June 1, 1970 but prior to April 16, 2015 for which there are not represented compliance test results prior to April 16, 2015, the particulate matter emission limit is 0.14 grains per dry standard cubic foot.

15. The engines must be operated to minimize air contamination discharges in accordance with LRAPA's highest and best requirements under LRAPA 32-005.

16. The engines must be operated and maintained at the highest reasonable efficiency and effectiveness all times and prepare and maintain an Operation and Maintenance Plan (O&M Plan) to demonstrate that the engines are being operated and maintained in a manner to minimize pollutants under LRAPA 32-007.

17. The permit limits the facility to the maximum quantity of gas that can be combusted in the 4 engines to ensure PSEL compliance.

Review of Best Available Control Technology (BACT) Determination

18. The BACT analysis performed in February 1990 involved identifying all available control technologies, eliminating technically infeasible options, and evaluating the remaining options based on control effectiveness, energy use, environmental impacts (waste disposal), and economic impacts (including cost per ton of pollutant captured). This process accommodates consideration of possible control trade-offs such as when a technology removes air pollutants but causes pollution in another medium like water or solid waste. BACT determinations are done on a case-by-case basis to consider any unique conditions at a given facility.

    The four (4) options that were evaluated included a turbocharged engine, which was used as the baseline engine to compare the other engines, turbocharged engine with catalytic converter, a stratified turbocharged engine, and turbocharged low emission high compression engine. It was determined that the turbocharged low emission high compression engine was the best overall combination of energy output and exhaust emission reduction when compared to the stratified charge or the catalytic converter technology options. The catalytic converter entailed a 1% penalty in energy, primarily due to the monthly downtime for changing the converter beads. The stratified charge

technology had a substantial 9% energy penalty when compared to low emission technology: beyond the normal range for these technologies. While the low emission technology option reduced nearly the same amount of emission as the stratified charge technology option, the low emission technology option offered a 16% advantage over the stratified charge option in the incremental energy cost of reducing NO_X emissions.

The low emission technology option posed no significant or unusual other media environmental impacts, but the use of catalytic converters posed significant environmental and disposal problems associated with the monthly cleaning and quarterly disposal of the converter's internal beads. The manufacturer's literature also stated that catalytic converters were not compatible with a landfill gas operation.

The low emission engine technology option was also significantly more economical in terms of cost per ton of NO_X removed from exhaust emission ($99/ton as opposed to $251/ton for the stratified charge technology and $299/ton for catalytic converter technology). Due to the substantial cost differential between the low emission technology and catalytic converters, as well as the additional environmental impacts and impact on engine performance, catalytic converters were no longer recognized as BACT in California. The stratified charge technology option offered unsubstantial reductions in levels of NO_X emission at a disproportionately high cost as opposed to the low emission engines.

In summary, the low emission technology option offered the best combination of emission reduction of emission reduction levels, energy impacts, environmental impacts, and economic impacts.

During the 1990 initial proposed application evaluation of the facility CO and NO_X emission limits were set using an emission rate of 5.0 (lb/hour)/unit based on an 820-kilowatt (kW) unit in accordance with manufacturer's specifications.

Typically Achievable Control Technology (TACT)

19. Subsection 32-008(1) requires an existing unit at a facility prior to January 1, 1994, meet TACT if the emission unit meets the following criteria: The emission unit is not already subject to emission standards for the regulated pollutant under LRAPA title 30, title 32, title 33, title 38, title 39 or title 46 at the time TACT is required; the source is required to have a permit; the emission unit has emissions of criteria pollutants equal to or greater than five (5) tons per year of particulate or ten (10) tons per year of any gaseous pollutant; and LRAPA determines that air pollution control devices and emission reduction processes in use for the emissions do not represent TACT and that further emission control is necessary to address documented nuisance conditions, address an increase in emissions, ensure that the source is in compliance with other applicable requirements, or to protect public health or welfare or the environment. Emissions Units 3RC-374, 3RC-375, 4EK-29 and 4EK-40 are considered existing sources.

    19.a. The particulate matter emissions from each emission unit are below the five (5) ton threshold. As such, TACT does not apply for particulate matter emissions for Emissions Units 3RC-374, 3RC-375, 4EK-29 and 4EK-40.

    19.b. The SO_2 and VOC emissions from each emission unit are below the ten (10) ton threshold. As such, TACT does not apply for SO_2 or VOC emissions for Emissions Units 3RC-374, 3RC-375, 4EK-29 and 4EK-40.

    19.c. The CO and NO_X emission from each emission unit are above the ten (10) ton threshold. Therefore, Emissions Units 3RC-374, 3RC-375, 4EK-29 and 4EK-40 are subject to TACT for CO and NO_X. While a formal TACT determination has not been conducted, LRAPA has determined that the results of the BACT analysis meets TACT.

New Source Performance Standards (NSPS)

20. 40 CFR part 60 subpart Cf – Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills requirement of destruction efficiency for Non-Methane Organic Compounds (NMOC) for a control device is not applicable to EPUD because the facility utilizes an LFG treatment system that meets EPA's criteria.

21. 40 CFR part 60 subpart Cc – Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills is not applicable to EPUD because 40 CFR part 60 subpart Cf supersedes this regulation.

22. 40 CFR part 60 subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines is not applicable to EPUD because the engines are not compression ignition internal combustion engines.

23. 40 CFR part 60 subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines is not applicable to EPUD because the engines were built prior to the compliance date of July 1, 2008.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

24. 40 CFR part 63 subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfill requirement of destruction efficiency for Non-Methane Organic Compounds (NMOC) for a control device is not applicable to EPUD because the facility utilizes an LFG treatment system that meets EPA's criteria.

25. 40 CFR part 63 subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines is not applicable to EPUD because per 40 CFR 63.6590(b)(3)(ii), a stationary RICE does not have to meet the requirements of 40 CFR part 63 subpart ZZZZ if it is an existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake horsepower located at a major source of HAP emissions. EPUD's engines are 1,144 brake horsepower and are located at a major source of HAP emissions.

Plant Site Emission Limits (PSELs)

26. Provided below is a summary of the baseline emission rate, netting basis, PSELs, and potential to emit (PTE):

Pollutant	Baseline Emission Rate (tpy)	Netting Basis		Plant Site Emission Limits (PSEL)		PSEL Increase Over Netting Basis (tpy)	Significant Emission Rate (tpy)
		Previous (tpy)	Proposed (tpy)	Previous PSEL (tpy)	Proposed PSEL (tpy)		
PM	NA	0	0	24	9.1	9.1	25
PM_{10}	NA	0	0	14	9.1	9.1	15
$PM_{2.5}$	NA	0	0	10	9.1	9.1	10
CO	NA	88.4	88.4	105	112	23.6	100
NO_X	NA	88.4	88.4	119	104	15.6	40
SO_2	NA	0	0	39	2.8	2.8	40
VOC	NA	0	0	39	28	28.4	40
GHG	17,023	17,023	17,023	74,000	19,372	2,349	75,000

26.a. The baseline emission rate (BER) is zero for criteria pollutants because EPUD started operation in 1992 after the BER establishment date of 1977 or 1978.

26.b. A netting basis was established for CO and NO_X because these pollutants were subject to review for New Source Review (NSR) under LRAPA title 38.

26.c. The netting basis for $PM_{2.5}$ was established in accordance with LRAPA 42-0046(2)(b).

26.d. PSELs are based on the maximum quantity of LFG that can be combusted in the four (4) engines.

26.e. Average source test emission factors were used for PM, PM_{10}, $PM_{2.5}$, CO and NO_X from 2022 and 2023 source test data. The increase to the PSEL for PM, PM_{10}, $PM_{2.5}$, CO and NO_X reflects the change.

26.f. The PSEL is set at a source specific level for all pollutants in accordance with LRAPA 42-0041(3).

26.g. Per LRAPA 42-0048(1)(b) the BER for GHG was established using the data from the 2010 Annual Report for combusted LFG. Per LRAPA 42-0046(1)(b) the initial netting basis for GHG is based on the total amount of GHG at maximum capacity of all four (4) engines.

26.h. The PSEL is a federally enforceable limit on the potential to emit.

Significant Emission Rate (SER)

27. The PSEL increase over the netting basis is less than the Significant Emission Rate (SER) as defined in LRAPA title 12 for all pollutants as shown below.

Pollutant	Proposed PSEL (tpy)	PSEL Increase Over Netting Basis (tpy)	PSEL Increase Due to Utilizing Existing Baseline Period Capacity (tpy)	PSEL Increase Due to Modification (tpy)	SER (tpy)
PM	9.1	9.1	0	0	25
PM_{10}	9.1	9.1	0	0	15
$PM_{2.5}$	9.1	9.1	0	0	10
CO	112	24	0	7.0	100
NO_X	104	15	0	0	40
SO_2	2.8	2.8	0	0	40
VOC	28	28	0	0	40
GHG	19,372	2,349	0	0	75,000

Type A and Type B State NSR

28. The proposed modification will not have emissions per regulated pollutant equal to or greater than the SER over the netting basis that would require a Type A or B State NSR.

Prevention of Significant Deterioration (PSD)

29. In 1989, EPUD proposed the phased construction of seven (7) landfill gas combustion engines and a standby flare. The installation of the first four (4) engines was subject to PSD review for NO_X and CO.

Historical background information: Memorandum from Chuck Gottfried, LRAPA, June 19, 1990

The proposed site for this facility is the Lane County Solid Waste disposal site at Short Mountain (approximately 5 miles south of Eugene/Springfield and east of Interstate 5). The site is in attainment for all criteria pollutants. However, the Eugene/Springfield area is classified as a non-attainment area for PM_{10}, and is 'borderline' for attainment for ozone, having recorded two (2) exceedances of the standard in 1988, and having reached the standard of 235 µg/m^3 in 1987. The primary pollutants of concern in citing this facility are oxides of nitrogen (NO_X), which break down in the atmosphere to form ozone (O_3). For that reason, a thorough analysis of NO_X emissions is required to ensure that the facility does not contribute to exceedance of the ambient air quality standards.

Several regulations affect the permitting of this facility and the limits set on emissions from the site. Section 38-001 of LRAPA regulations requires that new major sources of air contaminants within Lane County must demonstrate that the proposed source can meet all requirements of LRAPA, the Oregon Department of Environmental Quality, and the U.S. Environmental Protection Agency.

Additionally, Section[(1)] 38 defines emission rates of specific pollutants and determines the appropriate category for a specific source. Section[(2)] 38-005(12) states that emissions in excess of 40 tons per year of nitrogen oxides from any source represent a "significant emission", and classifies those emitters as "major sources." According to information supplied to LRAPA with the application, the proposed facility is projected to emit, when finished, in excess of 100 tons of NO_X annually.

[(1)] title 38
[(2)] subsection

Ambient Air Impact Model Review

30. EPUD was required to submit an ambient air impact model for NO_X and CO during the initial permitting of the facility. EPUD supplied LRAPA an ambient air impact model in July 1993. LRAPA reviewed the submittal and concluded that neither the air quality standards nor the Prevention of Significant Deterioration (PSD) increments for NO_X or CO would be exceeded.

Pollutant	LRAPA 38-020(5)(B) Concentration*	Model Results
NO_X	Annual average 14 µg/m^3	Annual average 13 µg/m^3
CO	8-hour average 575 µg/m^3	8- hour average 174.8 µg/m^3

*LRAPA 38-020(5)(B) is currently LRAPA 38-0070(1)(a)(B)(i) and (ii)

Federal Hazardous Air Pollutants/Toxic Air Contaminants

31. EPUD is currently permitted as a minor source of FHAPs because initially when the FHAPs emissions were calculated the FHAP were based on EPA AP-42 Chapter 2.4: *Municipal Solid Waste Landfill*, Table 2.4-1. – Default Concentrations for LFG Constituents. These FHAPs from LFG did not take into account the FHAPs produced during the combustion of methane in the engines, especially the formation of formaldehyde. Recalculating FHAP utilizing both EPA AP-42 Chapter 2.4: *Municipal Solid Waste Landfill*, Table 2.4-1. – Default Concentrations for LFG Constituents and AP-42: Chapter 3.2: *Natural Gas-fired Reciprocating Engines*, Table 3.2-2. – Uncontrolled Emission Factors for 4-Stroke Lean-Burn Engine to calculate all potential FHAP emissions from the engines, as well as source test data for formaldehyde, the individual FHAP for a facility is now over the 10 tons per year

threshold for Individual FHAP and the 25 tons per year threshold for Aggregate FHAP. EPUD is a major FHAP source.

32. Under the Cleaner Air Oregon program, only existing sources that have been notified by LRAPA and new sources are required to perform risk assessments. This source has not been notified by LRAPA and is therefore, not yet required to perform a risk assessment or report annual emissions of toxic air contaminants. LRAPA required reporting of approximately 600 toxic air contaminants in 2016 and regulates approximately 260 toxic air contaminants that have Risk Based Concentrations established in rule. All FHAPs are on the list of approximately 600 toxic air contaminants. The FHAPs and toxic air contaminants listed below are based upon source testing and standard emission factors for the types of emission units at this facility. After the source is notified by LRAPA, they must update their inventory and perform a risk assessment to see if they must reduce risk from their toxic air contaminant emissions. Until then, sources will be required to report toxic air contaminant emissions triennially.

33. The table below represents the potential emissions of FHAPs/TACs from EPUD assuming operation at full capacity. The potential emissions are calculated based on standard emission factors utilizing EPA AP-42 Chapter 2.4, Table 2.4-1 and AP-42: Chapter 3.2, Table 3.2-2 being emitted by the facility, except for formaldehyde where source test data was used. Using both EPA AP-42 tables yielded the worst-case scenario of HAPs and TACs being emitted from the engines.

CAS Number	Pollutant	PTE (tpy)	FHAP	CAO TAC
71-55-6	1,1,1-Trichloroethane (methyl chloroform)	4.04E-03	Yes	Yes
79-34-5	1,1,2,2-Tetrachloroethane	2.56E-02	Yes	Yes
79-00-5	1,1,2-Trichloroethane (vinyl trichloride)	1.10E-02	Yes	Yes
75-34-3	1,1-Dichloroethane (ethylidene dichloride)	2.29E-02	Yes	Yes
526-73-8	1,2,3-Trimethylbenzene	7.98E-03	No	Yes
95-63-6	1,2,4-Trimethylbenzene	4.96E-03	No	Yes
75-35-4	1,1-Dichloroethene (vinylidene chloride)	1.22E-03	Yes	Yes
107-06-2	1,2-Dichloroethane (ethylene dichloride)	1.07E-02	Yes	Yes
78-87-5	1,2 -Dichloropropane (propylene dichloride)	1.06E-02	Yes	Yes
108-67-8	1,3,5-Trimethylbenzene	1.17E-02	No	Yes
106-99-0	1,3-Butadiene	9.26E-02	Yes	Yes
91-57-6	2-Methylnaphthalene	1.15E-02	Yes	Yes
540-84-1	2,2,4-Trimetheylpentane	8.67E-02	Yes	Yes
67-63-0	2-Propanol (isopropyl alcohol)	3.77E-01	No	Yes
83-32-9	Acenaphthene	4.34E-04	Yes	Yes
208-96-8	Acenaphthylene	1.92E-03	Yes	Yes
75-07-0	Acetaldehyde	2.90E+00	Yes	Yes
67-64-1	Acetone	3.67E-01	No	Yes
107-02-8	Acrolein	1.78E+00	Yes	Yes
107-13-1	Acrylonitrile	4.21E-02	Yes	Yes
71-43-2	Benzene	2.07E-01	Yes	Yes
205-99-2	Benzo(b)fluoranthene	5.76E-05	Yes	Yes
192-97-2	Benzo(e)pyrene	1.44E-04	Yes	Yes
191-24-2	Benzo(g,h,i)perylene	1.44E-04	Yes	Yes
92-52-4	Biphenyl	7.35E-02	Yes	Yes
75-27-4	Bromodichloromethane	3.23E-02	No	Yes

CAS Number	Pollutant	PTE (tpy)	FHAP	CAO TAC
75-15-0	Carbon disulfide	5.53E-03	Yes	Yes
56-23-5	Carbon tetrachloride	1.28E-02	Yes	Yes
463-58-1	Carbonyl sulfide	3.69E-03	Yes	Yes
108-90-7	Chlorobenzene	1.23E-02	Yes	Yes
75-45-6	Chlorodifluoromethane	7.09E-03	No	Yes
75-00-3	Chloroethane (ethyl chloride)	5.73E-03	Yes	Yes
67-66-3	Chloroform	1.01E-02	Yes	Yes
74-87-3	Chloromethane (methyl chloride)	3.85E-03	Yes	Yes
218-01-9	Chrysene	2.40E-04	Yes	Yes
106-46-7	Dichlorobenzene	1.95E-03	Yes	Yes
75-71-8	Dichlorodifluoromethane	1.20E-01	No	Yes
75-43-4	Dichlorofluoromethane	1.70E-02	No	Yes
75-09-2	Dichloromethane (methylene chloride)	7.66E-02	Yes	Yes
100-41-4	Ethylbenzene	7.50E-02	Yes	Yes
106-93-4	Ethylene dibromide	1.54E-02	Yes	Yes
206-44-0	Fluoranthene	3.85E-04	Yes	Yes
86-73-7	Fluorene	1.97E-03	Yes	Yes
75-69-4	Fluorotrichloromethane (Trichlorofluoromethane)	6.58E-03	No	Yes
50-00-0	Formaldehyde**	1.64E+01	Yes	Yes
110-54-3	Hexane	7.09E-02	Yes	Yes
7783-06-4	Hydrogen Sulfide	1.63E-01	No	Yes
7439-97-6	Mercury	5.28E-05	Yes	Yes
67-56-1	Methanol	8.67E-01	Yes	Yes
75-09-2	Methylene Chloride (Dichloromethane)	6.94E-03	Yes	Yes
78-93-3	Methyl ethyl ketone	6.40E-02	No	Yes
108-10-1	Methyl isobutyl ketone	2.35E-02	Yes	Yes
110-54-3	n-Hexane	3.85E-01	Yes	Yes
91-20-3	Naphthalene	2.58E-02	Yes	Yes
401	PAH	9.33E-03	Yes	Yes
127-18-4	Perchloroethylene (tetrachloroethylene)	3.90E-02	Yes	Yes
85-01-8	Phenanthrene	3.61E-03	Yes	Yes
108-95-2	Phenol	8.33E-03	Yes	Yes
129-00-0	Pyrene	4.72E-04	Yes	Yes
100-42-5	Styrene	8.19E-03	Yes	Yes
156-60-5	t-1,2-dichloroethene	2.48E-01	No	Yes
79-01-6	Trichloroethylene (trichloroethene)	2.34E-02	Yes	Yes
108-88-3	Toluene	1.13E+00	Yes	Yes
75-01-4	Vinyl chloride	3.41E-02	Yes	Yes
1330-20-7	Xylenes	2.25E-01	Yes	Yes
Total (tpy)			**24.78**	**26.21**

**Formaldehyde emissions are based on the highest average from 2022 and 2023 performance testing data.

Toxic Release Inventory

34. 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. 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:

    Cancer or other chronic human health effects;
    Significant adverse acute human health effects; or
    Significant adverse environmental effects.

    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. NOTE: The TRI Program is a federal program over which LRAPA has no regulatory authority. LRAPA does not guarantee the accuracy of any information copied from EPA's TRI website.

    In order to report emissions to the TRI program, a facility must operate under a reportable NAICS code, meet a minimum employee threshold, and manufacture, process, or otherwise use chemicals in excess of the applicable reporting threshold for the chemical. For 2211 – Electric Utilities all six-digit NAICS codes are covered, but only reporting is required for facilities that combust coal and/or oil for the purposes of generating power for distribution in commerce. Though EPUD's NAICS code is 221118, the facility does not combust coal and/or oil to generate power, therefore the facility does not have to report any emissions under the TRI program.

Compliance History

35. EPUD is regularly inspected by LRAPA. The following table indicates the inspection history of this facility since the facility began operation:

Type of Inspection	Date	Results
LRAPA - Full Compliance Evaluation	08/11/1994	In compliance
LRAPA - Full Compliance Evaluation	04/15/1998	In compliance
LRAPA - Full Compliance Evaluation	11/22/1999	In compliance
LRAPA - Full Compliance Evaluation	12/04/2000	In compliance
LRAPA - Full Compliance Evaluation	05/30/2003	In compliance
LRAPA - Full Compliance Evaluation	09/27/2005	In compliance
LRAPA - Full Compliance Evaluation	07/26/2006	In compliance
LRAPA - Full Compliance Evaluation	03/17/2011	In compliance
LRAPA - Full Compliance Evaluation	06/24/2016	In compliance
LRAPA - Full Compliance Evaluation	04/21/2021 and 06/10/2021	In compliance
Source Test Observation	03/02/2022	In compliance with performance test requirements
Source Test Observation	03/24/2023	In compliance with performance test requirements
Source Test Observation	05/15/2024	In compliance with performance test requirements

36. June 5, 2024: Notice of Non-Compliance (NON) #24-3902 was issued the facility reporting exceedances of the PSELs for $PM_{2.5}$, CO, and NO_X in their 2023 annual report. EPUD submitted a modification to the current permit in accordance with the NON. This file is currently open and has not been closed pending further evaluation.

Performance Test Results

37. EPUD tested Engine #1 (EU: 3RC 374) on March 2, 2022, and Engine #4 (EU: 4EK 29) on March 3, 2022. The engines were tested to verify emission factor for PM, NO_X, CO, VOC, total reduced sulfur (TRS) and formaldehyde. The engines were also tested to demonstrate compliance with a non-methane organic compounds (NMOC) total destruction rate by 3,000 ppmv or 98% under 40 CFR part 60 subpart Cf and 40 CFR part 63 subpart AAAA. To demonstrate initial compliance with requirements of OAR chapter 340 division 239 the engines were tested to show compliance with the methane destruction rate of 20 ppmv or 99%. Both engines tested met the destruction efficiencies standards for NMOC and methane.

38. Since the March 2, 2022, performance test, LRAPA has determined that the facility's LFG treatment system meets EPA criteria 40 CFR part 60 subpart Cf and 40 CFR part 63 subpart AAAA, therefore EPUD is no longer required to test for NMOC destruction.

39. EPUD tested Engine #2 (EU: 3RC 375) on March 24, 2023. The engine was tested to verify emission factors for PM, NO_X, CO, VOC, total reduced sulfur (TRS) and formaldehyde. The engine was also tested to demonstrate compliance with initial compliance with the requirements of OAR chapter 340 division 239 methane destruction efficiency. The engine met the destruction efficiency standard.

40. EPUD tested Engine #3 (EU: 4EK 30) on May 15, 2024. The engine was tested to verify emission factors for PM, NO_X, CO, VOC, total reduced sulfur (TRS) and formaldehyde. The engine was also tested to demonstrate compliance with initial compliance with the requirements of OAR chapter 340 division 239 methane destruction efficiency. The engine met the destruction efficiency standard.

Recordkeeping Requirements

41. The facility is required to keep and maintain a record of the following information for a period of at least five (5) years:

Activity	Units	Recording Frequency
Landfill gas combusted	MMscf	Monthly
PSEL monitoring calculation per Condition 6	Tons	Monthly
Visible Emission (VE) Survey	≤ 20%	Quarterly
Operation and Maintenance Plan	NA	Maintain the current version on-site
Routine maintenance performed on engines	NA	Upon occurrence
Performance test results according to Condition 21.b	NA	Upon occurrence
Engine(s) downtime in excess of one (1) consecutive hour according to Condition 21.a	NA	Upon occurrence

Reporting Requirements

42. The facility must submit the following reports to LRAPA by the dates indicated:

Report	Reporting Period	Recording Frequency
Semiannual emissions as calculated according to Condition 6 of the permit, including the supporting throughput and emission factor information.	Semiannual	February 15 & August 15
Quarterly Visible Emission Surveys	Semiannual	February 15 & August 15
The excess emission log information required by Condition G.13 of the permit, as applicable.	Annual	February 15
GHG Report	Annual	March 31

Public Notice

43. Issuance of a renewal Standard Air Contaminant Discharge Permit requires notice in accordance with LRAPA 31-0030(3)(c), which requires LRAPA to provide notice of the proposed permit action and a minimum of 35 days for interested persons to submit written comments.

    The proposed permit was on public notice from September 11, 2024, to October 17, 2024. No written comments were submitted during the public comment period. No public hearing was requested by ten (10) or more individuals or an individual representing a group of more than ten (10) individuals

BE/aa
10/21/2024

Calculation Sheets:

PSELs Calculation:

PLANT SITE EMISSION LIMITS										
Emission Units	PM	PM_{10}	$PM_{2.5}$	CO	NO_X	SO_2	VOC	Single HAP *	Aggregate HAP *	GHG
	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy
Generators	9.05	9.05	9.05	112.00	103.87	2.81	28.41	16.41	24.78	19,372
Potential to Emit (PTE)	9.05	9.05	9.05	112.00	103.87	2.81	28.41	16.41	24.78	19,372
PSELs [3]	**9.1**	**9.1**	**9.1**	**112**	**104**	**2.8**	**28**	**16**	**25**	**19,372**

(1) PSELs for PM, PM10, PM2.5, CO and NOX are derived using the average source test values. Formaldehyde PSEL is derived by using the highest source test value.

(3) The PSELs are set equal to the source's potential to emit in accordance with LRAPA 42-0041(2).

(3) PSELs were rounded to the 0.5. If the PSEL was below 0.5, it was rounded down and if above the PSEL was rounded up.

Baseline and Netting Calculations

Baseline and Netting Calculations									
Pollutant	Baseline [1]	Netting Basis [2]		Plant Site Emission Limit		PSEL Increase	PTE Emissions	Increase over Netting Basis	SER
		Previous	Proposed	Previous PSEL	Proposed PSEL [3]				
	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy	tpy
PM	NA	0.0	0.0	24	9.1	(15)	9.05	9.05	25
PM_{10}	NA	0.0	0.0	14	9.1	(5)	9.05	9.05	15
$PM_{2.5}$	NA	0.0	0.0	10	9.1	(1)	9.05	9.05	10
CO	NA	88.4	88.4	105	112	7	112.00	23.60	99
NO_X	NA	88.4	88.4	119	104	(15)	103.87	15.47	39
SO_2	NA	0.0	0.0	3.0	2.8	(0)	2.81	2.81	39
VOC	NA	0.0	0.0	39	28	(11)	28.41	28.41	39
GHG [3]	17,023	17,023	17,023	74,000	19,372	(54,628)	19,372.19	2349.19	75,000

(1) Baseline emission rates (BERs) have been set at zero (0) for all criteria pollutants because the facility was not in operation during the 1978 baseline

(1) BER for $PM_{2.5}$ was not established in accordance with LRAPA 42-0048(3).

(1) BER for GHG was established using data from the 2010 Annual Report, in accordance with LRAPA 42-0048(1)(b).

(2) The Netting Basis was not established because netting was not triggered in accordance to LRAPA 42-0046.

(2) For all criteria pollutants the netting is zero because the facility was constructed after the 1978 baseline year.

(3) PSEL are based on the source's potential to emit (PTE) in accordance with LRAPA 42-0041(3).

Engine Emissions Calculations

EPUD Engines: Caterpillar 3516 IC Engine, 820 kWh								
Pollutant [1]	**Maximum Design Capacity [2]**	**Maximun Design Capacity**	**Emission Factor**	**Hourly Emission Rate**	**Annual Emissions**	**Annual Emissions per 1 Engine [2]**	**Total Annual Emissions for All 4 Engines [3]**	**PSELs [4]**
	(cubic ft/hr)	**MMCF/hr**	**lb/MMCF**	**lb/hr**	**lb/yr**	**tons/year**	**tons/year**	**tons/year**
PM	19,800	0.0198	26.10	0.5168	4,526.99	2.26	**9.05**	**9.1**
PM_{10}	19,800	0.0198	26.10	0.5168	4,526.99	2.26	**9.05**	**9.1**
$PM_{2.5}$	19,800	0.0198	26.10	0.5168	4,526.99	2.26	**9.05**	**9.1**
CO	19,800	0.0198	322.87	6.3928	56,000.58	28.00	**112.00**	**112**
NO_X	19,800	0.0198	299.43	5.9288	51,936.11	25.97	**103.87**	**104**
SO_2	19,800	0.0198	8.10	0.1604	1,404.93	0.70	**2.81**	**2.8**
VOC	19,800	0.0198	81.90	1.6216	14,205.39	7.10	**28.41**	**28**
Formaldehyde	19,800	0.0198	47.30	0.9365	8204.09	4.10	**16.41**	**16**
	cubic ft/hr	**MMBtu/hr**	**lb/MMBtu**	**lb/hr**	**lb/yr**	**tons/year**	**tons/year**	**tons/year**
GHG	19,800.0	9.603	115.14	1105.7185	9,686,094	4843.05	**19372.19**	**19,372**

1. NO_X, CO, PM, PM_{10}, $PM_{2.5}$, and VOC emission factors are derived from and average of the March 2022 Performance Test on Engines #1 and #4 (EUs: 3RC 374 and 4EK 29] and March 2023 on Engine #2 (EU: 3RC 375). Formaldehyde the highest emission factor was taken for the noted performance test.
2. Based on only 1 engine operating at maximum capacity
3. Based on all 4 engines operating at maximum capacity
4. Rounded to the nearest 10th

Information for 1 Engine		
Landfill Annual Throughput	173.448	MMcf
MMcf to cf conversion	1000000	
Annual Throughput	173,448,000	cf/year
Hourly Throughput	19,800	cf/hour
Information for All 4 Engines		
Landfill Annual Throughput	693.792	MMcf
MMcf to cf conversion	1000000	
Annual Throughput	693,792,000	cf/year
Hourly Throughput	79,200	cf/hour

Source Test Result Averages				
Pollutant	**lb/MMscf**			
	2022	**2022**	**2023**	**Averaged**
PM	28.2	31.8	18.3	**26.10**
CO	321.5	326.2	320.9	**322.87**
NO_X	367.6	368.9	161.8	**299.43**
Formaldehyde	43.7	47.3	32.4	**47.30**

GHG-Related Emission Factors		
	Landfill Gas	
Pollutant	**(kg/MMBtu)**	**GWP**
Carbon Dioxide (CO_2) - Biogenic	52.07	1
Methane (CH_4)	3.2E-03	25
Nitrous Oxide (N_2O)	6.3E-04	298
Emission Factor		**115.14**
Note: GHG emissions are based on 40 CFR 98, Tables C-1 and C-2		
2.2 conversion from kg to lbs		

GHG for Landfill Gas	
Conversion from MMcf to MMBtu	
	Units
0.000485	HHV in (cf)
485	MMBtu/MMCF
0.0198	MMcf/hr
9.603	**MMBtu/hr**

Combined Landfill Gas and Natural Gas Combustion Emissions Total Table

COMBINED LGF and NG Combustion Emissions						
TAC	**HAP**	**Compound**	**CAS**	**LFG Combustion Emissions (ton/yr)**	**Natural Gas Combustion Emissions (ton/yr)**	**Total Emissions for each Component (ton/yr)**
TAC	HAP	1,1,1-Trichloroethane (methyl chloroform)	71-55-6		4.04E-03	**4.04E-03**
TAC	HAP	1,1,2,2-Tetrachloroethane	79-34-5	1.39E-02	1.17E-02	**2.56E-02**
TAC	HAP	1,1,2-Trichloroethane (vinyl trichloride)	79-00-5	1.10E-02		**1.10E-02**
TAC	HAP	1,1-Dichloroethane (ethylidene dichloride)	75-34-3	8.19E-03	1.47E-02	**2.29E-02**
TAC		1,2,3-Trimethylbenzene	526-73-8	7.98E-03		**7.98E-03**
TAC		1,2,4-Trimethylbenzene	95-63-6	4.96E-03		**4.96E-03**
TAC	HAP	1,1-Dichloroethene (vinylidene chloride)	75-35-4		1.22E-03	**1.22E-03**
TAC	HAP	1,2-Dichloroethane (ethylene dichloride)	107-06-2	8.19E-03	2.56E-03	**1.07E-02**
TAC	HAP	1,2 -Dichloropropane (propylene dichloride)	78-87-5	9.33E-03	1.28E-03	**1.06E-02**
TAC		1,3,5-Trimethylbenzene	108-67-8	1.17E-02		**1.17E-02**
TAC	HAP	1,3-Butadiene	106-99-0	9.26E-02		**9.26E-02**
TAC	HAP	2-Methylnaphthalene	91-57-6	1.15E-02		**1.15E-02**
TAC	HAP	2,2,4-Trimetheylpentane	540-84-1	8.67E-02		**8.67E-02**
TAC		2-Propanol (isopropyl alcohol)	67-63-0		3.77E-01	**3.77E-01**
TAC	HAP	Acenaphthene	83-32-9	4.34E-04		**4.34E-04**
TAC	HAP	Acenaphthylene	208-96-8	1.92E-03		**1.92E-03**
TAC	HAP	Acetaldehyde	75-07-0	2.90E+00		**2.90E+00**
TAC		Acetone	67-64-1		3.67E-01	**3.67E-01**
TAC	HAP	Acrolein	107-02-8	1.78E+00		**1.78E+00**
TAC	HAP	Acrylonitrile	107-13-1		4.21E-02	**4.21E-02**
TAC	HAP	Benzene	71-43-2	1.53E-01	5.42E-02	**2.07E-01**
TAC	HAP	Benzo(b)fluoranthene	205-99-2	5.76E-05		**5.76E-05**
TAC	HAP	Benzo(e)pyrene	192-97-2	1.44E-04		**1.44E-04**
TAC	HAP	Benzo(g,h,i)perylene	191-24-2	1.44E-04		**1.44E-04**
TAC	HAP	Biphenyl	92-52-4	7.35E-02		**7.35E-02**
TAC		Bromodichloromethane	75-27-4		3.23E-02	**3.23E-02**
		Butane	106-97-8	1.88E-01	2.63E-01	**4.51E-01**

Combined Landfill Gas and Natural Gas Combustion Emissions Total Table Continued

COMBINED LGF and NG Combustion Emissions						
TAC	**HAP**	**Compound**	**CAS**	**LFG Combustion Emissions (ton/yr)**	**Natural Gas Combustion Emissions (ton/yr)**	**Total Emissions for each Component (ton/yr)**
		Butyr/Isobutyraldehyde	123-72-8	3.50E-02		**3.50E-02**
TAC	HAP	Carbon disulfide	75-15-0		5.53E-03	**5.53E-03**
TAC	HAP	Carbon tetrachloride	56-23-5	1.27E-02	3.88E-05	**1.28E-02**
TAC	HAP	Carbonyl sulfide	463-58-1		3.69E-03	**3.69E-03**
TAC	HAP	Chlorobenzene	108-90-7	1.05E-02	1.77E-03	**1.23E-02**
TAC		Chlorodifluoromethane	75-45-6		7.09E-03	**7.09E-03**
TAC	HAP	Chloroethane (ethyl chloride)	75-00-3	6.49E-04	5.09E-03	**5.73E-03**
TAC	HAP	Chloroform	67-66-3	9.89E-03	2.26E-04	**1.01E-02**
TAC	HAP	Chloromethane (methyl chloride)	74-87-3		3.85E-03	**3.85E-03**
TAC	HAP	Chrysene	218-01-9	2.40E-04		**2.40E-04**
		Cyclopentane	287-92-3	7.87E-02		**7.87E-02**
TAC	HAP	Dichlorobenzene	106-46-7		1.95E-03	**1.95E-03**
TAC		Dichlorodifluoromethane	75-71-8		1.20E-01	**1.20E-01**
TAC		Dichlorofluoromethane	75-43-4		1.70E-02	**1.70E-02**
TAC	HAP	Dichloromethane (methylene chloride)	75-09-2		7.66E-02	**7.66E-02**
		Dimethyl sulfide (methyl sulfide)	75-18-3		4.38E-01	**4.38E-01**
		Ethane	74-84-0	3.64E+01	2.41E+01	**6.05E+01**
		Ethanol	64-17-5		1.57E-01	**1.57E-01**
		Ethyl mercaptan (ethanethiol)	78-08-1		1.28E-01	**1.28E-01**
TAC	HAP	Ethylbenzene	100-41-4	1.38E-02	6.13E-02	**7.50E-02**
TAC	HAP	Ethylene dibromide	106-93-4	1.54E-02	1.18E-05	**1.54E-02**
TAC	HAP	Fluoranthene	206-44-0	3.85E-04		**3.85E-04**
TAC	HAP	Fluorene	86-73-7	1.97E-03		**1.97E-03**
TAC		Fluorotrichloromethane (Trichlorofluoromethane)	75-69-4		6.58E-03	**6.58E-03**
TAC	HAP	Formaldehyde	50-00-0	1.64E+01		**1.64E+01**

Combined Landfill Gas and Natural Gas Combustion Emissions Total Table Continued

COMBINED LGF and NG Combustion Emissions						
TAC	**HAP**	**Compound**	**CAS**	**LFG Combustion Emissions (ton/yr)**	**Natural Gas Combustion Emissions (ton/yr)**	**Total Emissions for each Component (ton/yr)**
TAC	HAP	Hexane	110-54-3		7.1E-02	**7.09E-02**
TAC		Hydrogen Sulfide	7783-06-4		1.6E-01	**1.63E-01**
TAC	HAP	Mercury	7439-97-6		5.28E-05	**5.28E-05**
		Methane	74-82-8	4.34E+02		**4.34E+02**
TAC	HAP	Methanol	67-56-1	8.67E-01		**8.67E-01**
		Methylcyclohexane	108-87-2	4.27E-01		**4.27E-01**
TAC	HAP	Methylene Chloride (Dichloromethane)	75-09-2	6.94E-03		**6.94E-03**
TAC		Methyl ethyl ketone	78-93-3		6.40E-02	**6.40E-02**
TAC	HAP	Methyl isobutyl ketone	108-10-1		2.35E-02	**2.35E-02**
		Methyl mercaptan	74-93-1		1.08E-01	**1.08E-01**
TAC	HAP	n-Hexane	110-54-3	3.85E-01		**3.85E-01**
		n-Nonane	111-84-2	3.82E-02		**3.82E-02**
		n-Octane	111-65-9	1.22E-01		**1.22E-01**
		n-Pentane	109-66-0	9.02E-01		**9.02E-01**
TAC	HAP	Naphthalene	91-20-3	2.58E-02		**2.58E-02**
TAC	HAP	PAH (CAS 1151)	401	9.33E-03		**9.33E-03**
		Pentane	109-66-0		2.14E-01	**2.14E-01**
TAC	HAP	Perchloroethylene (tetrachloroethylene)	127-18-4		3.90E-02	**3.90E-02**
TAC	HAP	Phenanthrene	85-01-8	3.61E-03		**3.61E-03**
TAC	HAP	Phenol	108-95-2	8.33E-03		**8.33E-03**
		Propane	74-98-6	1.45E+01	4.41E-01	**1.50E+01**
TAC	HAP	Pyrene	129-00-0	4.72E-04		**4.72E-04**
TAC	HAP	Styrene	100-42-5	8.19E-03		**8.19E-03**

Combined Landfill Gas and Natural Gas Combustion Emissions Total Table Continued

COMBINED LGF and NG Combustion Emissions						
TAC	**HAP**	**Compound**	**CAS**	**LFG Combustion Emissions (ton/yr)**	**Natural Gas Combustion Emissions (ton/yr)**	**Total Emissions for each Component (ton/yr)**
TAC		t-1,2-dichloroethene	156-60-5		2.48E-01	**2.48E-01**
TAC	HAP	Trichloroethylene (trichloroethene)	79-01-6		2.34E-02	**2.34E-02**
TAC	HAP	Toluene	108-88-3	1.42E-01	9.88E-01	**1.13E+00**
TAC	HAP	Vinyl chloride	75-01-4	5.17E-03	2.89E-02	**3.41E-02**
TAC	HAP	Xylenes	1330-20-7	6.38E-02	1.61E-01	**2.25E-01**
					Total TAC	**26.21**
					Total HAP	**24.78**
					Max Single HAP	**16.41**
Natural Gas emissions are based on AP-42 3.2 Table 3.2-2. Uncontrolled Emission Factors for 4-Stroke Lean-Burn Engines except for Formaldehyde.						
Formaldehyde in the table is based on source test emissions data. The worse-case emission factor was used to calculate the total formaldehyde emissions						
Landfill gas emissions are based on AP-42 2.4 Municipal Solid Waste Landfill Table 2.4-1. Default Concentrations for LFG Constiutuents (amended August 2024) with control factors are based on the IC Engines destruction efficiency provided in Hazardous Air Pollutants (HAPs) Table in the modification application dated						