
ANTELOPE VALLEY
AIR QUALITY MANAGEMENT DISTRICT

Preliminary Determination - Statement of Basis

For the Modification to

FOP Number: 122802470

For:

Waste Management of California

Facility:

Antelope Valley Recycling and Disposal Facility

Facility Address:

1200 West City Ranch Rd

Palmdale, CA 93551

Document Date: **September 09, 2025**

Submittal date to EPA/CARB for review on or before: **September 11, 2025**

EPA/CARB 45-Day Commenting Period ends at COB: **October 27, 2025**

Public Notice Posted: **September 11, 2025**

30-Day Public Commenting Period ends at COB: **October 14, 2025**

Permit Issue date: On or about **October 28, 2025**

Permitting Engineer:

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A. FACILITY IDENTIFYING INFORMATION:

Owner/Company Name: Antelope Valley Recycling and Disposal Facility, Inc.

Owner Mailing Address: Antelope Valley Recycling and Disposal Facility, Inc.
1200 West City Ranch Road
Palmdale, California 93551

Facility Name: Antelope Valley Recycling and Disposal Facility

Facility Location: 1200 West City Ranch Road
Palmdale, California 93551

AVAQMD Federal Operating Permit Number: 122802470

AVAQMD Company Number: 1228

AVAQMD Facility Number: 2470

Responsible Official: Michael Dudley
Phone Number: 661-223-3418
Email: Mdudley1@wm.com

Facility "Site" Contacts: Tracy Freeman
Phone Number: 818-394-5871
Email: tfreema7@wm.com

Nature of Business: Sanitary Landfill

NAICS: 562212 Solid Waste Landfill

SIC Code: 4953 – Refuse Systems

Facility Coordinates: Lat/Long: 34.56700/-118.15000

B. INTRODUCTION:

1. *Description of Facility*

The Antelope Valley Recycling and Disposal Facility (AVRDF), Inc. is a Class III municipal solid waste (MSW) landfill, as defined under RCRA Subtitle D. The facility is located in Section 33, Township 6 North, Range 12 West of the San Bernardino County Meridian, within Los Angeles County, California. AVRDF has been in operation since the 1950s and was acquired by Waste Management of California, Inc. in 1999.

AVRDF is permitted to accept household, commercial, construction, renovation, and demolition waste, as well as petroleum-contaminated soils for both disposal and recycling. The landfill is identified under the Solid Waste Information System (SWIS) No. 19-AA-5624 and is classified as an active facility.

The site encompasses approximately 185 acres, with a 125-acre permitted disposal footprint. The facility has a total design capacity of 30.2 million cubic yards (23.1 million cubic meters) and is permitted to receive up to 3,600 tons per day of solid waste. As of the end of 2024, the estimated waste-in-place is 11,371,453.6 cubic yards (8,694,100 cubic meters). Assuming a waste density of 0.8 tons per cubic yard, the total design tonnage capacity is approximately 24 million tons (21.8 million megagrams).

This landfill has a Gas Collection and Control System (GCCS) that controls Methane as well as VOC emissions. The facility is subject to the California Regulation to Achieve Greenhouse Gas Emission Reductions - Methane Emissions from Municipal Solid Waste Landfills [17 CCR 95460-95476]. Under this regulation, this facility is defined as an active MSW landfill greater than or equal to 450,000 tons of waste-in-place [Title 17 Section 95463(b)]. This facility has a calculated landfill gas heat input capacity (HIC) greater than 3.0 MMBtu/hr [Title 17 Section 95463(b)(2)] and shall demonstrate compliance using a Gas Collection and Control System with an Enclosed Flare under District Permit C014523. The California plan is only partially approved by EPA; therefore, the facility is subject to the following provisions of 40 CFR 62, Subpart OOO: 40 CFR 62.16716(c); 62.16720(a)(4); 62.16722(a)(2) and (a)(3); 62.16724(k); and 62.16726(e)(2) and (5); required for landfills accepting waste after November 8, 1987, and commenced construction before July 17, 2014 and have not been modified or reconstructed since July 17, 2014.

Title V applicability is triggered for AVRDF by the Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills, promulgated under 40 Code of Federal Regulations (CFR) Part 60, Subpart Cf -Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills.

AVRDF is also subject to 40 CFR Part 63 Subpart AAAA National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills.

Emissions at AVRDF originate from several sources, including landfill gas (LFG) generated by microbial waste decomposition, fugitive dust from vehicle traffic on paved/unpaved roads, and dust from construction, excavation, and grinding activities. Minor emissions of VOCs and HAPs also result from soils used as landfill cover.

Refusing trucks and heavy equipment generate dust during daily operations. Routine use of water trucks are used to suppress dust on haul roads, landfill surfaces, and soil stockpiles, including those affected by wind or cover displacement. Soil handling activities such as excavation, transport, and placement further contribute to dust generation, which is mitigated through active dust control measures.

Landfill condensate is stored in a 5,400-gallon dual-containment tank vented through a 55-gallon carbon filter. The liquid may be routed to the flare, applied for dust control, or injected into the landfill working face.

AVRDF operates a Gas Collection and Control System (GCCS) in compliance with NSPS, capturing both fugitive and non-fugitive LFG emissions. LFG contains NMOCs, VOCs, and HAPs, most of which are destroyed in the enclosed flare, although the flare combustion process produces NO_x, CO, SO_x, and PM.

The GCCS includes:

- LFG Collection System (Permit No. C008630)
- Enclosed Flare (Permit No. C014523)
- Hydrogen Sulfide Treatment System (Permit No. C014593)
- Condensate Storage Tank (Permit No. T014565)

The District regulates the following equipment in Table 1 at AVRDF under District permits and under the Title V permit:

Table 1: District Permits

Permit No.	Equipment Description
B013476	Year of Manufacture 2019, Tier 4 Final, US EPA Family Name: FPKXL04.4MT1, Stack Height 6', Stack Diameter 3", Exhaust Temp 1029 degrees F, Exhaust Rate 552 cfm.
B014959	A certified Tier 4 Final diesel-fueled engine, manufactured in 2017 with EPA Engine Family HPKXL04.4MT1. Engine Exhaust Flow is 551 cfm at 1052 Degrees F. Stack height is six feet high and Stack Diameter is three inches.
B015115	A certified Tier 4 Final diesel-fueled engine, manufactured in 2024 with EPA Engine Family PDZXL03.6123. Engine Exhaust Flow is 473

	cfm at 881 Degrees F. Stack height is 7.5 feet high and Stack Diameter is three inches.
C008630	associated Landfill identified as SWIS (Solid Waste Information System) Number 19-AA-5624 and classified as Active.
C014523	Enclosed Flare is 11-foot in diameter and fifty feet in height. Flare is adjusted to operate with a stack temperature of 1400 to 1800 degrees F; design operating Exhaust temperature is 1650 degrees F. Inlet flow rate into flare is -3,000 scfm; Exhaust Flow Rate of 34,749 scfm (dry @12.22 Percent Oxygen); maximum heat input rate of 91.08 MMBtu/hr; AP-42 destruction efficiencies of 98% for halogenated compounds, and 99.7% for non-halogenated compounds.
C014593	Quantity: Two (2) carbon adsorber tanks, manufactured by Daniel Company, Size of each: 12' diameter x 19'-6" height. System also contains associated piping, flanges, hatches, and valves.
E008939	An Existing LPG/Propane fueled Spark Ignited engine installed prior to 6/12/06.
S008807	Spray Booth Systems, 16'W X 35'L X 12'H, with one (1) five hp, 42-inch diameter fans, and (30) 20" X 25" X 2" exhaust filters.
T014565	Condensate Sump, and a 5,400-gallon Dual Containment Condensate Storage Tank located near the flare. (Replaces 3,000 Gallon Condensate Tank Previously Permitted as T008631). Dual Containment Condensate tank is vented to a 55-gallon carbon filter drum. Collected liquids can be injected into the flare, used as dust control, or injected into the active working face of the landfill.

Table 2: Insignificant Emission Sources at AVRDF:

Process Description	Basis for Determination of Insignificant Emissions Unit is made based on AVAQMD Rule 219-Equipment Not Requiring a Permit Pursuant to Regulation II
Space Heating Units	Section (E)(4)(f) and (E)(2)(b) exempts equipment exclusively used for space heating and general combustion equipment with a heat input rate less than 2,000,000 Btu.
Mobile Equipment and Motor Vehicles	Section (E)(2)(a) exempts internal combustion engines with a manufacturer's rating of fifty brake horsepower or less.
Arc-welding equipment	Section (E)(2)(a) exempts arc-welding equipment not used to cut stainless steel and is rated below 30 kilowatts (kW).

Two propane storage tanks	Section (E)(13)(b) each with a capacity of 19,815 gallons or less (approximately 250 and 320 gallons each)
One 240-gallon lubricating oil tank	Section (E)(13)(g) exemption
Two (2) transmission oil tanks (240 and 300 gallons each) and two (2) hydraulic fluid tanks (360 and 125 gallons each)	Section (E)(13)(g) exemption
One 240-gallon waste oil tank	Section (E)(13)(h) exemption

2. Description of NSR Permitting Action(s)

The Antelope Valley Air Quality Management District (AVAQMD or District) received three permit applications: one for a Diesel Tipper internal combustion engine (ICE) (submitted January 16, 2024), one for a Diesel Portable Trommel internal combustion engine (submitted May 20, 2025), and a Title V permit renewal application submitted on October 10, 2024. Application materials are provided in Appendix B.

This permitting action qualifies as a Minor Modification to the Federal Operating Permit (FOP) under Section (B)(2) of District Rule 3005 – Modifications of Federal Operating Permits. This document constitutes the District’s preliminary determination to issue the renewed FOP incorporating the proposed changes.

Additionally, under District Rule 1301, New Source Review Definitions, this action is classified as a Modification under 1301 (RR) but not as a Major Modification under 1301 (MM) since the proposed changes will not significantly alter emissions of any Regulated Air Pollutant. Specifically, the facility’s potential to emit (PTE) remains below the following thresholds:

- 25 tons per year of NOx,
- 15 tons per year of PM₁₀,
- 40 tons per year of SO₂, and
- 25 tons per year of VOC.

This document also serves as the preliminary determination to grant AVRDF the Authority to Construct District Permits, including the proposed changes.

The preliminary decision will be submitted to the EPA, CARB, and the public for review and comment. Please refer to the cover page for details on the notice and comment period.

C. PROPOSED CHANGES TO THE FEDERAL OPERATING/TITLE V PERMIT:

The proposed changes to the FOP are indicated in the red-line version of the draft. Additionally, a description and explanation of those changes are indicated below:

PART I: INTRODUCTORY INFORMATION

This section of the FOP contains general information about the AVRDF facility, including facility identifying information (section A), a description of the facility (section B), and a description of the facility's equipment (section C).

Changes made to this section of the FOP:

- Part I, Section C, the facility description was updated to include the new Diesel ICE Tipper and the new Diesel ICE Trommel.

PART II: FACILITYWIDE APPLICABLE REQUIREMENTS; EMISSIONS LIMITATIONS; MONITORING, RECORDKEEPING, REPORTING AND TESTING REQUIREMENTS; COMPLIANCE CONDITIONS; COMPLIANCE PLANS

This section of the Federal Operating Permit contains requirements applicable to the entire facility and equipment (section A), facility-wide monitoring, recordkeeping, and reporting requirements (section B), and facility-wide compliance conditions (section C). No changes were made to this section of the FOP other than minor formatting changes.

PART III: EQUIPMENT SPECIFIC APPLICABLE REQUIREMENTS; EMISSIONS LIMITATIONS; MONITORING, RECORDKEEPING, REPORTING AND TESTING REQUIREMENTS; COMPLIANCE CONDITIONS; COMPLIANCE PLANS

This section of the Federal Operating Permit contains equipment-specific applicable requirements including emission limitations, monitoring and recordkeeping, reporting and testing, and compliance plans.

Summary of District State and Federal Landfill Requirements:

No references to 40 CFR 60, Subpart WWW; regulation no longer applies to AVRDF, as EPA formally clarified that subpart 40 CFR 60, Subpart Cf (once implemented via a state or federal plan) supersedes subparts WWW and Subpart Cc. The final rule revises the title and applicability of subpart WWW (at 40 CFR 60.750(a)) to distinguish the applicability dates from other landfill subparts. It clarifies that after the effective date of an EPA-approved state or tribal plan implementing subpart Cf, or after the effective date of a federal plan implementing subpart Cf, owners and operators of MSW landfills must comply with the approved and effective state, tribal, or federal plan implementing subpart Cf instead of subpart WWW or the state or federal plan implementing subpart Cc [85 FR 17248].

Title V includes all applicable requirements from California's current, partially approved plan for implementing 40 CFR 60, Subpart Cf. California's plan is the *Regulation to Achieve Greenhouse Gas Emission Reductions - Methane Emissions from Municipal Solid Waste Landfills* (also known as the Landfill Methane Rule or LMR) [17 CCR 95460 – 95476]. Under this regulation, this facility is defined as an Active MSW Landfill Greater Than or Equal to 450,000 tons of Waste-in-Place [§95463(b)]; has a calculated landfill gas heat input capacity (HIC) greater than 3.0 MMBtu/hr [§95463(b)(2)]; and has opted to demonstrate compliance using a Gas Collection and Control System with an enclosed flare as specified under the Equipment Description (Part I, Section C of the FOP). AVRDF has triggered the initial design plan and installation requirements for a gas collection and control system in sections 17 CCR 95463 and 95464(a) of the LMR; and uses an enclosed flare to meet the control device requirements. AVRDF has not requested any Alternative Compliance Options pursuant to section 17 CCR 95468, under the LMR; therefore, no Alternative Compliance Options are included in the proposed permit. The proposed permit conditions reflect the requirements for ongoing compliance with the gas collection and control system using an enclosed flare as the control device.

Since the California plan, referenced above (aka LMR) is only partially approved by EPA, requirements of 40 CFR 62, Subpart OOO were also added, which is the federal plan for MSW landfills that lack a fully approved state plan to implement 40 CFR 60, Subpart Cf [86 FR 27756]. When the EPA promulgated Subpart OOO, they concurrently revised 40 CFR part 62, Subpart F, to identify the 40 CFR 62, Subpart OOO requirements that would apply to MSW landfills in California. The EPA identified the following 40 CFR 62, Subpart OOO requirements as applicable to MSW landfills in California: 40 CFR 62.16716(c); 62.16720(a)(4); 62.16722(a)(2) and (a)(3); 62.16724(k); and 62.16726(e)(2) and (5). As such, these specific provisions were added as operating conditions.

Operational conditions are included in the Title V Permit pursuant to 40 CFR 62, Subpart OOO, 62.16716. Operational standards for collection and control systems, specifically, section 62.16716(c); the owner or operator shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit). The owner or operator may establish a higher operating temperature value at a particular well. A higher operating value demonstration must be submitted to the Administrator for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria to be approved (*i.e.*, neither causing fires nor killing methanogens is acceptable).

All applicable requirements from 40 CFR 63, Subpart AAAA are included as operational conditions in the Title V Permit. Pursuant to regulation, 40 CFR 63, Subpart AAAA, the facility is defined as an existing, minor source, MSW landfill, that has a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated

according to 40 CFR 63.1959. [40 CFR 63.1935(a)(3)]; current capacity of the landfill is 27.7 million cubic yards, and the amount of waste-in-place is 14,214,317 cubic yards (10,867,625 cubic meters) as of June 2025. Using a Waste Density of 0.8 tons per Cubic Yard, the design capacity is calculated to be 22.16 million tons (20.1 million megagrams). Therefore, the requirements of 40 CFR 63, Subpart AAAA are applicable to this facility. Under this regulation, the Gas Collection and Control System as specified under the Equipment Description (Part I, Section C of this permit) is considered an Active Control System. This Gas Collection and Control System was installed prior to the adoption of 40 CFR 63, Subpart AAAA; therefore, some requirements of this regulation were already fulfilled by AVRDF under other, previously applicable regulations, including the Initial Design Capacity Report (40 CFR 63.1984(a)), the NMOC Emission Rate Report (40 CFR 63.1981(c)), the Collection and Control System Design Plan (40 CFR 63.1981(d)). AVRDF is required by condition to certify that these previous submissions were submitted with their first semi-annual report. Other requirements regarding the initial design capacity and triggering of the collection and control system are not included as proposed conditions, since this has already occurred under previously applicable regulations. The proposed permit conditions include all applicable requirements for an affected facility that has a gas collection and control system installed to ensure ongoing compliance.

There is no bioreactor located at AVRDF; nor, does AVRDF have a “bypass” to the enclosed flare; therefore, all requirements from 40 CFR 63, Subpart AAAA specific to bioreactors or “bypassing” are not included in the proposed conditions. All applicable requirements of 40 CFR 63, Subpart AAAA, and CFR 62, Subpart OOO are included to require AVRDF’s compliance demonstration with 40 CFR 62, Subpart OOO, which is the federal plan for MSW landfills that lacks a fully approved state plan to implement 40 CFR 60, Subpart Cf [86 FR 27756].

PART IV: STANDARD FEDERAL OPERATING PERMIT CONDITIONS

This section of the Federal Operating Permit contains standard federal operating permit conditions. No changes were made to this section of the FOP other than minor formatting changes.

PART V: OPERATIONAL FLEXIBILITY

This section of the Federal Operating Permit contains information on Off Permit Changes. No changes were made to this section of the FOP other than minor formatting changes.

PART VI: CONVENTIONS, ABBREVIATIONS, DEFINITIONS

Changes made to this section of the FOP: No changes were made to this section other than minor formatting changes.

PART VII: DISTRICT SIP HISTORY AND CITATIONS

Changes made to this section of the FOP: No changes were made to this section other than the minor formatting changes.

D. NEW SOURCE REVIEW (NSR) ANALYSIS:

1. Determination of Emissions per AVAQMD Rule 1302(C)(1).

The proposed new diesel internal combustion engines, B014959 and B015115, which power a prime diesel tipper and trommel, respectively, will have the potential to emit for emissions of NO_x, VOC, SO_x, PM₁₀ and CO as well as HAPs in the form of diesel particulate matter.

Pursuant to Rule 1304(B), New Source Review Emission Calculations, emissions change is equal to the Potential to Emit (PTE) minus the Historical Actual Emissions (HAE).

$$\text{Emissions change} = \text{PTE} - \text{HAE}$$

Because the equipment is new, HAE = 0 therefore there is an emission change for all pollutants equal to the PTE.; see Table 1 below:

Table 3: PTE for B014959 and B015115

Pollutant	B014959 PTE		B015115 PTE	
	lbs/day	tons/year (tpy)	lbs/day	tons/year (tpy)
CO	0.053	0.0083	0.450	0.038
NO _x	0.795	0.124	0.630	0.053
PM ₁₀	0.027	0.0041	0.009	0.00076
SO _x	0.018	0.0028	0.033	0.00276
VOC	0.027	0.0041	0.045	0.0038
Toxic:				
	lbs/day	lbs/year	lbs/day	lbs/year
Diesel Particulate	0.027	0.000002	0.0004	1.52

As summarized in Table 1, the emissions change for this proposed project is equal to the PTE.

AVRDF facility-wide emissions are equal to the summary of the existing AVRDF's non-fugitive PTE and the PTE from the newly added unit.

Table 4: Facility Wide PTE

Criteria Pollutant	Proposed Facility PTE (tpy)	Major Source Threshold (tpy)	Major Source (Yes/No)
NO _x	24.9	25	No
CO	79.7	100	No
SO _x	24.9	25	No
VOC	24.9	25	No
PM ₁₀	14.9	15	No

Presently, the AVAQMD has not been designated Prevention of Significant Deterioration (PSD) by the USEPA, nonetheless, the emission’s increase from the proposed equipment emission increase will Not trigger PSD.

PSD Analysis

There are two types of “major stationary sources:”

One category is a “Named” stationary source category that is listed in 40 CFR § 52.21(b)(1) with the potential to emit (PTE) 100 tons per year (tpy) or more of a regulated pollutant. These sources must include Fugitive emissions in their total emission rate. ***This facility type is Not Listed in 40 CFR § 52.21(b)(1) and therefore is not required to include fugitive emissions.***

The second type is “Un-Named” and is any stationary source not listed in 40 CFR § 52.21(b)(1) with a PTE of 250 tpy or more of a regulated pollutant. A source that is major for any regulated pollutant, that is, meets the PTE for the source type, is major for all regulated pollutants. A minor source is a named or un-named source with regulated pollutant emissions that are less than the major source thresholds (that is, 100 or 250 tpy, respectively).

AVRDF is Not Listed in 40 CFR § 52.21(b)(1) and does not have a PTE that exceeds 250 tpy for any regulated pollutant, therefore the facility is Not an existing PSD facility.

3. Determination of Requirements for Toxic Air Contaminants per AVAQMD Rule 1401.

a. New Source Review for Toxic Air Contaminants per AVAQMD Rule 1401.

Pursuant to AVAQMD Rule 1401 – New Source Review for Toxic Air Contaminants, AVRDF is subject to both State and Federal Toxic New Source Review, as AVRDF is a Modified Facility which has the potential to emit Toxic Air Contaminants and contains emissions units subject to the Airborne Toxic Control Measure (State T-NSR). Additionally, AVRDF does not have the potential to emit ten tons per year of a single Hazardous Air Pollutant (Federal T-NSR) and/or twenty-five tpy of a combination of HAPs.

Pursuant to the requirements of AVAQMD Rule 1401, an applicability analysis of state and federal air toxic regulations was conducted for the proposed equipment (State T-NSR and Federal T-NSR, respectively). The State T-NSR and Federal T-NSR analyses are described below:

AVAQMD Rule 1401 requires that if any ATCM applies to the proposed equipment, the requirements of that ATCM shall be added to the District permit.

Pursuant to AVAQMD Rule 1401, section (E)(2), State T-NSR requires an emission unit Prioritization Score to be calculated utilizing the most recently approved CAPCOA Facility Prioritization Guidelines, the most recently approved OEHHA Unit Risk Factor for cancer potency factors, and the most recently approved OEHHA Reference Exposure Levels (REL's) for non-cancer acute factors, and non-cancer chronic factors. Therefore, and pursuant to AVAQMD Rule 1401, a Prioritization Score (PS) is calculated for this modified emissions device based on the proposed potential to emit values. The results for this proposed units are provided in Table 5 below:

Table 5: Prioritization Scores from Proposed Equipment (B014959 and B015115)

	Cancer Priority	Acute Priority	Chronic Priority	Non-Cancer Priority
Proposed Equipment	0.2448	0.0	0.0004	0.0004

The distance to the nearest residential receptor is 645 meters, located South, South-East of the facility.

Cancer Prioritization Score is 0.2448, defined as “Low Priority”; associated health risk is considered acceptable.

Acute Priority Score is 0.0, defined as “Low Priority”; associated health risk is considered acceptable.

Chronic Priority Score is 0.0004, defined as “Low Priority”; associated health risk is considered acceptable.

Non-Cancer Priority Score is 0.0004, defined as “Low Priority”; associated health risk is considered acceptable.

4. Control of Toxic Air Contaminants from Existing Sources per AVAQMD Rule 1402.

Pursuant to AVAQMD Rule 1402, the applicant submitted a 2024 Comprehensive Emission Inventory Report (CEIR), which was inputted into the HARP2 Emission Inventory Module, software program for subsequent analysis and results.

This methodology is consistent with the 2016 CAPCOA Facility Prioritization Guidelines and based on the nearest residential receptor at 645 meters.

Table 5 below summarizes the AVRDF facility post-modification prioritization scores. As shown, all prioritization scores are less than one (1), and therefore, AVRDF is categorized as an “Low Priority” facility as defined by AVAQMD Rule 1402, section (E)(1)(b). Therefore, no Contemporaneous Risk Reduction is required because of the proposed modification.

Table 6: Prioritization Scores from Facility with Proposed Equipment Modification

	Cancer Priority	Acute Priority	Chronic Priority	Non- Cancer Priority
Proposed Equipment	0.6028	0.0	0.1352	0.1352

Distance to receptor nearest residential receptor is 645 meters, located South and South-East of the facility.

Cancer Prioritization Score is 0.6028, defined as “Low Priority”; associated health risk is considered acceptable.

Acute Priority Score is 0.0, defined as “Low Priority”; associated health risk is considered acceptable.

Chronic Priority Score is 0.1352, defined as “Low Priority”; associated health risk is considered acceptable.

Non-Cancer Priority Score is 0.1352, defined as “Low Priority”; associated health risk is considered acceptable.

5. Federal T-NSR:

Pursuant to section (F)(1) of AVAQMD Rule 1402, the modified facility/emissions unit was analyzed to determine if any current, enforceable Maximum Achievable Control Technology (MACT) standards apply to the affect Emission Units

Federal NSPS, 40 CFR Part 63, Subpart AAAA - Municipal Solid Waste Landfills: National Emission Standards for Hazardous Air Pollutants (NESHAP) applies to this facility.

This facility has been and continues to be in compliance with this subpart as it is equipped with a Landfill Gas Collection and Control System (LGCCS) that has destruction efficiency of at least 98% achieved through destruction at the permitted enclosed flare.

40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines establishes national emission limitations and

operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and minor sources of HAP emissions.

This facility has been and continues to be in compliance with this subpart.

E. RULE APPLICABILITY ANALYSIS:

AVAQMD Rules:

Rule 109 – *Recordkeeping for Volatile Organic Compound Emissions*. AVRDF shall ensure that adequate records of volatile organic compound use are made and maintained. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 201/203 – *Permits to Construct/Permit to Operate*. Any equipment that may cause the issuance of air contaminants must obtain authorization for such construction from the Air Pollution Control Officer (APCO). AVRDF is in compliance with this rule as they have appropriately applied for a District permit for all new equipment and maintains District permits for all residing equipment. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 204 – *Permit Conditions*. To ensure compliance with all applicable regulations, the Air Pollution Control Officer (Executive Director) may impose written conditions on any permit. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 205 – *Expiration of Permits to Construct*. Permits to construct issued to AVRDF expire one year from the date of issuance unless an extension is approved in writing by the APCO. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 206 – *Posting of Permit to Operate*. Equipment shall not operate unless the permit is affixed upon the equipment or kept at a location for which it is issued and will be made available to the District upon request. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 207 – *Altering or Falsifying of Permit*. A person shall not willfully deface, alter, forge, or falsify any issued permit. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 208 – *Permit for Open Burning*. A person required to obtain a permit for burning pursuant to Rule 444 shall not perform any outdoor burning without obtaining the required permit first. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 209 – *Transfer and Voiding of Permits*. AVRDF shall not transfer, whether by operation of law or otherwise, either from one location to another, from one piece of equipment to another, or from one person to another. When equipment that has been granted a permit is altered, changes location, or no longer will be operated, the permit shall become void. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 210 – *Applications*. AVRDF is in compliance with this rule, as they currently hold and maintain District permits to operate for all applicable equipment. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 212 – *Standards for Approving Permits*. AVRDF is in compliance with this rule, as they currently hold and maintain District permits to operate for all applicable equipment. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 217 – *Provisions for Sampling and Testing Facilities*. This rule stipulates that the APCO may require the applicant to provide and maintain requirements for sampling and testing. If facilities are equipped to accommodate testing, the APCO shall notify the Owner/Operator in writing of the required size, number, and location of sampling ports; the size and location of the sampling platform; the access to the sampling platform, and the utilities for operating the sampling and testing equipment. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 219 – *Equipment not Requiring a Permit*. This rule exempts certain equipment from a District Permit. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 225 – *Federal Operating Permit Requirements*. AVRDF will comply with this regulation per Part II, Section A of the FOP.

Rule 301/312 – *Permit Fees/Supplemental Annual Fees for Federal Operating Permits*. AVRDF's annual permit fees are due by the applicable amounts. AVRDF is currently not delinquent for any fees. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 401 – *Visible Emissions*. This rule limits visible emissions opacity to less than 20 percent (or Ringelmann No. 1). In normal operating mode, visible emissions are not expected to exceed 20 percent opacity. AVRDF has specific operating conditions that enforce compliance with this rule. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 403 – *Fugitive Dust*. This rule prohibits fugitive dust beyond the property line of any emission source. AVRDF has specific operating conditions to ensure compliance with this condition. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 404 – *Particulate Matter - Concentration*. AVRDF shall not discharge into the atmosphere particulate matter (PM), except liquid sulfur compounds, in excess of the concentration at standard conditions, as shown in Rule 404, Table 404 (a).

(a) Where the volume discharged is between figures listed in the table the exact concentration permitted to be discharged shall be determined by linear interpolation.

(b) This condition shall not apply to emissions resulting from the combustion of liquid or gaseous fuels in steam generators or gas turbines.

(c) For this condition, emissions shall be averaged over one complete cycle of operation or one hour, whichever is the lesser period. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 405 – *Solid Particulate Matter - Weight*. AVRDF shall not discharge into the atmosphere from this facility, solid PM including lead and lead compounds in excess of the rate shown in Rule 405, Table 405(a):

(a) Where the process weight per hour is between the figures listed in the table, the exact weight of permitted discharge shall be determined by linear interpolation.

(b) For this condition, emissions shall be averaged over one complete cycle of operation or one hour, whichever is the lesser period.

AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 407 – *Liquid and Gaseous Air Contaminants*. This rule limits CO emissions from facilities. AVRDF is required to adhere to this rule per Part II, Section A.22 of their FOP.

Rule 408 – *Circumvention*. This rule prohibits hidden or secondary rule violations. The proposed renewal as described is not expected to violate Rule 408. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 409 – *Combustion Contaminants*. This rule limits the emissions of combustion contaminants exceeding 0.23 gram per cubic meter (0.1 grain per cubic foot) of gas calculated to 12 percent of carbon dioxide (CO₂) at standard conditions averaged over a minimum of twenty-five consecutive minutes. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 430 – *Breakdown Provisions*. Any Breakdown that results in a violation of any rule or regulation as defined by Rule 430 shall be properly addressed pursuant to this rule. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 431.1/431.2 – *Sulfur Content of Gaseous Fuels/Sulfur Content of Liquid Fuels*. AVRDF shall demonstrate compliance with this rule through records of fuel used at the facility is either CARB-certified diesel or PUC-regulated natural gas. Records, either paper or computerized, shall be kept on-site and available for review at any time by District, State, or Federal personnel. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 441 – *Research Operations*. AVRDF is exempt from the provision of AVAQMD Regulation IV, except AVAQMD Rule 402, when the purpose of the operation is to permit investigation, experiment, or research to advance the state of knowledge or the state of the art and the APCO has given written prior approval that shall include limitation of time. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 442 – *Usage of Solvents*. This rule reduces VOC emissions from VOC containing materials or equipment that are not subject to any other rule in Regulation XI. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 444 – *Open Outdoor Fires*. This rule ensures that the ambient air quality is not significantly

degraded due to Open Outdoor Fires and applies the District Smoke Management Program to specified applications while minimizing smoke impacts to the public. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 481 – *Spray Coating Operations*. AVRDF shall demonstrate compliance with this rule through the use of electrostatic and/or airless spray equipment to be operated inside a control enclosure which is approved by the APCO. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 900 – *Standards of Performance for New Stationary Sources (NSPS)*. Rule 900 adopts all applicable provisions regarding standards of performance for new stationary sources as outlined in 40 CFR 60. AVRDF is subject to the state-approved portions of California’s plan, the *Regulation to Achieve Greenhouse Gas Emission Reductions - Methane Emissions from Municipal Solid Waste Landfills* (also known as the Landfill Methane Rule or LMR) [17 CCR 95460 – 95476], which is federally enforceable via 40 CFR 60, Subpart Cf - *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills*. AVRDF will also comply with this regulation per Part II, Section A of the FOP, and via proposed conditions in Part III of their FOP.

Rule 1000 – *National Emission Standards for Hazardous Air Pollutants (NESHAP)*. Rule 1000 adopts all applicable provisions regarding standards of performance for new stationary sources as outlined in 40 CFR 61. AVRDF is subject to 40 CFR 63, Subpart AAAA, the *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*. AVRDF will also comply with this regulation per Part II, Section A of the FOP, and this NESHAP via proposed conditions in Part III, of their FOP.

Rule 1107 – *Coating of Metal Parts and Product*. This rule limits the emission of VOC from coatings associated with Metal Parts and Products. AVRDF is required to adhere to this rule. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 1110.2 – *Emissions from Stationary, Non-Road, and Portable Internal Combustion Engines*. AVRDF shall comply with this rule for all Stationary, Non-Road, and Portable Internal Combustion Engines over fifty bhp except as exempted under Section H of this rule. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 1113 – *Architectural Coatings*. This rule limits the quantity of VOC in Architectural Coatings. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 1136 – *Wood Products Coatings*. This rule limits the quantity of VOC in Wood Coatings. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 1145 – *Plastic, Rubber, and Glass Coatings*. This rule limits the quantity of VOC in Plastic, Rubber, and Glass Coatings. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 1150 – *Excavation of Landfill Sites*. No person shall initiate excavation of an active or inactive landfill without an Excavation Management Plan approved by the APCO. AVRDF will also comply

with this regulation per Part II, Section A of the FOP.

Rule 1150.1 – *Control of Gaseous Emissions from Active Landfills*. This rule requires active landfills to install and maintain in good operating condition a landfill gas control system to prevent the concentration of total organic compounds from exceeding 50 ppm by utilizing an integrated air sample on the surface of the landfill, over an area determined to be representative by the APCO on a site-by-site basis, and not allow the maximum concentration of organic compounds from exceeding 500 ppm measured as methane at any point on the surface of the landfill. AVRDF is required to comply with this rule by complying with the approved portions of California’s plan, the *Regulation to Achieve Greenhouse Gas Emission Reductions - Methane Emissions from Municipal Solid Waste Landfills* (also known as the Landfill Methane Rule or LMR) [17 CCR 95460 – 95476], which is federally enforceable via 40 CFR 60, Subpart Cf - *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills*. AVRDF will also comply with this regulation per Part II, Section A of the FOP, and via proposed conditions in Part III of their FOP.

Rule 1168 – *Adhesive and Sealant Applications*. This rule limits the emission of VOC from chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene from the application of Adhesives, Adhesive, Primers, Sealants, Sealant Primers, or any other Primers. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 1171 – *Solvent Cleaning Operations*. This rule limits the emissions of VOC from Solvent Cleaning operations and activities from the storage and disposal of these materials used for such operations. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Regulation XIII – *New Source Review*. This regulation sets forth requirements for the preconstruction review of all new or modified facilities. This permitting action does not constitute any NSR actions. AVRDF will also comply with this regulation per Part II, Section A of the FOP.

Rule 1401 – *New Source Review for Toxic Air Contaminants*. Pursuant to the requirements of AVAQMD Rule 1401, an applicability analysis of State and Federal air toxic regulations was conducted for the proposed modifications (State T-NSR and Federal T-NSR, respectively) and is discussed in further detail in this document.

Rule 1402 – *Control of Toxic Air Contaminants from Existing Sources*. This permit action is subject to Rule 1402, as AVRDF is an existing Minor Source that has a PTE to emit TACs. A facility prioritization analysis was conducted, and it was determined that the facility is a Low Priority Facility, and the associated health effects are considered acceptable. See previous sections for additional details.

Regulation XVII - *Prevention of Significant Deterioration*. This regulation is not currently used within the AVAQMD because the USEPA has not delegated authority for the PSD Program to the AVAQMD at this time. Nonetheless an analysis was conducted pursuant to 40 CFR 52.21 Prevention of Significant Deterioration, and it was determined that the proposed modification does not trigger PSD requirements.

Regulation XXX – Title V Permits

This regulation contains requirements for sources which must have a FOP. AVRDF currently has a FOP and is expected to comply with all applicable rules and regulations.

Rule 3001 – Federal Operating Permit Definitions

AVRDF is NOT defined as a federal “Major Facility” pursuant to this rule. It is subject to Title V Permitting requirements since the facility was required to have a Title V because of applicability to 40 CFR 60 Subpart WWW - Standards of Performance for Municipal Solid Waste Landfill.

Rule 3003 – Federal Operating Permits

The proposed modification is subject to New Source Review and is being processed pursuant to AVAQMD Rule 1302, Procedures, which allows for Modifications to be processed concurrent with NSR actions. This procedure conforms to all applicable provisions of District Regulation XII. Further, this permit modification will be noticed similarly to AVAQMD Rule 3007 requirements and in accordance with AVAQMD Rule 1302.

This document represents the draft determination for the proposed modifications to AVRDF FOP. The proposed Modification will be properly noticed pursuant to AVAQMD Rule 3007, as required.

Rule 3005 – Modifications of Federal Operating Permits

The proposed modification is defined as a Minor Permit Modification to AVRDF Federal Operating Permit (FOP), and subsequently, this permit modification will be issued in accordance with the provisions of AVAQMD Rule 1302 pursuant to Rule 3003.

Rule 3007 – Notice and Comment

This NSR permitting action is being noticed concurrent with the Minor Modification of AVRDF Federal Operating Permit. Notably, this affords the public the right to petition USEPA to reconsider the decision to not object to the permit action.

Rule 3011 – Greenhouse Gas Provisions of Federal Operating Permits

AVRDF is NOT a Major GHG Facility pursuant to Rule 3011.

State Rules:

17 CCR 95460 – 95476, Regulation to Achieve Greenhouse Gas Emission Reductions - Methane Emissions from Municipal Solid Waste Landfills (also known as the Landfill Methane Rule or LMR). The purpose of this sub-article is to reduce methane emissions from municipal solid waste (MSW) landfills pursuant to the California Global Warming Solutions Act of 2006 (Health & Safety Code, Sections 38500 et. seq.). AVRDF is subject to this regulation as they are an MSW landfill that received solid waste after January 1, 1977. AVRDF is subject to the approved portions of this California plan, which is federally enforceable via 40 CFR 60, Subpart Cf - Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills. AVRDF is

required to comply with these provisions as proposed conditions in Part III, Section A of their FOP.

ATCM 17 CCR 93114, Airborne Toxic Control Measure to Reduce Particulate Emissions from Diesel Fueled Engines - Standards for Nonvehicular Diesel Fuel; has been added as an operational requirement per Condition in Title V Section II.

ATCM 17 CCR 93115, Stationary Diesel ATCM applies to the engine operating with District Permit E008939. This engine has been and will continue to be operated and maintained in compliance with this ATCM.

ATCM 17 CCR 93116, Portable Diesel ATCM applies to the engine operating with District Permit B013476, B014959, and B015115. This engine has been and will continue to be operated and maintained in compliance with this ATCM.

Federal Regulations:

40 CFR 60, Subpart Cc, *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills*. This subpart contains emission guidelines and compliance times for the control of certain designated pollutants from certain designated municipal solid waste landfills in accordance with section 111(d) of the Clean Air Act. AVRDF is no longer subject to this regulation as it is no longer an applicable requirement since EPA formally clarified that Subpart 40 CFR 60, Subpart Cf (once implemented via a state or federal plan) supersedes subparts WWW and Subpart Cc.

40 CFR 60, Subpart Cf, *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills*. This subpart establishes Emission Guidelines and compliance times for the control of designated pollutants from certain designated municipal solid waste (MSW) landfills in accordance with section 111(d) of the Clean Air Act. AVRDF is a designated facility under this regulation and complies via the partially approved state plan, i.e., California's LMR [17 CCR 95460 – 95476] in conjunction with certain requirements of 40 CFR 62, Subpart OOO, specifically 40 CFR 62.16716(c); 62.16720(a)(4); 62.16722(a)(2) and (a)(3); 62.16724(k); and 62.16726(e)(2) and (5), and opt-in provisions of 40 CFR 63, Subpart AAAA. Because the California LMR is only partially approved, EPA promulgated Subpart OOO, for the requirements that would apply to MSW landfills in California for the portions of the LMR that were lacking. AVRDF is expected to comply with the provisions of 40 CFR 60, Subpart Cf by complying with the proposed conditions of Part III, Section A of their FOP.

40 CFR 60, Subpart WWW, *Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification on or After May 30, 1991, but Before July 18, 2014*. The purpose of this regulation was to regulate non-methane organic compounds (NMOC), methane, hazardous air pollutants (HAPs), and odorous compounds which are VOC emissions that contribute to ozone formation. AVRDF is no longer subject to this regulation as it is no longer an applicable requirement since EPA formally clarified that Subpart 40 CFR 60, Subpart Cf (once implemented via a state or federal plan) supersedes subparts WWW and Subpart Cc.

40 CFR 60, Subpart XXX, *Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014*. This new NSPS subpart is based on EPA's ongoing review of MSW Landfills. This regulation targets municipal solid waste landfills that commence construction, reconstruction, or modification after July 17, 2014. AVRDF is not subject to this regulation as they have not commenced construction, reconstruction, or modification after July 17, 2014.

40 CFR 61, Subpart M – *National Emission Standard for Asbestos*. AVRDF is required to comply with this regulation per Part II, Section B.7 of their FOP for any asbestos remediation activities.

40 CFR 62, Subpart OOO, *Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction on or Before July 17, 2014, and Have Not Been Modified or Reconstructed Since July 17, 2014*. This subpart establishes emission control requirements and compliance schedules for the control of designated pollutants from certain designated municipal solid waste (MSW) landfills in accordance with section 111(d) of the Clean Air Act and subpart B of 40 CFR part 60. AVRDF is a designated facility under this regulation as they are a municipal solid waste landfill that commenced construction, reconstruction, or modification on or before July 17, 2014, and has accepted waste since November 8, 1987, and the landfill has additional capacity for future waste deposition. AVRDF complies with portions of this subpart since the California LMR plan is only partially approved. Specifically, AVRDF complies with the LMR and these portions of 40 CFR 62, Subpart OOO: 40 CFR 62.16716(c); 62.16720(a)(4); 62.16722(a)(2) and (a)(3); 62.16724(k); and 62.16726(e)(2) and (5). AVRDF is expected to comply with the provisions of 40 CFR 62, Subpart OOO, by complying with the proposed conditions of Part III, Section A.21 through A.24 of their FOP.

40 CFR 63, Subpart AAAA, *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*. This NESHAP applies to MSW landfills that have accepted waste since November 8, 1987, or have additional capacity for waste deposition and are major sources, are collocated with major sources, or are minor source landfills with a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m³) and have estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) of non-methane organic compounds (NMOC). This NESHAP also applies to MSW landfills that have accepted waste since November 8, 1987, or have additional capacity for waste deposition and include a bioreactor and are major sources, are collocated with major sources, or are minor source landfills with a design capacity equal to or greater than 2.5 million Mg and 2.5 million cubic meters that were not permanently closed as of January 16, 2003. AVRDF is an affected source under this regulation as it is an MSW landfill that has accepted waste since November 8, 1987, and has additional capacity for waste deposition is an area source landfill with a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m³) and have estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) of non-methane organic compounds (NMOC). AVRDF is expected to comply with the provisions of 40 CFR 63, Subpart AAAA by complying with the proposed conditions of Part III, Section B of their FOP.

40 CFR 64, *Compliance Assurance Monitoring*. The Compliance Assurance Monitoring (CAM) rule (40 CFR 64) applies to each Pollutant Specific Emissions Unit (PSEU) when it is located at a Major

Facility that is required to obtain Title V, Part 70 or 71 permit, and it meets all of the following criteria. “PSEU” means an emissions unit considered separately concerning each regulated air pollutant. The PSEU must:

- a. Be subject to an emission limitation or standard [40 CFR 64]; AND,
- b. Use a control device to achieve compliance [40 CFR 64.2(a)(2)]; AND,
- c. Have the potential pre-control emissions that exceed or are equivalent to the major source threshold. [40 CFR 64.2(a)(3)]

F. Title V Permit/FOP – Minor Permit Modification

1. NSR Preliminary Decision – Conclusion

The District has reviewed the applications for the proposed new emission units at AVRDF and completed a concise written analysis in accordance with AVAQMD Rule 1302, Section (D)(1)(b), and AVAQMD Rule 3003, Section (B)(1)(a). Based on this review, the District has determined that the proposed equipment and applications, as submitted and when operated in accordance with the permit conditions outlined in the FOP, comply with all applicable District, State, and Federal regulations. Public and CARB/EPA comment periods are currently underway; refer to page one for the relevant dates.

2. Proposed Changes to FOP

AVRDF submitted a Title V renewal application concurrently with two new District permit applications. This action is being processed as a Minor Permit Modification, as the proposed changes will result in an increase in emissions but will not exceed major source thresholds. The District is processing the proposed FOP renewal/modification in accordance with the procedures outlined in AVAQMD Rule 1302(D)(1)(d). This preliminary decision serves as the Statement of Basis for the proposed revisions to Federal Operating Permit No. 122802470.

3. Title V/FOP – Conclusion

The District has reviewed the renewal application and the proposed modifications to AVRDF’s Federal Operating Permit and has determined that, as proposed and when operated in accordance with the conditions specified herein, the project complies with all applicable District, State, and Federal rules and regulations.

G. Comment Period and Notifications

1. Public Comment

This public notice was published on or before September 11, 2025, (See Appendix B for Public Notice). The 30-Day Public Commenting Period will end at COB on October 14, 2025.

Noticing Methods included the following, per AVAQMD Rule 3007 (A)(1)(a) and AVAQMD Rule 1302(D)(2) and (3):

- Published in newspaper of general circulation - Antelope Valley Press on or before September 11, 2025.
- Mailed and/or emailed to AVAQMD contact list of people requesting notice of actions (see the contact list following the Public Notice in Appendix B) on or before September 11, 2025.
- Posted on the AVAQMD Website at the following link; on or before September 11, 2025: <https://www.avaqmd.ca.gov/public-notices-advisories>

2. *Notifications*

The preliminary determination was submitted by email to EPA and CARB in accordance with AVAQMD Rule 3007 for a forty-five (45) day review period on or before September 11, 2025. Provided no objections are received, the final modified FOP is expected to be issued on or around October 28, 2025.

All correspondence as required by AVAQMD Rules 1302 and 3007 were forwarded electronically to the following recipients:

Director, Office of Air Division
United States EPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105
via EPA's EPS Portal: <https://cdx.epa.gov/>

Chief, Stationary Source Division
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812
via e-mail at: Permits@arb.ca.gov

Antelope Valley Recycling & Disposal Facility Inc
Waste Management
1200 W City Ranch Road
Palmdale, CA 93551
Attn: Collin Pavelchik
via e-mail at: cpavelch@wm.com

APPENDIX A

PUBLIC NOTICE

Noticing requirements pursuant to District Rule 1302:

- Published in a newspaper of general circulation – Antelope Valley Press on or before September 11, 2025.
- Mailed and/or emailed to AVAQMD contact list of persons requesting notice of actions (see the contact list following the Public Notice in Appendix A) on or before September 11, 2025.
- Posted on the AVAQMD Website at the following link:
<https://www.avaqmd.ca.gov/public-notices-advisories>

NOTICE OF PRELIMINARY DETERMINATION

NOTICE IS HEREBY GIVEN THAT *Antelope Valley Recycling and Disposal Facility* (AVRDF) located at 1200 West City Ranch Rd, Palmdale, CA 93551 has submitted applications for a Renewal/Minor Modification and NSR modification to their Federal Operating Permit (Permit No. 122802470) pursuant to the provisions of Antelope Valley Air Quality Management District (AVAQMD) Regulations XIII and XXX. AVRDF is subject to the Title V Program under the Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills, promulgated under 40 Code of Federal Regulations (CFR) Part 60, Subpart Cf - Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills.

The applicant operates a facility engaged in municipal waste disposal utilizing a landfill gas collection and control system with an enclosed flare to control emissions generated from waste decomposition. The proposed permitting action involves the addition of one new diesel-powered portable tipper and one new diesel-powered portable trommel.

REQUEST FOR COMMENTS

Interested persons are invited to submit written comments and/or other documents regarding the terms and conditions of the proposed permitting action. If submitting written comments, you may also request a public hearing regarding the proposed permit modification.

To be considered, comments, documents and requests for public hearing must be submitted no later than **5:00 P.M. on October 14, 2025**, to the AVAQMD, at the address listed below.

PETITION FOR REVIEW

Federal Operating Permits are also subject to review and approval by the U.S. Environmental Protection Agency (USEPA). If USEPA has not objected to the proposed permit during its 45-day review period, and the AVAQMD has not satisfactorily addressed a public comment, the public may petition USEPA, Region IX, Operating Permits Section at 75 Hawthorne Street, San Francisco, CA 94105 within 60 days after the end of the USEPA review period to request reconsideration of its decision not to object to the permit.

AVAILABILITY OF DOCUMENTS

The proposed Federal Operating Permit, along with the application and other supporting documentation, is available for review at the AVAQMD offices:

Antelope Valley Air Quality Management District
2551 West Avenue H
Lancaster, CA 93536

Additionally, these documents are available on the AVAQMD website at the following link:
<https://www.avaqmd.ca.gov/public-notices-advisories>.

For additional questions regarding this action and/or corresponding documents, please contact Taylor Morais at (661) 723-8070, extension 24, or via email at tmorais@avaqmd.ca.gov.

****Traducción en español esta disponible por solicitud. Por favor llame: (661) 723-8070***

APPENDIX B
Email List of Persons Requesting Notice of Action

Email List of Persons Requesting Notice of Actions:

D. Rothbart	drothbart@lacs.org
A. Herath	aherath@cityofpalmdale.org
Alan DeSalvio	engineering@mdaqmd.ca.gov
Alex Saschin	alex.saschin@sonoma-county.org
Ali Reza Ghasem	engineering@vcapcd.org
Anne McQueen	AMcQueen@YorkeEngr.com
Anthony Morales	GTtribalcouncil@aol.com
Ben Beattie	notify@ysaqmd.org
Bill Whitaker	billw@charlesmcmurray.com
Bret Banks	avreporting@avaqmd.ca.gov
Carlene Saxton	csaxton@cityofpalmdale.org
Carrol Kaufman	cykaufman@mwdh2o.com
Colby Morrow	CLMorrow@semprautilities.com
Collin Pavelchik	cpavelch@wm.com
Daniel McGivney	dmcgivney@socalgas.com
El Dorado County AQMD	aqmd@edcgov.us
George Jung	george.jung@ngc.com
Angelica C. Jackson	angelica.c.jackson@nasa.gov
Jocelyn Swain	jswain@cityoflancafterca.org
Judy Rocchio	Judy_Rocchio@nps.gov
Karin Fickerson	kfickerson@semprautilities.com
Kyle Mertens	kmertens@wm.com
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Marci Stepman	Marci.Stepman@Verdant-env.com
Marianne Strange	mstrange@mfsair.com
Marla Hughes	marla@avpaints.com
Mary Giraud	mgiraud@mbard.org
McKay (US), Vincent P	vincent.p.mckay@boeing.com
Mitch Haimov	publicnotice@aqmd.gov
Monique Cadle	mcadle@glaze-n-seal.com
Nicole Stetson	nstetson@wm.com
Omar Elfar	oelfar@trinityconsultants.com
Paul Bauer	Paul_Bauer@mthigh.com
Reenu M. Ko	reenu.m.ko@lmco.com
San Diego APCD	APCDEngineering@sdcounty.ca.gov
Sara Head	SHead@YorkeEngr.com
Scott Dickinson	bradley.dickinson@us.af.mil
Stepman, Marci B	marci.b.stepman@lmco.com
Tim Hughes	timothy.hughes.24@us.af.mil
Tonnie Cummings	Tonnie_Cummings@nps.gov

Public Notice List of Persons Requesting Notice of Actions:

	A	B	C	D	E	F
2	Air Division (Attr: AIR-3)	United States EPA, Region IX	75 Hawthorne Street	San Francisco	CA	94105
3	Andrew Gates	Gabriel Band of Mission Indians - Kiah Nation	P.O. Box 393	Covina	CA	91723
4	Andy School	Wm Bohhouse Farms	7200 E. Brundage Lane	Bakersfield	CA	93307
5	Angelica Jackson	NASA Armstrong Flight Research Center, Safety and Environmental Office	PO BOX 273, MS 4822B	Edwards AFB	CA	93523
6	Anne McQueen	Yorke Engineering, LLC	31725 Rancho Viejo Road, Suite 218	San Juan Capistrano	CA	92675
7	Anthony Morales	San Gabriel Band of Mission Indians	P.O. Box 693	San Gabriel	CA	91778
8	Bill Whitaker	Charles McMurry Co.	2821 Leland Ave.	Sacramento	CA	95815
9	Brad Poirier	Mojave Desert AQMD	14306 Park Avenue	Victorville	CA	92392-2310
10	Bree Saville	Annapole Valley AQMD	43301 Division St., Suite 205	Lancaster	CA	93535
11	Brian Polson	L.A. County Sanitation Districts	1355 Workman Mill Road	Whittier	CA	90601
12	Carol Kaufman	Metropolitan Water District	700 N Alameda Street, 8th Floor Rm 106	Los Angeles	CA	90012
13	Catherine Jacobson	3M Company, Material EHS	3M Center, Building 0220-06-E-03	St. Paul	MN	55144
14	Chris Mastero	Los Angeles County	5050 Commercial Drive	Baldwin Park	CA	91706
15	Clifford Burg	PDCC	3504 Walnut Avenue, Suite A	Carmichael	CA	95608
16	Colby Monroe	Southern California Gas Co.	2088 E. Lester Avenue	Fresno	CA	93720-3962
17	Dan Willie	Wm Bohhouse Farms	7200 East Brundage Lane	Bakersfield	CA	93307
18	Daniel Pournieu	Lyondell Basell Industries	1221 McKinney Street	Houston	TX	77010
19	David Rothbart	Los Angeles County Sanitation District	1985 Workman Mill Road	Whittier	CA	90601
20	Dennis Sloan		5310 E. Meredith Avenue	Palmdale	CA	93552
21	Donna Termeer	Field Deputy, Supervisor Barger	42455 10th Street West, Suite 104	Lancaster	CA	93534
22	Doris Lo	United States EPA, Region IX	75 Hawthorne Street	San Francisco	CA	94105
23	Environmental Contact	Delus Financial Services	42933 Business Center Parkway	Lancaster	CA	93535
24	Environmental Contact	Air Force Base Research Laboratory	2650A	Edwards AFB	CA	93524-0060
25	Gary Rubenstein	Sierra Research	1801 J Street	Sacramento	CA	95814
26	George Jung	Northrop Grumman	3520 E. Avenue M, PA114G	Palmdale	CA	93380
27	Glen Stephens	Eastern Kern Air Pollution Control District	2000 "M" Street, Suite 302	Bakersfield	CA	93301-2370
28	J.J. Murphy	City of Palmdale	38300 Sierra Highway	Palmdale	CA	93550
29	Janet Bell	Metropolitan Water District	700 North Alameda Street	Los Angeles	CA	90012
30	Janet Laurain	Adams Broadwell Joseph & Cardozo	601 Gateway Blvd., St. 1000	South San Francisco	CA	94080-7037
31	Jason Claude	City of Lancaster	44933 N Fern Avenue	Lancaster	CA	93534
32	Jenna Lat	CARBO/Office of Ombudsman	9480 Telear Avenue, Annex 1	El Monte	CA	91731
33	Judy Roodhoo	National Park Service	333 Bush St. Ste. 300	San Francisco	CA	94104
34	Kristina Tierney	ES&Energy	1425 N. McDowell Boulevard, Suite 200	Petaluma	CA	94954
35	LA County Farm Bureau		41228 12th Street West, Suite A.	Palmdale	CA	93551-1400
36	Leslee Newton-Read	California Department of Fish and Game	3883 Ruffin Road Ste. A	San Diego	CA	92123
37	Lih Wang	Los Angeles World Airports	7301 World Way West, Room 312	Los Angeles	CA	90045
38	Linea Norby	Air Force Plant 42	412 TW/OL-APP 42	Palmdale	CA	93550
39	Lisa Seckham	United States EPA, Region IX	75 Hawthorne Street	San Francisco	CA	94105
40	Marci Stepman	Verdant Environmental	809 Mendocino Avenue - Unit G	South Pasadena	CA	91100
41	Michael Tolstrup	California Air Resources Board	P.O. Box 2815	Sacramento	CA	95812
42	Mike Kirby	US Bonax Inc.	14486 Bonax Rd.	Boron	CA	93516
43	Monique Cadde	Glaze 'N Seal Products	16207 E. McDermott St., Suite C	Irvine	CA	92614
44	Nicole Stebson	Waste Management of California, Inc	P.O. Box 4040	Palmdale	CA	93534
45	Noel Muyco	Sempra Energy	555 W. 9th St., Mt. 1703	Los Angeles	CA	90051-1249
46	Rob Duchow	Southern California Gas Co.	3701 Pageant Drive, Suite 114	Bakersfield	CA	93308
47	Scott Walsh	95AIRW/CEC	5 East Popson Ave., Bldg 2850A	Edwards AFB	CA	93524
48	David Sadrudin	San Joaquin Valley APCD	1930 E. Gentryburg	Fresno	CA	93726
49	Shari Arnold	Annapole Valley Press	P.O. Box 880	Palmdale	CA	93590
50	Shari Haggard	MOAQMD	14306 Park Ave	Victorville	CA	92392
51	Southern California Edison	Altamont ESD	P.O. Box 5085	Rosemead	CA	91770-0908

	A	B	C	D	E	F
52	Supervisor Kathryn Barger	County of Los Angeles	42455 10th Street West, Suite 104	Lancaster	CA	93534
53	Susan Tsai	L.A. County Dept. Regional Planning	320 W. Temple St, Room 1348, Hall of Records	Los Angeles	CA	90012
54	Suzanne Johnson	Lockheed Martin Aeronautics Company	1011 Lockheed Way, Mail Zone 0524	Palmdale	CA	93559
55	Sylvia Vanderspek	California Air Resources Board	P.O. Box 2815	Sacramento	CA	95812
56	Thomas Gross	Southern California Edison	2131 Walnut Grove Avenue	Rosemead	CA	91770
57	Tornie Cummings	National Park Service, Pacific West Region	812 E. Reserve Street	Vancouver	WA	98681
58	Tung Le	California Air Resources Board	P. O. Box 2815	Sacramento	CA	95811
59	Vinco McKay	Boeing Company - Site 1 Team Palmdale/Edwards	1800 E. Ave M, MC 841-PL01	Palmdale	CA	93580
60	Vincent Masurath	Trendy Consultants, Inc.	20 Corporate Park Suite 200	Irvine	CA	92606
61	Wayne Nantz	South Coast AQMD	21865 Copley Dr.	Diamond Bar	CA	91765-4182
62		L.A. County Fire	42110 6th Street West	Lancaster	CA	93534

APPENDIX C
APPLICATION PACKAGE



October 31, 2024

Ms. Barbara Lods
Antelope Valley Air Quality Management District
2551 West Avenue H, Suite 102
Lancaster, CA 93536
(661) 723-8070

Subject: Updated Title V Permit Renewal Application, Antelope Valley Recycling and Disposal Facility, Palmdale, California

Dear Ms. Lods:

Antelope Valley Recycling and Disposal Facility, Inc. hereby submits this application for renewal of the Title V Permit (No. 122802470) for the Antelope Valley Recycling and Disposal Facility (AVRDF) to the Antelope Valley Air Quality Management District (AVAQMD). An electronic copy of the check for fees in the amount of \$6,500.00 is enclosed, and a hard copy was delivered in the mail to AVAQMD.

If you have any questions concerning this submittal or should need any further information regarding this matter, please contact the undersigned below at (510) 714-6098.

Sincerely,

A handwritten signature in black ink that reads 'Collin Pavelchik'.

Collin Pavelchik
EP Air Quality Specialist
Waste Management

cc Mr. Taylor Morias, AVAQMD
Mr. Michael Dudley, AVRDF
Mr. Christian Colline, Waste Management
Ms. Tracy Freeman, Waste Management
Ms. Miriam Cardenas, Waste Management

Enclosures: AVRDF Title V Permit Renewal Application Package – October 2024

Title V Permit Renewal Application
Antelope Valley Recycling and Disposal Facility
Palmdale, California

Presented to:

**Antelope Valley Air Quality
Management District**

2551 West Avenue H, Suite 102
Lancaster, CA 93536

Presented by:



Antelope Valley Recycling and Disposal Facility, Inc.
1200 West City Ranch Road
Palmdale, California 93551

October 2024

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Appendix A	Title V Permit Renewal Application Forms
Appendix B	Potential to Emit Emissions
Appendix C	Greenhouse Gas Emissions Supporting Calculations
Appendix D	Permit Renewal Fee

1.0 INTRODUCTION

1.1 OVERVIEW

Antelope Valley Recycling and Disposal Facility, Inc. hereby submits this permit renewal application for the Antelope Valley Recycling and Disposal Facility's (AVRDF) Title V Permit No. 122802470. The Antelope Valley Air Quality Management District (AVAQMD) requires Title V permit holders to submit an application for renewal of a Title V permit no more than 18 months prior to the expiration date and no less than 6 months prior to the expiration date of the permit. AVRDF's Title V Permit No. 122802470 expires on April 10, 2025; therefore, this application is being submitted per the required timeline.

1.2 BACKGROUND INFORMATION

The AVRDF is a Class III municipal solid waste (MSW) landfill as defined by RCRA Subtitle D located at 1200 West City Ranch Road in the City of Palmdale, California. AVRDF has an active landfill gas (LFG) collection and control system (GCCS). The permitted equipment installed on-site includes landfill condensate storage, an LFG collection system, a paint spray booth, an internal combustion (IC) engine powered fire pump, an enclosed flare, an IC engine powered portable tipper and a hydrogen sulfide treatment system. In addition, a permit application for a second IC engine powered tipper was submitted on December 21, 2023.

2.0 POTENTIAL EMISSIONS

Potential Emissions are summarized on the Potential Emissions Report Forms (3002E2-E) for each of the individual permit to operate (PTO) units. These forms are provided in Appendix A. Supporting emissions calculations for each PTO are presented in Tables 1 through 6 in Appendix B.

2.1 EMISSIONS FROM PERMITTED SOURCES

- The facility has an active 3,000 standard cubic feet per minute (scfm) LFG Specialties enclosed flare (AVAQMD Permit Number C014523) utilized for control and combustion of the LFG generated by the landfill mass, and combustion of LFG condensate collected in the GCCS. Emissions from the flare are included in Table 1.
- The facility has an LFG collection system (AVAQMD Permit Number C008630) which pulls LFG from the refuse mass under vacuum and delivers it to the flare.
- The facility has an LFG condensate storage system (AVAQMD Permit Number T014565) consisting of one condensate sump and a 5,400-gallon capacity condensate storage tank. Stored condensate is disposed through injection into the flare along with the LFG and is vented to the carbon filter drum.

- The facility has a paint spray booth (AVAQMD Permit Number S008807) which is used for various coatings, thinners, reducers and clean-up solvents. Emissions from the paint booth are included in Table 2.
- The facility has an IC Engine (AVAQMD Permit Number E008939) which powers an onsite fire pump. Emissions from the engine are included in Table 3.
- The facility has an IC Engine (AVAQMD Permit Number B012476) which powers a portable tipper. Emissions from the engine are included in Table 4.
- The facility submitted an application on December 21, 2023 for a second IC engine powered tipper. Emissions from the engine are included in Table 5.

2.2 INSIGNIFICANT SOURCES

- Space heating units, exempt from Title V permitting requirements pursuant to AVAQMD Rule 219(E)(4)(f) and rule 219(E)(2)(b)
- Mobile equipment and motor vehicles, exempt per Rule 219(E)(1)(a) and Rule 219(E)(1)(b)
- 1,000 gallon above-ground diesel fuel storage tank, exempt per Rule 219(E)(13)
- Liquefied natural gas (LNG) tank (15,000-gallon capacity), exempt per Rule 219(E)(13)(b)
- Above-ground oil tanks under 500 gallons, exempt per Rule 219(E)(13)
- Light plants, exempt per Rule 219(E)(4)(k)

2.3 FUGITIVE SOURCES

The following fugitive emission sources are associated with AVRDF operations. The facility is not a major source.

- LFG emissions containing non-methane organic compounds (NMOCs), volatile organic compounds (VOCs), and hazardous air pollutants (HAPs) are generated by the microbial degradation of MSW.
- Paved and unpaved roadways used by refuse hauling vehicles and other on-site vehicles generate fugitive particulate matter (PM) dust emissions, including PM less than 10 microns (PM₁₀) and PM less than 2.5 microns (PM_{2.5}).
- Construction activities, including heavy equipment traffic on unpaved roadways and landfill surfaces, generate PM dust emissions.

- PM dust emissions are generated from cell excavation, and disposition of soil cover material on the landfill surface. Soil is excavated as needed for daily, intermediate, and/or final cover material, and for constructing bottom liners for new landfill cells.
- PM dust emissions are generated from stockpile erosion due to the effects of wind on cover stockpiles and landfill surfaces with daily, intermediate, and/or final cover material.
- PM emissions are generated as a result of brush chipping activities. In accordance with California Air Resources Board (CARB) and U.S. EPA requirements, the on-site use of this equipment is subject to regulation under Title V for non-engine emissions/operations. Per CARB guidance, the equipment can be covered under the Title V permit by referencing and requiring compliance with the CARB portable registration requirements pertaining to non-engine issues.
- Soil containing petroleum hydrocarbons may be deposited at the landfill, which contains low levels of VOCs and HAPs. No control measures are currently utilized for this operation.
- Fugitive dust emissions are controlled per the site's dust plan.

2.4 TOTAL POTENTIAL TO EMIT

The potential to emit (PTE) from all applicable sources at AVRDF are summarized below and attached in Appendix B. All calculations are included in Tables 1-6.

Summary of Facility-Wide Emissions

Pollutant	Non-Fugitive PTE (tpy)
NO _x	24.19
CO	79.86
SO _x	24.9
VOC	24.29
PM _{2.5}	6.78
PM ₁₀	6.78
HAPs	3.30

3.0 METHODOLOGY FOR EMISSION CALCULATIONS

3.1 FLARE EMISSIONS

Flare emissions of toxic air contaminants (TACs)/hazardous air pollutants (HAPs) were estimated using actual site data from recent source tests, LFG sampling and analysis, or data from a study completed by the Waste Industry Air Coalition (WIAC) on typical concentrations of LFG constituents. The U.S. Environmental Protection Agency's (EPA's) Compilation of Air Pollutant Emission Factor (AP-42) section on landfills (Section 2.4) was used if actual or WIAC data were unavailable. The WIAC report provides more comprehensive and recent data than the estimates from AP-42 default concentrations, as well as provides more realistic LFG constituents based on recent source tests throughout the United States. The TAC emissions were then generated using each constituent's concentration, flow rate into the flare and the AP-42 destruction efficiencies of 98% for halogenated compounds, and 99.7% for non-halogenated compounds.

Criteria pollutants generated during combustion in the flare, such as nitrogen oxides (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), volatile organic compounds (VOCs), and particulate matter less than 10 microns (PM₁₀) were determined using the Best Available Control Technology (BACT) standards, manufacturer's guarantees and current permitted limits.

3.2 GREENHOUSE GAS EMISSIONS

Title V permit renewals are required to address greenhouse gas (GHG) emissions.

Methane (CH₄) and nitrous oxide (N₂O) are combustion byproducts and are GHGs. Even when resulting from the combustion of a biofuel, methane and nitrous oxide are considered anthropogenic. All GHGs from the combustion of fossil fuels, such as diesel, are anthropogenic and must be included in GHG emissions. LFG-derived emissions of carbon dioxide (CO₂) are considered biogenic (meaning they come from a biofuel), are part of the natural carbon cycle, do not contribute to a net increase in atmospheric CO₂, and should not be counted as part of the regulated GHG emissions from an LFG source.

The GHG sources at AVRDF include one enclosed flare, one emergency propane fire pump and two tippers. GHG combustion and landfill gas (LFG) emission factors are shown in the table below:

GHG Emission Factors

Fuel	Emission Factors (kilograms/MMBtu)		
	Carbon Dioxide	Methane	Nitrous Oxide
LFG	52.07	3.2E-03	6.3E-04
Diesel	73.96	3.0E-03	6.0E-04
Propane	61.46	3.0E-03	6.0E-04

Currently, GHG sources and their biogenic emissions are shown in the table below. The source of biogenic GHG emissions includes the enclosed flare and two tippers.

Biogenic GHG PTE

Biogenic Non-Fugitive Sources	Enclosed Flare		Tipper 1	Tipper 2
Activity Rate	91.08 MMBtu/hr		0.9 MMBtu/hr	0.9 MMBtu/hr
Emissions (metric tons/yr)	CO ₂	41,545	270	270
	CH ₄	0	0	0
	N ₂ O	0	0	0
Total Biogenic GHG Emissions (metric tons/yr CO₂e)	41,545		270	270

The table below shows the anthropogenic GHG emissions from AVRDF. Not all GHG's have equal impact on the climate, so emissions of methane and N₂O have been converted into CO₂ equivalent (CO₂e) using a global warming potential factor of 25 for methane and 298 for N₂O. The source of anthropogenic GHG emissions includes the enclosed flare, two tippers and emergency fire pump.

Anthropogenic GHG PTE

Anthropogenic Non-Fugitive Sources	Enclosed Flare		Tipper 1	Tipper 2	Emergency Propane Fire Pump
Activity Rate	91.08 MMBtu/hr		0.9 MMBtu/hr	0.9 MMBtu/hr	300 gal/yr
Emissions (metric tons/yr)	CO ₂	0	0	0	1.85
	CH ₄	2.6	0.011	0.011	0.00009
	N ₂ O	0.5	0.002	0.002	0.00002
Total Anthropogenic GHG Emissions (metric tons/yr CO₂e)	213.6		0.9	0.9	1.9

Supporting calculations can be found in Appendix C.

4.0 COMPLIANCE INFORMATION

The following requirements apply to the permit application:

4.1 COMPLIANCE SCHEDULE

AVRDF is currently in compliance with all applicable requirements; therefore, a compliance schedule is not required.

4.2 COMPLIANCE PLAN

AVRDF is currently in compliance with all applicable requirements; therefore, a compliance plan is not required.

5.0 COMPLIANCE ASSURANCE MONITORING (CAM)

The requirements of 40 Code of Federal Regulations (CFR) Part 64, CAM, do not apply to this source since they are not a major source for any pollutants and subject to federal Standards of Performance for Municipal Solid Waste Landfills under 40 CFR Part 63, Subpart AAAA.

6.0 APPLICATION FORMS AND RELATED INFORMATION

The Title V Renewal Forms can be found in Appendix A. A list of the forms included are as follows (with added information if necessary):

- 1) General Facility Information (Form 3002E2-A)
- 2) Application Certification (Form 3002E2-B)
- 3) List of Exempt Equipment (Form 3002E2-D)
- 4) Potential Emissions Report (Form 3002E2-E)
- 5) Compliance Assurance Monitoring (Form 3002E2-F)

7.0 PERMIT PROCESSING FEES

Title V Permit Renewal Application - Complex Source Fee\$6,500

TOTAL **\$6,500**

An electronic copy of the check for \$6,500 is enclosed in Appendix D - required per AVAQMD Rule 301's "Permit Fees Section (D)(2)(b)" – and a hard copy was delivered in the mail to AVAQMD. Per confirmation from the AVAQMD, this fee is charged as a complex source fee and will be used throughout the permit renewal review process, with the potential for partial reimbursement dependent upon hours of review required.

8.0 CLOSING

If you have any questions concerning this submittal or should need any further information regarding this matter, please contact the undersigned below at (510) 714-6098 or Michael Dudley at (661) 223-3418.

Sincerely,



Collin Pavelchik
EP Air Quality Specialist
Waste Management

APPENDICES

APPENDIX A

Title V Permit Renewal Application Forms

Antelope Valley Air Quality Management District

TITLE V PERMIT RENEWAL APPLICATION – GENERAL FACILITY INFORMATION

1. FACILITY ID: <u>02470</u>	FACILITY SIC CODE: <u>4953</u>
TITLE V PERMIT NUMBER: <u>122802470</u>	PERMIT EXPIRATION DATE: <u>4/10/2025</u>
2. COMPANY NAME: <u>Antelope Valley Recycling and Disposal Facility, Inc.</u>	
3. COMPANY MAILING ADDRESS:	
STREET/P.O. BOX: <u>1200 West City Ranch Road</u>	
CITY: <u>Palmdale</u>	STATE: <u>California</u> 9-DIGIT ZIP CODE: <u>93551</u>
4. FACILITY NAME: <u>Antelope Valley Recycling and Disposal Facility</u>	
5. FACILITY MAILING ADDRESS:	
STREET/P.O. BOX: <u>1200 West City Ranch Road</u>	
CITY: <u>Palmdale</u>	STATE: <u>California</u> 9-DIGIT ZIP CODE: <u>93551</u>
6. RESPONSIBLE OFFICIAL (AS DEFINED IN 40 CFR 70.2 AND AVAQMD RULE 3001)	
NAME: <u>Michael Dudley</u>	TITLE: <u>District Manager</u> PHONE NUMBER: <u>661-223-3418</u>
7. TITLE V PERMIT CONTACT PERSON	
NAME: <u>Collin Pavelchik</u>	TITLE: <u>EP Air Quality Specialist</u> PHONE NUMBER: <u>510-714-6098</u>
8. TYPE OF ORGANIZATION:	
<input checked="" type="checkbox"/> CORPORATION <input type="checkbox"/> SOLE OWNERSHIP <input type="checkbox"/> GOVERNMENT <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> UTILITY	
9. CAM (COMPLIANCE ASSURANCE MONITORING) PLANS	
Are you required to submit a CAM plan for any emissions unit at this facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, submit a CAM plan for each emissions unit as an attachment to the application. See attached CAM plan instructions for more detail.	

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10. ALTERNATE OPERATING SCENARIOS

Does this application request alternative operating scenarios pursuant to Rule 3003(E)? Yes No

If yes, submit an Alternate Operating Scenarios form, as applicable.

11. RISK MANAGEMENT PLAN

Has this facility been required to prepare a federal Risk Management Plan pursuant to Section 112(r) of the federal Clean Air Act and 40 CFR Part 68? Yes No

If yes, has the federal Risk Management Plan been submitted to the implementing agency? Yes No

If a federal Risk Management Plan is required but has not been submitted to the implementing agency, provide a detailed explanation as an attachment to the application.

12. STRATOSPHERIC OZONE

Does the facility conduct any activities that are regulated by the federal protection of stratospheric ozone requirements in 40 CFR Part 82? Yes No

13. ACID RAIN

Is this facility subject to the acid rain requirement in 40 CFR Part 72 through 40 CFR Part 78? Yes No

14. MAJOR SOURCE STATUS

Is this facility a major source of greenhouse gases, as defined in AVAQMD Rule 3011? Yes No

Is this facility a major source of any of the following pollutants:

- VOCs Particulate Matter Carbon Monoxide Nitrogen Oxides Sulfur Dioxides
 Lead HAP

15. PERMIT SHIELDS

Does the current Title V permit for this facility include any permit shields? Yes No

If yes, is the basis for each permit shield still correct? Yes No

If the current Title V permit contains any permit shield for which the basis is no longer correct, provide a detailed explanation as an attachment to the application. If you are requesting an additional permit shield, complete the attached Permit Shield Request form.

16. CERTIFICATION BY RESPONSIBLE OFFICIAL

Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete. I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Signature:  _____

Date: 10/10/2024 _____

Antelope Valley Air Quality Management District

TITLE V PERMIT RENEWAL APPLICATION – APPLICATION CERTIFICATION

I. FACILITY INFORMATION

1. FACILITY NAME: Antelope Valley Recycling and Disposal Facility
2. FACILITY ID: 02470
3. TITLE V PERMIT #: 122802470

II. TITLE V PERMIT CERTIFICATION (Read each statement carefully and check one):



The current Title V permit has been reviewed and it has been determined that equipment descriptions are correct, and all requirements are still applicable.



The current Title V permit has been reviewed and errors have been found in equipment descriptions and/or permit requirements. A copy of the Title V permit is attached with redline changes. Permit application and/or modification forms are enclosed, as applicable.

III. COMPLIANCE CERTIFICATION (Read each statement carefully and check all for confirmation):



Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s), except for those requirements listed in the "Title V Non-Compliant Operations Report".



Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis, except for those requirements listed in the "Title V Non-Compliant Operations Report".



Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete. I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true.



Signature of Responsible Official

Michael Dudley

Name of Responsible Official (please print)

10-10-24

Date

District Manager

Title of Responsible Official (please print)

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Antelope Valley Air Quality Management District

TITLE V PERMIT RENEWAL APPLICATION – POTENTIAL EMISSIONS REPORT, CRITERIA POLLUTANTS & HAPs

I. FACILITY INFORMATION

1. FACILITY NAME: Antelope Valley Recycling and Disposal Facility
2. FACILITY ID: 02470
3. TITLE V PERMIT #: 122802470

II. POTENTIAL ANNUAL EMISSIONS

4. EMISSION UNIT (APPLICATION OR PERMIT #)	5. EQUIPMENT DESCRIPTION	6. POTENTIAL ANNUAL EMISSIONS							
		NOx (TPY)	VOC (TPY)	PM10 (TPY)	PM2.5 (TPY)	SOx (TPY)	CO (TPY)	Other: (TPY)	Other: (TPY)
C008630	Landfill Gas Collection System	-	-	-	-	-	-	-	-
C014593	Hydrogen Sulfide Treatment System Air Pollution Control <small>Device</small>	-	-	-	-	-	-	-	-
T014565	Landfill Condensate Storage Tank	-	-	-	-	-	-	-	-
C014523	Enclosed Flare	23.94	19.82	6.7	6.7	24.9	79.79	3.30 (HAPs)	-
B013476	Diesel Engine, Portable Tipper	0.124	0.004	0.004	0.004	0.003	0.008	-	-
E008939	Propane IC Engine, Emergency, Fire Pump	0.004	0.002	0.068	0.068	0.0000079	0.055	-	-
S008807	Paint Spray Booth	-	4.45	-	-	-	-	-	-
Application submitted 12/21/23	2nd Diesel Engine, Portable Tipper	0.124	0.004	0.004	0.004	0.003	0.008	-	-

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Antelope Valley Air Quality Management District

TITLE V PERMIT RENEWAL APPLICATION – POTENTIAL GREENHOUSE GAS EMISSIONS REPORT

I. FACILITY INFORMATION

1. FACILITY NAME: Antelope Valley Recycling and Disposal Facility
2. FACILITY ID: 02470
3. TITLE V PERMIT #: 122802470

II. POTENTIAL ANNUAL EMISSIONS

4. EMISSION UNIT (APPLICATION OR PERMIT #)	5. EQUIPMENT DESCRIPTION	6. POTENTIAL ANNUAL EMISSIONS							
		CO ₂ (TPY)	N ₂ O (TPY)	CH ₄ (TPY)	HFCs (TPY)	PFCs (TPY)	SF ₆ (TPY)	Other: (TPY)	CO ₂ (e) (TPY)
C014523	Enclosed Flare	41,545	0.5	2.6	-	-	-	-	41758.6
E008939	Propane IC Engine, Emergency, Fire Pump	1.85	0.00002	0.00009	-	-	-	-	1.9
B013476	Diesel IC Engine, Portable Tipper	270	0.002	0.011	-	-	-	-	270.9
Application submitted 12/21/23	2nd Diesel Engine, Portable Tipper	270	0.002	0.011	-	-	-	-	270.9

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Antelope Valley Air Quality Management District

TITLE V PERMIT RENEWAL APPLICATION – COMPLIANCE ASSURANCE MONITORING APPLICABILITY DETERMINATION FORM

I. FACILITY INFORMATION

1. FACILITY NAME: Antelope Valley Recycling and Disposal Facility
2. FACILITY ID: 02470
3. TITLE V PERMIT #: 122802470

II. CAM STATUS SUMMARY FOR EMISSION UNITS

4. Based on the criteria in the instructions (check one and attach additional pages as necessary):

a. There are no emission units with control devices at this Title V facility.

b. There are emission units with control devices at this Title V facility, and the CAM applicability is shown below for each unit. A CAM plan is attached for each affected emissions unit.

5. EMISSION UNIT (APPLICATION OR PERMIT #)	6. EQUIPMENT DESCRIPTION	UNCONTROLLED EMISSIONS		9. UNCONTROLLED POTENTIAL EMISSIONS EXCEED THE MAJOR SOURCE THRESHOLD AND USE A CONTROL DEVICE?	10. EXEMPT FROM CAM BY 40 CFR 64.2(b)(1)? (ENTER YES OR NO. IF YES, STATE THE REASON FOR EXEMPTION)	11. IS A CAM PLAN REQUIRED?
		7. POLLUTANT TYPE	8. PTE (tons/year)			
C014523	Enclosed Flare	-	-	-	Yes. Subject to 40 CFR 63 Subpart AAAA.	No

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APPENDIX B

Potential to Emit Emissions

**TABLE 1
POTENTIAL TO EMIT FOR ENCLOSED STANDARD LANDFILL GAS FLARE (LFG SPECIALTIES)
ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY
PALMDALE, CALIFORNIA**

CAS NUMBER	COMPOUNDS	Molecular Weight (g/Mol)	Ave. Concentration of Compounds Found in LFG (ppmv) ^(b)	Pollutant Flow Rate to Flare (tons/yr)	Flare Destruction Efficiency (%) ^(d)	Maximum Emissions from Flare (lbs/hr)	Maximum Emissions from Flare (lbs/day)	Maximum Emissions from Flare (lbs/yr)	Maximum Emissions from Flare (tons/yr)
Hazardous Air Pollutants (HAPs)^(a)									
71-55-6	1,1,1-Trichloroethane (methyl chloroform)*	133.41	0.05	1.24E-02	98.0%	5.64E-05	1.35E-03	4.94E-01	2.47E-04
79-34-5	1,1,2,2-Tetrachloroethane	167.85	0.07	2.41E-02	98.0%	1.10E-04	2.64E-03	9.62E-01	4.81E-04
75-34-3	1,1-Dichloroethane (ethylidene dichloride)*	98.97	0.07	1.38E-02	98.0%	6.28E-05	1.51E-03	5.50E-01	2.75E-04
75-35-4	1,1-Dichloroethene (vinylidene chloride)*	96.94	0.07	1.35E-02	98.0%	6.15E-05	1.48E-03	5.39E-01	2.69E-04
107-06-2	1,2-Dichloroethane (ethylene dichloride)*	98.96	0.79	1.59E-01	98.0%	7.26E-04	1.74E-02	6.36E+00	3.18E-03
78-87-5	1,2-Dichloropropane (propylene dichloride)	112.99	0.02	5.32E-03	98.0%	2.43E-05	5.83E-04	2.13E-01	1.06E-04
67-63-0	2-Propanol (isopropyl alcohol)	60.11	7.91	9.73E-01	99.7%	6.67E-04	1.60E-02	5.84E+00	2.92E-03
107-13-1	Acrylonitrile	53.06	0.04	3.91E-03	99.7%	2.68E-06	6.43E-05	2.35E-02	1.17E-05
75-25-2	Bromodichloromethane	163.83	0.31	1.04E-01	98.0%	4.76E-04	1.14E-02	4.17E+00	2.09E-03
71-43-2	Benzene*	78.11	2.70	4.32E-01	99.7%	2.96E-04	7.11E-03	2.59E+00	1.30E-03
75-15-0	Carbon disulfide	76.13	0.32	4.99E-02	99.7%	3.42E-05	8.20E-04	2.99E-01	1.50E-04
56-23-5	Carbon tetrachloride*	153.84	0.07	2.14E-02	98.0%	9.76E-05	2.34E-03	8.55E-01	4.28E-04
46-358-1	Carbonyl sulfide	60.07	0.18	2.25E-02	99.7%	1.54E-05	3.70E-04	1.35E-01	6.75E-05
108-90-7	Chlorobenzene*	112.56	0.08	1.76E-02	98.0%	8.04E-05	1.93E-03	7.40E-01	3.62E-04
75-45-6	Chlorodifluoromethane	86.47	0.36	6.29E-02	98.0%	2.87E-04	6.89E-03	2.51E+00	1.26E-03
75-00-3	Chloroethane (ethyl chloride)	64.52	0.24	3.16E-02	98.0%	1.44E-04	3.46E-03	1.26E+00	6.31E-04
67-66-3	Chloroform*	119.39	0.05	1.11E-02	98.0%	5.05E-05	1.21E-03	4.42E-01	2.21E-04
74-87-3	Chloromethane (methyl chloride)	50.49	0.25	2.57E-02	98.0%	1.18E-04	2.82E-03	1.03E+00	5.15E-04
106-46-7	Dichlorobenzenes*	147.00	1.00	3.01E-01	98.0%	1.38E-03	3.30E-02	1.21E+01	6.03E-03
75-43-4	Dichlorodifluoromethane	120.91	1.75	4.33E-01	98.0%	1.98E-03	4.75E-02	1.73E+01	8.67E-03
75-71-8	Dichlorofluoromethane	102.92	1.75	3.69E-01	98.0%	1.68E-03	4.04E-02	1.48E+01	7.38E-03
75-09-2	Dichloromethane (methylene chloride)*	84.94	0.65	1.13E-01	98.0%	5.14E-04	1.23E-02	4.50E+00	2.25E-03
100-41-4	Ethylbenzene	106.16	6.79	1.48E+00	99.7%	1.01E-03	2.43E-02	8.85E+00	4.43E-03
106-93-4	Ethylene dibromide (1,2-Dibromoethane)*	187.88	0.05	1.74E-02	98.0%	7.95E-05	1.91E-03	6.95E-01	3.48E-04
75-69-4	Fluorotrichloromethane	137.40	0.33	9.20E-02	98.0%	4.20E-04	1.01E-02	3.68E+00	1.84E-03
110-54-3	Hexane	86.18	2.32	4.10E-01	99.7%	2.81E-04	6.74E-03	2.46E+00	1.23E-03
2148-87-8	Hydrogen Sulfide (e)	34.08	190.00	1.33E+01	99.7%	9.08E-03	2.18E-01	7.95E+01	3.98E-02
7439-97-6	Mercury (total)(f)	200.61	2.92E-04	1.20E-04	--	2.74E-05	6.57E-04	2.40E-01	1.20E-04
78-93-3	Methyl ethyl ketone	72.11	10.56	1.56E+00	99.7%	1.07E-03	2.56E-02	9.35E+00	4.68E-03
108-10-1	Methyl isobutyl ketone	100.16	0.75	1.54E-01	99.7%	1.05E-04	2.53E-03	9.23E-01	4.61E-04
127-18-4	Perchloroethylene (tetrachloroethylene)*	165.83	0.44	1.49E-01	98.0%	6.79E-04	1.63E-02	5.95E+00	2.97E-03
79-01-6	Trichloroethylene (trichloroethene)*	131.40	0.17	4.60E-02	98.0%	2.10E-04	5.04E-03	1.84E+00	9.19E-04
75-01-4	Vinyl chloride*	62.50	0.10	1.28E-02	98.0%	5.86E-05	1.41E-03	5.14E-01	2.57E-04
7647-01-0	Hydrochloric acid (g)	36.50	42.00	3.14E+00	--	7.23E-01	1.74E+01	6.34E+03	3.17E+00
108-88-3	Toluene*	92.13	17.19	3.24E+00	99.7%	2.22E-03	5.33E-02	1.95E+01	9.73E-03
1330-20-7	Xylenes*	106.16	14.03	3.05E+00	99.7%	2.09E-03	5.01E-02	1.83E+01	9.15E-03
Totals: HAPs						0.75	17.99	6,565.4	3.28

CAS Number	Compounds	Emission Factor (lb/mmscf)(h)	Maximum Emissions from Flare (lbs/hr)	Maximum Emissions from Flare (lbs/day)	Maximum Emissions from Flare (lbs/yr)	Maximum Emissions from Flare (tons/yr)		
	PAHs (without Naphthalene)	4.09E-05	7.36E-06	1.77E-04	0.06	3.22E-05		
91-20-3	Naphthalene	1.01E-05	1.82E-09	4.36E-08	0.02	7.96E-06		
50-00-0	Formaldehyde	1.60E-02	2.88E-03	6.91E-02	25.23	1.26E-02		
Totals: HAPs						6.93E-02	25.31	1.27E-02

Criteria Air Pollutants	Molecular Weight (g/mol)	Outlet Concentration of Compound (ppmv)	Emission Factor (lb/MMft ³)	Maximum Emissions from Flare (lbs/hr)	Maximum Emissions from Flare (lbs/day)	Maximum Emissions from Flare (lbs/yr)	Pollutant Flow Rate from Flare (tons/yr)
Total Non-Methane Organics (NMOs) as Hexane @3% O ₂	86.18	20.00	--	4.53	108.62	39,644.83	19.82
Volatile Organic Compounds (VOCs) (i)	86.18	20.00	--	4.53	108.62	39,644.83	19.82

Criteria Air Pollutants	Molecular Weight (g/Mol)	Rep. Concentration of Compound (ppmv)	Emission Factor (lb/MMft ³ methane)	Emission Factor (lb/MMBtu)	Maximum Emissions from Flare (lbs/hr)	Maximum Emissions from Flare (lbs/day)	Maximum Emissions from Flare (tons/yr)
Nitrogen Oxides (NO _x)	--	--	--	0.06	5.46	131.16	23.94
Carbon Monoxide (CO)	--	--	--	0.20	18.22	437.18	79.79
Sulfur Dioxide (SO ₂)(k)	64.10	190.00	--	--	5.69	136.64	24.94
Particulate Matter (PM ₁₀)/PM/PM _{2.5}	--	--	17.00	--	1.53	36.72	6.70

Notes:

- (a) List of hazardous air pollutants was from Title III Clean Air Act Amendments, 1990, and include compounds found in landfill gas, as determined from a list in AP-42 Tables 2.4-1 ("Default Concentrations for Landfill Gas Constituents, 11/98").
- (b) Average concentration of HAPs found in LFG were taken from "Waste Industry Air Coalition Comparison of Recent Landfill Gas Analyses with Historic AP-42 Values" if site-specific analysis (*) not available. Site-specific analysis from 6/18/21 (Source Test) adjusted to 50% methane (methane during test was 44.2%). If ND, the detection limit was used.
- (c) Pollutant emission rate based on estimated maximum rate that control device is equipped to handle.
- (d) Values taken from AP-42 Table 2.4-3 ("Control Efficiencies for LFG Constituents")
- (e) Concentration of hydrogen sulfide based on maximum expected.
- (f) Concentration of Mercury based on EPA AP-42 Section 2.4 Table 2.4-1 (11/98).
- (g) Concentration of HCl is based on AP-42 default, 2.4.4.2, (11/98).
- (h) Site-specific information for flare not available and default emission factors overestimated so emission factors based on source testing of standard flare at Mid-Valley Landfill in 2012 and 2013.
- (i) VOCs assumed to equal NMOs.
- (j) Max LFG exhaust rate from flare from manufacturer at 1,600 degrees F (34,749 dscfm at 12.22% oxygen (dry) converts to 16,850 dscfm @3% oxygen).
- (k) SO_x maximum emissions based on emissions cap of 24.94 tpy (calculated from 190 ppmv).

TABLE 1
POTENTIAL TO EMIT FOR ENCLOSED STANDARD LANDFILL GAS FLARE (LFG SPECIALTIES)
ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY
PALMDALE, CALIFORNIA

Variables:

MODEL INPUT VARIABLES:		
Methane Content	50%	
Max LFG Collection Rate to Flare (c)	3,000	SCFM
Max LFG Exhaust Rate from Flare (j)	16,850	SCFM
Flare Rating (Using heating value of 1,012 Btu/scf)	91.08	MMBtu/hr

Criteria pollutant emission factors used for flare:		
<u>Pollutant</u>	<u>Emission Factor</u>	<u>Data Source</u>
NMOCs/VOCs	20 ppmv outlet @3% O ₂ as hexane	BACT/Manufacturer's Guarantee/NSPS
CO	0.2 lb/MMBtu	BACT/Manufacturer's Guarantee
SO ₂	250 ppmv	Maximum Expected
NO _x	0.06 lb/MMBtu	BACT/Manufacturer's Guarantee
PM ₁₀ /PM _{2.5}	17 lb/MMft ³ as methane	BACT/AP-42 Table 2.4-5

CONVERSIONS

ton conversion	2000 lbs
lb conversion	453.6 g
hour conversion	60 min
day conversion	24 hrs
12 months	365 days
mol conversion	24.04 L @ STP
cf conversion	28.32 L
mmbtu conversion	1,000,000 btu

EXAMPLE CALCULATIONS

(HAPS)

Total Pollutant Flow Rate (To Flare) = ((Molecular Weight of Compound[g/mol])*(Concentration of Compound[ppm]/1,000,000)*(Total LFG to Flare [cfm])
 *(60min*24hr*365 days)*(1ton/2000 lb)*(1lb/453.6g)*(1mol/24.04L @ STP)*(28.32L/1cf)

Pollutant Flow rate to Flare = (Total pollutant flow rate [tons/yr])*(Collection efficiency)

Pollutant Emissions through landfill = (Total pollutant flow rate [tons/yr]) * (1 - collection efficiency)

Emission = Rate * Emission Factor;

(NMOCs/VOCs)

Maximum Flare flow rate = (Molecular Weight of Compound[g/mol])*(Concentration of Compound[ppm]/1,000,000)*(LFG Flow from flare [cfm])
 *(60min*24hr*365days)*(1ton/2000lb)*(1lb/453.6g)*(1mol/24.04L @ STP)*(28.32L/1cf)

Table 2
PAINT SPRAY BOOTH ACTUAL AND POTENTIAL TO EMIT EMISSIONS
ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY

Pollutant	Actual Amount of Paint Used (2019)	VOC Content	Actual Emissions (2019)
	(gal/yr) (1)	(lbs/gal) (1)	(tons/yr) (2)
VOCs	624	1.220	0.381
Pollutant	Potential Amount of Paint Used (3)	VOC Content	Potential Emissions
	(gal/yr)	(lbs/gal)	(tons/yr)
VOCs	7300	1.220	4.453

Notes:

(1) Actual amounts of paint used provided by site logs. VOC content of paint and filter capture efficiency provided by Manufacturer of filter.

(2) Actual VOC emissions assumes 100% of VOCs are volatilized and are equal to the actual amount of paint used times the VOC content of the paints.

(3) Based on a permitted VOC maximum emission daily limit of 24.9 pounds, a monthly limit of 760 pounds, and an operation of 365 days per year. Therefore - with the appropriate VOC content conversion factor of 1.220 - the total amount of paint used cannot exceed 20 gallons per day.

Table 3
EMERGENCY FIRE PUMP IC ENGINE POTENTIAL TO EMIT EMISSIONS
ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY

Pollutant	Emissions Factor (lbs/mmbtu) (1)	Potential Emissions (lbs/yr)	Potential Emissions (tons/yr)
CO	4.08	110.16	0.055
NOx	0.32	8.56	0.004
PM ₁₀	5.0	135	0.0675
SOx	5.88E-04	1.59E-02	7.94E-06
VOCs	0.12	3.19	0.002

Potential amount of gallons used (2):	300	gallons
Heat content value of Propane:	90,000	

Notes:

(1) Based on AP-42: Chapter 3.2 factors.

(2) Based on a permitted operational limit of 100 hours per year. One hour of operation equals 3 gallons of fuel use, per site logs. Therefore, the maximum potential amount of fuel use is 300 gallons per year.

Table 4
Antelope Valley Recycling and Disposal Facility
First Tipper Engine Emissions

Criteria Pollutant Emissions		
Pollutant	Emission Factor (lb/hp-hr) ¹	Estimated Emissions (tons/year)
NO _x	4.93E-04	0.124
CO	3.29E-05	0.008
SO _x ²	1.21E-05	0.003
NMHC	1.64E-05	0.004
PM	1.64E-05	0.004

TAC Emissions			
Pollutant	CAS	Emission Factor (lb/MMBtu) ³	Estimated Emissions (tons/year)
Acetaldehyde	75070	7.67E-04	1.40E-03
Acrolein	107028	9.25E-05	1.69E-04
Benzene	71432	9.33E-04	1.70E-03
Formaldehyde	50000	1.18E-03	2.15E-03
Napthalene	91203	8.48E-05	1.55E-04
Toluene	108883	4.09E-04	7.47E-04
1,3-Butadiene	106990	3.91E-05	7.14E-05
Xylenes	1330207	2.85E-04	5.20E-04
Total PAH	1151	1.68E-04	3.07E-04
Pollutant	CAS	Emission Factor (lb/hp-hr) ³	Estimated Emissions (tons/year)
Diesel Exhaust Part	9901	1.64E-05	4.13E-03

Operations Data

Engine	124 hp	
Heat Input Rate	0.90 MMBtu/hr	Max fuel use 6.5 gal/hr, diesel fuel HHV 138,500 Btu/gal
Usage	13 hr/day	
	6 day/week	
	4,056 hr/yr	
	3,651 MMBtu/yr	

Notes

- 1 CARB Executive Order U-R-022-0198
- 2 Grade 2 distillate fuel oil, <0.0015% sulfur by weight, EF=(8.09E-03*0.0015) = 1.21E-05 lb/hp-hr (AP-42 Section 3.4)
- 3 Based on AP-42 Table 3.3-2

Table 5
Antelope Valley Recycling and Disposal Facility
Second Tipper Engine Emissions

Criteria Pollutant Emissions		
Pollutant	Emission Factor (lb/hp-hr) ¹	Estimated Emissions (tons/year)
NO _x	4.93E-04	0.124
CO	3.29E-05	0.008
SO _x ²	1.21E-05	0.003
NMHC	1.64E-05	0.004
PM	1.64E-05	0.004

TAC Emissions			
Pollutant	CAS	Emission Factor (lb/MMBtu) ³	Estimated Emissions (tons/year)
Acetaldehyde	75070	7.67E-04	1.40E-03
Acrolein	107028	9.25E-05	1.69E-04
Benzene	71432	9.33E-04	1.70E-03
Formaldehyde	50000	1.18E-03	2.15E-03
Napthalene	91203	8.48E-05	1.55E-04
Toluene	108883	4.09E-04	7.47E-04
1,3-Butadiene	106990	3.91E-05	7.14E-05
Xylenes	1330207	2.85E-04	5.20E-04
Total PAH	1151	1.68E-04	3.07E-04
Pollutant	CAS	Emission Factor (lb/hp-hr) ³	Estimated Emissions (tons/year)
Diesel Exhaust Part	9901	1.64E-05	4.13E-03

Operations Data

Engine	124 hp	
Heat Input Rate	0.90 MMBtu/hr	Max fuel use 6.5 gal/hr, diesel fuel HHV 138,500 Btu/gal
Usage	13 hr/day	
	6 day/week	
	4,056 hr/yr	
	3,651 MMBtu/yr	

Notes

- 1 CARB Executive Order U-R-022-0208
- 2 Grade 2 distillate fuel oil, <0.0015% sulfur by weight, EF=(8.09E-03*0.0015) = 1.21E-05 lb/hp-hr (AP-42 Section 3.4)
- 3 Based on AP-42 Table 3.3-2

Table 6
Summary of Potential to Emit Emissions (Non-Fugitive)
Antelope Valley Recycling and Disposal Facility
Palmdale, California

Non-Fugitive Emission Sources	Potential to Emit Emissions (tons/yr)					
	PM ₁₀	HAPs/TACs	VOC	NOx	CO	SOx
Landfill Gas Flare (3000 scfm)	6.70	3.30	19.82	23.94	79.79	24.9
Paint Spray Booth	-	-	4.45	-	-	-
Emergency Fire Pump Engine	0.068	-	0.002	0.004	0.055	7.94E-06
Tipper Engine No. 1	0.004	-	0.004	0.124	0.008	0.003
Tipper Engine No. 2	0.004	-	0.004	0.124	0.008	0.003
Total Non-Fugitive Emissions	6.78	3.30	24.29	24.19	79.86	24.9

APPENDIX C

Greenhouse Gas Emissions Supporting Calculations

**AVRDF GHG Emissions
Oct-24**

Fuel	Emission Factors (kilograms/MMBtu)		
	Carbon Dioxide	Methane	Nitrous Oxide
LFG	52.07	3.20E-03	6.30E-04
Propane	61.46	3.00E-03	6.00E-04
Gasoline	70.22	3.00E-03	6.00E-04
Diesel	73.96	3.00E-03	6.00E-04
Natural Gas	53.06	1.00E-03	1.00E-04

Non-Fugitive Sources		Enclosed Flare	Tipper No. 1	Tipper No. 2	Emergency Propane Fire Pump
Activity Rate		91.08 MMBtu/hr	0.9 MMBtu/hr	0.9 MMBtu/hr	300 gal/yr
Emissions (metric tons)	CO₂	41,545	270	270	0
	CH₄	0	0	0	0
	N₂O	0	0	0	0
Total Biogenic GHG Emissions (metric ton CO₂e)		41,545	270	270	0
Total (metric ton CO₂e)		42,085			

Non-Fugitive Sources		Enclosed Flare	Tipper No. 1	Tipper No. 2	Emergency Propane Fire Pump
Activity Rate		91.08 MMBtu/hr	0.9 MMBtu/hr	0.9 MMBtu/hr	300 gal/yr
Emissions (metric tons)	CO₂	0	0	0	1.85
	CH₄	2.6	0.011	0.011	0.00009
	N₂O	0.5	0.002	0.002	0.00002
Total Anthropogenic GHG Emissions (metric ton CO₂e)		213.6	0.9	0.9	1.9
Total (metric ton CO₂e)		217.3			

APPENDIX D
Previous Statement of Basis

ANTELOPE VALLEY
AIR QUALITY MANAGEMENT DISTRICT

Final Determination - Statement of Basis
for
Modification to

FOP Number: 122802470

For:

Waste Management of California
Facility:

Antelope Valley Recycling and Disposal Facility

Facility Address:

1200-1202 West City Ranch Rd
Palmdale, CA 93590

Document Date: **10-31-23**

Submittal date to EPA/CARB for review on: **09-14-23**

EPA/CARB 45-Day Commenting Period ends: **10-30-23**

Public Notice Posted, on: **09-15-23**

30-Day Public Commenting Period ended at COB: **10-16-23**

Permit Issue date on or about: **10-31-23**

Permitting Engineer:
Samuel Oktay, PE

2551 WEST AVENUE H, LANCASTER, CA 93536
PHONE: (661)723-8070 EMAIL: ENGINEERING@AVAQMD.CA.GOV

A. FACILITY IDENTIFYING INFORMATION:

<u>Owner/Company Name:</u>	Antelope Valley Recycling and Disposal Facility, Inc.
<u>Owner Mailing Address:</u>	Antelope Valley Recycling and Disposal Facility, Inc. 1200 West City Ranch Road Palmdale, California 93551
<u>Facility Name:</u>	Antelope Valley Recycling and Disposal Facility
<u>Facility Location:</u>	1200 West City Ranch Road Palmdale, California 93551
<u>AVAQMD Federal Operating Permit Number:</u>	122802470
<u>AVAQMD Company Number:</u>	1228
<u>AVAQMD Facility Number:</u>	02470
<u>Responsible Official:</u>	Michael Dudley
<u>Phone Number:</u>	661-223-3418
<u>email</u>	Mdudley1@wm.com
<u>Facility "Site" Contacts:</u>	Tracy Freeman
<u>Phone Number:</u>	818-394-5871
<u>email</u>	tfreema7@wm.com
<u>Nature of Business:</u>	Sanitary Landfill
<u>NAICS:</u>	562212 Solid Waste Landfill
<u>SIC Code:</u>	4953 – Refuse Systems
<u>Facility Coordinates:</u>	Lat/Long: 34.56700/-118.15000

B. INTRODUCTION:

1. Description of Facility

Federal Operating Permit (FOP number: 122802470) for The Antelope Valley Recycling and Disposal Facility (AVRDF), Inc, which is located within Section 33, Township 6 North, Range 12 West, of the San Bernardino County Meridian, Los Angeles County, California. The Antelope Valley Recycling and Disposal Facility, Inc is a municipal solid waste disposal facility. The facility is permitted to receive for disposal and recycling household, commercial, construction, renovation and demolition wastes and petroleum contaminated soils. Equipment at the landfill includes a landfill gas extraction and flaring system, a propane fired internal combustion engine which drives a fire pump, an above ground condensate storage tank and a paint spray booth.

Miscellaneous fugitive and non-fugitive sources of emissions include landfill gas generating from microbial degradation of refuse, particulate matter (PM) generated from the use of paved and unpaved roads, PM from construction, excavation and chipping/grinding activities and a small amount of Volatile Organic Compounds (VOC)/ Hazardous Air Pollutants (HAPs) emissions from soils used as landfill cover.

The Antelope Valley Air Quality Management District (AVAQMD or District) received an application for proposed modification dated March 17, 2022. The owner/operator has requested that the associated Flare Burner description be changed from 63 MMBTU/hr to a maximum of 91 MMBtu/hr (-3,000 standard cubic feet per minute (scfm) of LFG at 50% methane).

Concurrent with processing this application, the District is making changes to the District and Title V Permits' pursuant to current EPA, and CARB Landfill requirements. Additionally, the Title V Permit AVAQMD Rule and Citations are being updated where appropriate.

From Application: REASON FOR PERMITTING ACTION

The existing enclosed Landfill Gas Flare (LFG) flare has deteriorated due to age and a replacement is needed. In addition, the current flare does not have the capacity for the future LFG flows. With the installation of the replacement flare, the current LFG control system will be replaced with a system designed and sized properly for the amount of LFG currently being collected and into the future. The current flare will be taken out of service as soon as the new flare is operable.

Pursuant to District Regulation XIII, New Source Review, an analysis must be conducted since the requested flow increase will result in an emission's increase of Criteria and Toxic air contaminants.

A copy of the pertinent sections of this application can be viewed in Appendix A. The complete application is available upon request.

Associated Landfill identified as SWIS (Solid Waste Information System) Number 19-AA-5624 and Classified as Active; facility area of 185 acres and a disposal area of 125 acres. Design

Capacity of 30.2 Million Cubic Yards; (23.1 Million-Cubic Meters) Permitted to accept 3,600 Tons per Day. Using a Waste Density of 0.8 tons of per Cubic Yard, Design Capacity is Calculated to be 24 Million Tons (21.8 Million-Megagrams).

This Landfill has a Landfill Gas Collection and Control System (LGCCS) which controls Methane as well as VOC emissions; facility is subject to the California Regulation to Achieve Greenhouse Gas Emission Reductions - Methane Emissions from Municipal Solid Waste Landfills [17 CCR 95460-95476]. Under this regulation, this facility is defined as an Active MSW Landfill Greater Than or Equal to 450,000 tons of Waste-in-Place [§95463(b)]. This facility has a calculated landfill gas heat input capacity (HIC) greater than 3.0 MMBtu/hr [§95463(b)(2)]; and shall demonstrate compliance using a Gas Collection and Control System with an enclosed flare with District Permit C014523. The California plan is only partially approved by EPA; therefore, facility is subject to the following provisions of 40 CFR 62, Subpart OOO: 40 CFR 62. 16716(c); 62.16720(a)(4); 62,16722(a)(2) and (a)(3); 62.16724(k); and 62.16726(e)(2) and (5).

Landfill is also subject to 40 CFR Part 63 Subpart AAAA National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills.

See: <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-AAAA>.

Title V applicability is triggered for AVRDF by the Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills, promulgated under 40 Code of Federal Regulations (CFR) Part 60, Subpart Cf -*Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills*.

MACT AAAA - Municipal Solid Waste Landfills, 40 CFR 63 Subpart AAAA; from Application:

1. AVRDF has submitted an initial design capacity report and a Tier 1 Emission Rate Survey. The results of the Tier 1 Survey indicated that the NMOC emissions exceeded the standard of 50 megagrams per year, which was the requirement under 40 CFR 60 Subpart WWW.
2. AVRDF submitted a GCCS Design Plan prepared by a professional engineer to AVAQMD. The design plan submittal met the permit modification requirements of Subpart WWW. The design plan included the operational standards, test methods, procedures, compliance measures, monitoring recordkeeping, and reporting provisions as described in §60.754 through §60.758.
3. The Landfill installed a landfill gas collection and control system within 30 months of exceeding 50 Mg per year of NMOCs.
4. The Landfill will continue to comply with the monitoring, reporting, recordkeeping, and test methods pursuant to requirements in the NSPS rule through compliance with NESHAP Subpart AAAA.

Disposal of MSW at AVRDF is accomplished by a variety of on-site processes as described below:

Microbial degradation of buried refuse generates potential LFG emissions, containing

nonmethane organic compounds (NMOCs), VOCs, and hazardous air pollutants (HAPs). These emissions are both fugitive and non-fugitive. These emissions are controlled through a GCCS as required by the New Source Performance Standards (NSPS).

Refuse hauling vehicles deliver refuse to the landfill as well as remove certain materials and by-products from the site. Refuse hauling vehicles and other on-site vehicles generate fugitive dust (particulate matter) emissions while traveling on haul roads and other portions of the landfill site.

One control measure to mitigate dust at the site is using a water truck. The water truck moves at slow speeds across the site, spraying a wide area with water to reduce particulate emissions. Heavy equipment traffic on roads and the landfill surface, which generates fugitive dust emissions. One control measure to mitigate dust at the site is using a water truck.

The GCCS consists of collection wells and piping network, including a LANDFILL GAS COLLECTION SYSTEM Permitted as C008630, ENCLOSED FLARE Permitted as C014523, HYDROGEN SULFIDE TREATMENT SYSTEM AIR POLLUTION CONTROL DEVICE Permitted as C014593, and LANDFILL CONDENSATE STORAGE TANK Permitted as T014565.

Majority of the LFG emissions are destroyed by the flare, which includes HAPs, VOCs, and NMOCs. As a product of combustion, the flare emits nitrogen oxides (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), and combustion particulate matter (PM).

Excavation, transportation, stockpiling, and deposition of soil cover material on the landfill surface generate fugitive dust emissions. Control measures include using a water truck. Generation of fugitive dust emissions due to toad-out of cover onto the landfill surface as well as the effects of wind on cover stockpiles also occurs onsite. Landfill condensate is collected and stored in a 5,400-gallon tank; Dual Containment Condensate tank is vented to a 55-gallon carbon filter drum. Collected liquids can be injected in the flare, used as dust control, or injected into the active working face of the landfill.

It is noted that the fugitive emissions from this facility are not included in the designation of a New Source Review Major Facility as this facility is not listed as one the categories listed under 40 CFR 51.165(a)(1)(iv)(C).

The District regulates the following equipment at AVRDF, described as the LANDFILL GAS COLLECTION SYSTEM, with District permit C008630; Flare, described as ENCLOSED FLARE, with District permit C014523, HYDROGEN SULFIDE TREATMENT SYSTEM AIR POLLUTION CONTROL DEVICE, with District permit C014593; and LANDFILL CONDENSATE STORAGE TANK, with District permit T014565.

Collectively, these Permitted Devices/Systems make up the facilities Gas Collection and Control System (GCCS).

Note: As part of the NSR permitting requirements, New Flare, District Permit C014523, will replace Flare permitted as C008629; New LANDFILL CONDENSATE STORAGE TANK, permitted as T014565, will replace tank permitted as T008631, and new HYDROGEN

SULFIDE TREATMENT SYSTEM AIR POLLUTION CONTROL DEVICE, is permitted as C014593.

C008630, LANDFILL GAS COLLECTION SYSTEM, consisting of: associated Landfill identified as SWIS (Solid Waste Information System) Number 19-AA-5624 and Classified as Active; facility area of 185 acres and a disposal area of 125 acres. Design Capacity of 30.2 Million Cubic Yards; (23.1 Million-Cubic Meters) Permitted to accept 3,600 Tons per Day. Using a Waste Density of 0.8 tons of per Cubic Yard, Design Capacity is Calculated to be 24 Million Tons (21.8 Million-Megagrams). This Landfill has a Landfill Gas Collection and Control System (LGCCS) which controls Methane as well as VOC emissions; facility is subject to the California Regulation to Achieve Greenhouse Gas Emission Reductions - Methane Emissions from Municipal Solid Waste Landfills [17 CCR 95460-95476]. Under this regulation, this facility is defined as an Active MSW Landfill Greater Than or Equal to 450,000 tons of Waste-in-Place [§95463(b)]. This facility has a calculated landfill gas heat input capacity (HIC) greater than 3.0 MMBtu/hr [§95463(b)(2)]; and shall demonstrate compliance using a Gas Collection and Control System with an enclosed flare with District Permit C014523. The California plan is only partially approved by EPA, therefore, facility is subject to the following provisions of 40 CFR 62, Subpart OOO: 40 CFR 62. 16716(c); 62.16720(a)(4); 62,16722(a)(2) and (a)(3); 62.16724(k); and 62.16726(e)(2) and (5). Landfill is also subject to 40 CFR Part 63 Subpart AAAA National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. See: <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-AAAA>. Facility elevation is 2838 feet above sea level.

C008630 Equipment Description:

Eighty (80) LFG wells;

HDPE header;

Two (2) 75 hp LFG extraction blowers;

Fifty (50) additional LFG wells, as needed. And fifty (50) wells for removal/decommission, as needed.

C014523, ENCLOSED FLARE (replacing C008629), consisting of: Associated Landfill identified as SWIS (Solid Waste Information System) Number 19-AA-5624 and Classified as Active; facility area of 185 acres and a disposal area of 125 acres. Enclosed Flare is 11-foot in diameter and 50 feet in height. Flare is adjusted to operate with a stack temperature of 1400 to 1800 degrees F; design operating Exhaust temperature is 1650 degrees F. Inlet flow rate into flare is -3,000 scfm; Exhaust Flow Rate of 34,749 scfm (dry @ 12.22 Percent Oxygen); maximum heat input rate of 91.08 MMBtu/hr; AP-42 destruction efficiencies of 98% for halogenated compounds, and 99.7% for non-halogenated compounds. Landfill has a Landfill Gas Collection and Control System (LGCCS) which controls Methane as well as VOC, and HAP emissions; it is subject to, NESHAP - 40 CFR 63 Subpart AAAA, and the California Methane Regulation 17 CCR Sections 95460 through 95476. Facility elevation is 2892 feet above sea level.

C014523 Equipment Details:

One (1) LFG Specialties Enclosed Flare System, 3000 SCFM, Model EF1150I12, with peripheral equipment (capacity 9.11 - 91.08 MMBtu/hr of landfill gas; 300 - 3000 SCFM)

One Thermal Instruments 62-9TEF or equivalent flow meter;

One 12 in. Enardo, or equivalent, flame arrester, eccentric aluminum body and stainless element arrester;

One 14 in. fail safe automatic butterfly valve with PTFE seats and bushings
Moisture Separator, KOP, with Demister Pad;

Two Lonestar or equivalent or equal multistage centrifugal landfill gas blowers;
Pilot Gas, Propane train includes pressure regulator, pressure indicator, manual shutoff valve, strainer, fail safe valve, and connection hose;

Condensate Injection; One LFG Specialties Condensate Injection System 0.5 - 4.0 gpm capacity of condensate to quench combustion; minimum gas flow of 450 SCFM required to operate condensate injection rate of 2 to 4 gpm.

New C014593, HYDROGEN SULFIDE TREATMENT SYSTEM AIR POLLUTION CONTROL DEVICE, consisting of: Quantity: Two (2) carbon adsorber tanks, Manufactured by Daniel Company, Size of each: 12' diameter x 19'-6" height. System also contains, associated piping, flanges, hatches, and valves. Landfill has a Landfill Gas Collection and Control System (LGCCS) which controls Methane as well as VOC, and HAP emissions; it is subject to, NESHAP - 40 CFR 63 Subpart AAAAA, and the California Methane Regulation 17 CCR Sections 95460 through 95476. Facility elevation is 2892 feet above sea level.

T014565, LANDFILL CONDENSATE STORAGE TANK, consisting of: Condensate Sump, and ~5,400 gallon Dual Containment Condensate Storage Tank located near the flare. (Replaces 3,000 Gallon Condensate Tank Previously Permitted as T008631). Dual Containment Condensate tank is vented to a 55-gallon carbon filter drum. Collected liquids can be injected in the flare, used as dust control, or injected into the active working face of the landfill.

T014565 Equipment Details:

One (1) dual containment condensate tank Poly Processing Company or Equivalent ~5,400 gallons 11' Diameter x 10' Height

2. Description of NSR Permitting Action(s)

The Antelope Valley Air Quality Management District (AVAQMD or District) received an application for proposed modification dated March 17, 2022. The owner/operator has requested that the associated Flare Burner description be changed from 63 MMBTU/hr to a maximum of 91 MMBtu/hr (~3,000 standard cubic feet per minute (scfm) of LFG at 50% methane).

From Application: REASON FOR PERMITTING ACTION

The existing enclosed LFG flare has deteriorated due to age and a replacement is needed. In

addition, the current flare does not have the capacity for the future LFG flows. With the installation of the replacement flare, the current LFG control system will be replaced with a system designed and sized properly for the amount of LFG currently being collected and into the future. The current flare will be taken out of service as soon as the new flare is operable.

Pursuant to District Regulation XIII, New Source Review, an analysis must be conducted since the requested flow increase will result in an emission's increase of Criteria and Toxic air contaminants.

A copy of the pertinent sections of this application can be viewed in Appendix A. The complete application can be viewed at the District Office.

The Federal Clean Air Act Amendments of 1990 established a nation-wide permit to operate program commonly known as "Title V". The Antelope Valley Air Quality Management District (AVAQMD or District) adopted Regulation XXX [AVAQMD Rules 3000 - 3011]; Final Title V Program Approval 1/16/04 69 FR 2511.

AVAQMD Rule 225 - *Federal Operating Permit Requirement*; Submitted in conjunction with Title V Program. Final Title V Approval; Title V approval doesn't put rule in SIP per EPA.

The District's approach to the Title V program is to issue a single Federal Operating Permit for the entire facility, which satisfies the federal requirement for a permit under AVAQMD Rule 225 (AVAQMD maintains separate Title V and District permits programs). In the AVAQMD, state and District requirements are also applicable requirements and are included in the Federal Operating Permit (Title V). These requirements can be federally enforceable or non-federally enforceable. Requirements that are enforceable by the District and State, only, are designated as such.

AVRDF is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Title 40 of the Code of Federal Regulations (CFR), and AVAQMD Regulation XXX, *Federal Operating Permits*. AVRDF is subject to the Title V Program under the Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills, promulgated under 40 Code of Federal Regulations (CFR) Part 60, Subpart Cf - *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills*, as AVRDF has a design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters [40 CFR 60.31f(c)].

This evaluation document serves as the Statement of Basis for the Preliminary Determination, pursuant to AVAQMD Rule 3003(B)(1)(a)(i), and is intended to assess the adequacy of the Title V Modification Application and explain the District's basis in Modifying AVRDF's Federal Operating Permit (Title V aka FOP). The proposed FOP was developed using existing regulatory conditions/requirements and re-evaluating any applicable District, state, and federal regulations that may apply to AVRDF, incorporating those requirements as operating conditions. This review included an analysis of applicability determinations for all sources, including those that have been modified or permitted since the issuance of the initial FOP.

The District will review and consider any and all comments received from the public and/or CARB and EPA during the commenting/review periods; and, will address any concerns prior to

the issuance of the proposed permit. Please refer to the cover sheet of this document for the public noticing, and review period dates. Proposed New Flare is required to operate in Compliance with the California Landfill Methane Regulation, MACT Subpart AAAA as required by Permit Condition, New Source Review BACT and Offset Requirements of District Regulation XIII.

C. PROPOSED CHANGES TO THE FEDERAL OPERATING/TILE V PERMIT:

Please note that the headings below correlate to the headings in the proposed FOP and any changes made to that section are outlined below with an explanation.

GENERAL UPDATES

Updated cover page with new dates, and District's new formatting.

Updated the table of contents to correctly identify corresponding page numbers.

Updated the rule citations. Rule SIP History and citations can be found in Part VII of the FOP.

PART I: INTRODUCTORY INFORMATION

This section of the FOP contains general information about the AVRDF facility, including facility identifying information (section A), a description of the facility (section B), and a description of the facility's equipment (section C).

Changes made to this section of the FOP:

- Part I, Section A, Facility Identifying Information was updated as required.
- Part I, Section B, the facility description was updated to include new Flare, new Hydrogen Sulfide Treatment System, new Condensate Tank, and remove replaced equipment accordingly.

PART II: FACILITYWIDE APPLICABLE REQUIREMENTS; EMISSIONS LIMITATIONS; MONITORING, RECORDKEEPING, REPORTING AND TESTING REQUIREMENTS; COMPLIANCE CONDITIONS; COMPLIANCE PLANS

This section of the Federal Operating Permit contains requirements applicable to the entire facility and equipment (section A), facility-wide monitoring, recordkeeping, and reporting requirements (section B), and facility-wide compliance conditions (section C).

Changes made to Part II, Section A of the FOP; Rules and/or Citations noted were either added, reformatted and or updated to improve compliance and consistency with similar permitted facilities; pages affected are II-7 through II-17.

AVAQMD Rule 109 - Recordkeeping for Volatile Organic Compound Emissions (Added)

AVAQMD Rule 205 - Expiration of Permits to Construct (Added)

AVAQMD Rule 208 - Permit for Open Burning (Added)

AVAQMD Rule 209 - Transfer And Voiding Of Permits (Updated)

AVAQMD Rule 210 – Applications (Added)

AVAQMD Rule 212 – Standards For Approving Permits (Added)

Page II-8 to II-19, Condition 18, Regarding Visible Emissions [40 CFR 70.6 (a)(3)(i)(B) - Periodic Monitoring Requirements] and AVAQMD Rule 401 (Revised and Reformatted)

AVAQMD Rule 403 - Fugitive Dust (Revised)
AVAQMD Rule 404 - Particulate Matter – Concentration (Revised)
AVAQMD Rule 405 - Solid Particulate Matter - Weight (Revised)
AVAQMD Rule 407 - Liquid and Gaseous Air Contaminants (Revised)
AVAQMD Rule 408 - Circumvention (Revised/Reformatted)
AVAQMD Rule 409 - Combustion Contaminants (Revised/Reformatted)
AVAQMD Rule 430 - Breakdown Provisions (Reformatted)
AVAQMD Rule 431.1 - Sulfur Content of Gaseous Fuels (Revised/Reformatted)
AVAQMD Rule 431.2 - Sulfur Content of Liquid Fuels (Revised/Reformatted)

Page II-12, Condition 27, Added Requirements for [California Code of Regulations, Title 13, Division 3 Chapter 5 (Standards for Motor Vehicle Fuels) Article 2. Standards for Diesel Fuel and California Code of Regulations, Title 17. Public Health, Division 3. Air Resources Chapter 1. Air Resources Board Subchapter 7.5 Airborne Toxic Control Measures § 93114(b). Airborne Toxic Control Measure to Reduce Particulate Emissions from Diesel-Fueled Engines – *Standards for Non-vehicular Diesel Fuel.*]

AVAQMD Rule 441 - Research Operations (Revised/Reformatted)
AVAQMD Rule 442 - Usage of Solvents (Revised/Reformatted)
AVAQMD Rule 444 - Open Outdoor Fires (Revised/Reformatted)
AVAQMD Rule 481 - Spray Coating Operations (Added)
AVAQMD Rule 1107 - Coating of Metal Parts and Products (Revised/Reformatted)

AVAQMD Rule 1110.2 - Emissions from Stationary, Non-Road and Portable Internal Combustion Engines (Added)

AVAQMD Rule 1113 - Architectural Coatings (Revised/Reformatted)
AVAQMD Rule 1136 - Wood Products Coatings (Revised/Reformatted)
AVAQMD Rule 1145 - Plastic, Rubber, And Glass Coatings (Revised/Reformatted)
AVAQMD Rule 1150 - Excavation of Landfill Sites (Added)

AVAQMD Rule 1168 - Adhesive and Sealant Applications (Revised/Reformatted; Removed Table from Title V Appendix)

AVAQMD Rule 1171 - Solvent Cleaning Operations (Revised/Reformatted)

Page II-15, Condition 42, Added requirements for Comprehensive Emissions Inventory Report / Annual Emissions Determinations for District, State, and Federal required Emission Inventories

PART III: EQUIPMENT SPECIFIC APPLICABLE REQUIREMENTS; EMISSIONS LIMITATIONS; MONITORING, RECORDKEEPING, REPORTING AND TESTING REQUIREMENTS; COMPLIANCE CONDITIONS; COMPLIANCE PLANS

This section of the Federal Operating Permit contains equipment-specific applicable requirements including emission limitations, monitoring and recordkeeping, reporting and testing, and compliance plans.

Changes made to Part III of the FOP:

All references from 40 CFR 60, Subpart WWW were removed. This regulation no longer applies to AVRDF, as EPA formally clarified that subpart 40 CFR 60, Subpart Cf (once implemented via a state or federal plan) supersedes subparts WWW and Subpart Cc. The final rule revises the title and applicability of subpart WWW (at 40 CFR 60.750(a)) to distinguish the applicability dates from other landfills subparts. It clarifies that after the effective date of an EPA-approved state or tribal plan implementing subpart Cf, or after the effective date of a federal plan implementing subpart Cf, owners and operators of MSW landfills must comply with the approved and effective state, tribal, or federal plan implementing subpart Cf instead of subpart WWW or the state or federal plan implementing subpart Cc [85 FR 17248].

Added all applicable requirements from California's current, partially approved plan for implementing 40 CFR 60, Subpart Cf. California's plan is the *Regulation to Achieve Greenhouse Gas Emission Reductions - Methane Emissions from Municipal Solid Waste Landfills* (also known as the Landfill Methane Rule or LMR) [17 CCR 95460 – 95476]. Under this regulation, this facility is defined as an Active MSW Landfill Greater Than or Equal to 450,000 tons of Waste-in-Place [§95463(b)]; has a calculated landfill gas heat input capacity (HIC) greater than 3.0 MMBtu/hr [§95463(b)(2)]; and has opted to demonstrate compliance using a Gas Collection and Control System with an enclosed flare as specified under the Equipment Description (Part I, Section C of the FOP). AVRDF has already triggered the initial design plan and installation requirements for a gas collection and control system in sections 17 CCR 95463 and 95464(a) of the LMR; and, uses an enclosed flare to meet the control device requirements. AVRDF has not requested any Alternative Compliance Options pursuant to section 17 CCR 95468, under the LMR; therefore, no Alternative Compliance Options are included in the proposed permit. The proposed permit conditions reflect the requirements for ongoing compliance with the gas collection and control system using an enclosed flare as the control device.

Since the California plan, referenced above (aka LMR) is only partially approved by EPA, requirements of 40 CFR 62, Subpart OOO were also added, which is the federal plan for MSW landfills that lack fully approved state plan to implement 40 CFR 60, Subpart Cf [86 FR 27756]. When the EPA promulgated Subpart OOO, they concurrently revised 40 CFR part 62, Subpart F, to identify the 40 CFR 62, Subpart OOO requirements that would apply to MSW landfills in California. The EPA identified the following 40 CFR 62, Subpart OOO requirements as applicable to MSW landfills in California: 40 CFR 62.16716(c); 62.16720(a)(4); 62.16722(a)(2) and (a)(3); 62.16724(k); and 62.16726(e)(2) and (5). As such, these specific provisions were added as operating conditions. Of these five added conditions, any requirement specific to the wellhead temperature was cited from 40 CFR 63.1958(c)(1), as allowed by 40 CFR 62.16716, 62.16720, and 62.16722. The basis for this is due to the fact that in the same EPA action referenced above, EPA also included an option to allow MSW landfills to operate their gas collection and control systems in compliance with the similar provisions in 40 CFR 63, Subpart AAAA in lieu of the provisions specified in 40 CFR 62, Subpart OOO. If a landfill "opts in" to this compliance method, it allows landfills to follow one set of operating, compliance, and

monitoring requirements for the gas collection and control system. AVRDF “opted in” to the compliance method of complying with 40 CFR 63, Subpart AAAA in lieu of the provisions specified in 40 CFR 62, Subpart OOO. While the LMR does not have any “opt in” provisions, since the LMR is lacking and requires the specified five additional provisions of 40 CFR 62, Subpart OOO to be fully approvable by EPA, and Subpart OOO does allow for the “opt in” provisions pursuant to 40 CFR 62.16716, 62.16720, and 62.16722, the District is proposing the higher wellhead temperature requirement from 40 CFR 63.1958(c)(1) (Subpart AAAA); the District has not approved a higher wellhead temperature for AVRDF other than 62.8 degrees Celsius (145 degrees Fahrenheit), although the option for AVRDF to request a higher temperature with demonstration remains as allowed by 40 CFR 62.16716(c).

Added all applicable requirements from 40 CFR 63, Subpart AAAA. Under this regulation, this facility is defined as an existing, area source, MSW landfill, that has a design capacity equal to greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m³) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to 40 CFR 63.1959. [§63.1935(a)(3)]. Under this regulation, the Gas Collection and Control System as specified under the Equipment Description (Part I, Section C of this permit) is considered an Active Control System. This Gas Collection and Control System was installed prior to the adoption of 40 CFR 63, Subpart AAAA; therefore, some requirements of this regulation were already fulfilled by AVRDF under other, previously applicable regulations, including: the Initial Design Capacity Report (40 CFR 63.1984(a)), the NMOC Emission Rate Report (40 CFR 63.1981(c)), the Collection and Control System Design Plan (40 CFR 63.1981(d)). AVRDF is required by condition to certify that these previous submissions were submitted with their first semi-annual report. Other requirements pertaining to the initial design capacity and triggering of the collection and control system were not included as proposed conditions, since this has already occurred under previous applicable regulations. The proposed permit conditions include all applicable requirements for an affected facility that has a gas collection and control system installed to ensure on-going compliance.

There is no bioreactor located at AVRDF; nor, does AVRDF have a “bypass” to the enclosed flare; therefore, all requirements from 40 CFR 63, Subpart AAAA specific to bioreactors or “bypassing” are not included in the proposed conditions. All applicable requirements of 40 CFR 63, Subpart AAAA were added to require AVRDF’s “opt-in” compliance demonstration with 40 CFR 62, Subpart OOO, which is the federal plan for MSW landfills that lack fully approved state plan to implement 40 CFR 60, Subpart Cf [86 FR 27756]. This action includes the option that allow MSW landfills to operate their gas collection and control systems in compliance with the similar provisions in 40 CFR 63, Subpart AAAA in lieu of the provisions specified in 40 CFR 62, Subpart OOO. If a landfill “opts in” to this compliance method, it allows landfills to follow one set of operating, compliance, and monitoring requirements for the gas collection and control system. AVRDF “opted in” to the compliance method of complying with 40 CFR 63, Subpart AAAA in-lieu of the provisions specified in 40 CFR 62, Subpart OOO. However, beginning September 21, 2021, MSW Landfills subject to 40 CFR 63, Subpart AAAA are required to comply with the requirements in Subpart AAAA, regardless, and can no longer meet the Subpart AAAA requirements by complying with the analogous requirements [85 FR 17261]; therefore, the proposed conditions include the applicable requirements of 40 CFR 63, Subpart AAAA.

PART IV: STANDARD FEDERAL OPERATING PERMIT CONDITIONS

This section of the Federal Operating Permit contains standard federal operating permit conditions; No changes were made to this section of the FOP other than minor formatting changes.

PART V: OPERATIONAL FLEXIBILITY

This section of the Federal Operating Permit contains information on Off Permit Changes; No changes were made to this section of the FOP other than minor formatting changes.

PART VI: CONVENTIONS, ABBREVIATIONS, DEFINITIONS

Changes made to this section of the FOP: No changes were made to this section other than the addition of a few new definitions and minor formatting changes.

PART VII: DISTRICT SIP HISTORY AND CITATIONS

Section revised; includes the District's SIP table of rules and SIP history for all SIP citations in the FOP.

D. NEW SOURCE REVIEW (NSR) ANALYSIS:

1. Determination of Emissions per AVAQMD Rule 1302(C)(1).

Based on current and projected emissions the facility is designated and will remain a minor Source, not a Major source of criteria emissions; see Table 1 below:

Table 1: Major Source Determination

Criteria Pollutant	Proposed Facility PTE (tpy)	Major Source Threshold (tpy)	Major Source (Yes/No)
NO _x	24.9	25	No
CO	79.7	100	No
SO _x	24.9	25	No
VOC	24.9	25	No
PM ₁₀	14.9	15	No

Presently, the AVAQMD has not been designated Prevention of Significant Deterioration (PSD) by the USEPA, nonetheless, the emission's increase from the proposed Flare flow rate increase will Not trigger PSD.

PSD Analysis

There are two types of "major stationary source:"

One category is a "Named" stationary source category that is one that is listed in 40 CFR § 51.166(b)(1) with the potential to emit (PTE) 100 tons per year (tpy) or more of a regulated pollutant. These sources must include Fugitive emissions in their total emission rate. ***This facility type is Not Listed in 40 CFR § 51.166(b)(1) and therefore is Not required to include fugitive emissions.***

The second type is “Un-Named” and is any stationary source not listed in 40 CFR § 51.166(b)(1) with PTE of 250 tpy or more of a regulated pollutant. A source that is major for any regulated pollutant, that is, meets the PTE for the source type, is considered to be major for all regulated pollutants. A minor source is a named or un-named source with regulated pollutant emissions that are less than the major source thresholds (that is, 100 or 250 tpy, respectively).

The AVRDF is Not Listed in 40 CFR § 51.166(b)(1), and does Not have a PTE that exceeds 250 tpy for any regulated pollutant, therefore the facility is Not an existing PSD facility.

PSD Major Source Significant Emission Rate (SER) [40 CFR § 51.166(b)(23) and 30 TAC § 116.164(a)(2)]:

A PSD review is required at an existing minor source, if the project increase meets either the named or un-named major source threshold by itself, or at an existing major source, if the net emissions increase equals or exceeds the SER. Table below compares post project Criteria Pollutant emissions with PSD thresholds.

Table 2: Project Criteria Pollutant emissions with PSD thresholds:

Criteria Pollutant	Major Source Modification (tpy)	AVRDF net emissions increase (tpy)	Increase is <i>Major Modification</i> Yes/No
CO	100	3.55	No
NOx	40	19.51	No
SOx	40	17.53	No
VOC	40	19.28	No
NOx	40	19.51	No
PM10	15	4.59	No
PM2.5	10	4.59	No

PSD Conclusion:

The emission increase is not a Major Modification and therefore PSD is not triggered.

2. Determination of Nonattainment NSR Requirements PER AVAQMD Rule 1302(C)(2).

a. BACT Evaluation PER AVAQMD Rule 1302(C)(2)(a).

AVAQMD Regulation XIII, AVAQMD Rule 1303, requires that Any new Permit Unit which emits, or has the Potential to Emit 25 pounds per day or more of any Nonattainment Air Pollutant shall be equipped with BACT or Any Modified Permit Unit which emits, or has the Potential to Emit, 25 pounds per day or more of any Nonattainment Air Pollutant shall be equipped with BACT. Any new or Modified Facility which emits, or has the Potential to Emit, 25 tons per year or more of any Nonattainment Air Pollutant shall be equipped with BACT for each new or Modified Permit Unit.

Per AVAQMD Rule 1301, Definitions:

"Best Available Control Technology (BACT)" - For Permit Units at Facilities as indicated below:

- (1) For a new or Modified Major Facility; *not Applicable as the Source is an existing and will remain a minor Source for non-attainment criteria pollutants.*
- (2) For a new or modified non-major facility:
 - (a) The most stringent emission limit or control technique which has been achieved in practice for such category or class of source. Economic and technical feasibility may be considered in establishing the class or category of source; or
 - (b) Any other emission limit or control technique found by the APCO to be technologically feasible and cost effective for such class or category of source.

BACT is triggered as emissions of NO_x, VOC, and PM, will exceed 25 lbs/day, and the capacity of the Burner has increased from 63.3 MMBtu/hr to 91 MMBtu/hr. BACT is also triggered as the burner is Not an Identical replacement, and there is an increase in the Landfill Gas inlet flow rate to the flare from 2083 scfm to 3000 scfm.

Table 3: BACT Requirements

Pollutant	Proposed PTE (lb/day)	Daily Emissions BACT Threshold (lb/day) AVAQMD Rule 1303(A)	Require BACT (Yes/No)
NO _x	131.16	25	Yes
VOC	108.62	25	Yes
PM10	36.72	25	Yes

Determination of which pollutants are affected:

NO_x: District is in Non-Attainment for Ozone, and NO_x is an ozone precursor, therefore BACT for NO_x is required.

VOC: District is in Non-Attainment for Ozone, and VOC's are ozone precursors, therefore, BACT for VOC's is required.

SO_x: District is in Attainment for SO_x, therefore Daily BACT not triggered.

CO: District is in Attainment for CO, therefore Daily BACT not triggered.

PM-10: District is in Non-Attainment for PM-10, therefore Daily BACT is triggered.

From Application:

An emission limit or control technology maybe be considered "achieved in practice" for a category or class of source if it exists in any of the following regulatory documents or programs:

- California Air Pollution Control Officers Association (CAPCOA) BACT Clearinghouse
- United States Environmental Protection Agency (U.S. EPA) Reasonably Available Control Technology (RACT)/BACT/Lowest Achievable Emission Rate (LAER) Clearinghouse (RBLC)
- Other Districts' and States' BACT Guidelines
- BACT requirements in New Source Review (NSR) permits issued by other agencies such as Bay Area Air Quality Management District (BAAQMD), South Coast Air Quality

Management District (SCAQMD), San Joaquin Valley Air Pollution Control District (SJVAPCD), and San Diego Air Pollution Control District (SDAPCD).

BACT FOR FLARES; *Analysis from Application:*
California LFG-Fired Flare Installations.

The AVAQMD does not have a BACT database for determinations.

Santa Barbara County Air Pollution Control District (SBCAPCD) BACT Clearinghouse does not have any BACT determinations for landfill gas (LFG) flares on their website; however, an Authority to Construct (ATC) Permit from SBCAPCD for their Tajiguas Landfill notes that the materials recovery facility enclosed flare combusting LFG during normal operations met BACT with the following emission levels: 0.06 lb/MMBtu/hr (1,600 degrees Fahrenheit) to 0.08 lb/MMBtu (1,800 degrees F) for NO_x, 0.003 lb/MMBtu/hr for VOC, and 0.042 lb/MMBtu for PM₁₀, which is higher than the emissions proposed using the 17 lb/MMscf of methane emission factor for PM₁₀.

BAAQMD defines BACT for LFG flares at non-hazardous waste landfills as the following:

- VOCs: Enclosed ground flare with >0.6 second retention time at >1400 degrees F, automatic combustion air controls with an automatic shut-off valve for LFG and automatic restart system.
- NO_x: 0.06 lb/MMBtu .
- PM₁₀: Condensate knockout vessel and fuel gas filter.

SJVAPCD BACT database does not have any current determinations for BACT for LFG flares.

San Diego Air Pollution Control District (SDAPCD) BACT Guidance Document does not have any BACT determinations for LFG flares.

Ventura County Air Pollution Control District (VCAPCD) BACT guidance does not include any determinations.

South Coast Air Quality Management District (SCAQMD) BACT database has two BACT determinations for LFG flares; 2001 and 2017. NO_x BACT was determined to be 0.06 lb/MMBtu and 0.025 lb/MMBtu, respectively.

The 2017 determination was for an ultra-low emission flare that met lowest achievable emission rate (LAER), required because the project triggered federal NSR. VOC BACT was determined to be 98% destruction efficiency or maximum of 20 ppmv in stack, dry corrected to 3% oxygen. PM₁₀ BACT was determined to be 6.1 lb/MMscf of landfill gas for the standard flare, no PM-10 determination was made for the ultra-low emission flare.

There are four BACT determinations in the CARB database for flares. This includes two flares installed in the SCAQMD jurisdiction, and two flares installed out of state. For the two flares installed in SCAQMD, these are the same determinations noted above in the SCAQMD database. For the two out of state determinations, one determination no longer has BACT information. For the second determination, from Rhode Island, the ultra-low emission flare met

LAER and NO_x was determined to be 0.025 lb/MMBtu; no determination for VOC or PM₁₀. The determination did note that the facility reports that the flare is complicated and required extensive operator attention.

VOC BACT was determined to be 20 ppmv as hexane (outlet). The New Source Performance Standards (NSPS) for landfills as well as those required by SDCAPCD, VCAPCD, and SJVAPCD allow VOC emissions to be 98% destruction efficiency or 20 ppmv as hexane.

USEPA BACT LAER Determinations:

USEPA's RBLC contains 7 listings for LFG flares. Of these, two are open flares. Other entries include: (1) New York State Department of Environmental Conservation (two entries), (2) Florida Department of Environmental Protection, (3) Oregon Department of Environmental Quality (ODEQ), and (4) Maine Department of Environmental Protection. The New York agency set forth two determinations that deemed LAER for NO_x: 0.06 lb/MMBtu. The agency did not have determinations for VOCs. The agency had one determination for PM₁₀ of 0.017 lb/MMBtu. Note that this is higher than the proposed emission factor of 17 lb/MMscf of methane. The Florida agency only had a determination for visible emissions. The Oregon agency set forth a determination that was deemed BACT: (1) 0.06 lb/MMBtu for NO_x and (2) 20 ppm @ 3% oxygen for VOCs/ROCs. The agency did not make a determination for PM₁₀; their determination noted that an ultra-low emission flare was not considered cost effective. The Oregon analysis was part of a Prevention of Significant Deterioration (PSD) BACT analysis, which used the BAAQMD BACT criteria in the evaluation. The Maine agency set forth a determination that was deemed BACT: (1) 7.24 pounds per hour (lb/hr) for NO_x, (2) 0.32 lb/hr for VOCs, and (3) 1.81 lb/hr for PM₁₀. Note that 1.81 lb/hr emission rate is higher than the lb/hr proposed emission factor of 17 lb/MMscf of methane

BACT Summary:

BACT for LFG flares is an enclosed flare that can meet the following requirements:

- 0.025 (technologically feasible) to 0.08 lb/MMBtu (achieved in practice) for NO_x.
- 20 ppmv at 3% oxygen as hexane, >0.6 second residence time, >1400 degrees F, automatic combustion air control, automatic shut-off valve for LFG and automatic restart system, or 98% destruction efficiency for VOCs. Fuel gas filter and condensate knock-out vessel with an emission limit up to 0.042 lb/MMBtu.

Based on the applicant's proposal and results from the RACT/BACT LAER analysis, the proposed burner is determined to be Cost Effective, and Achieved in Practice, BACT, for this class and category of equipment.

The following emission limits will therefore be imposed as Permit conditions:

- a. NO_x (as NO₂): 0.060 pounds per million Btu of heat input, 3931 pounds/month, and 23.9 tpy.
- b. SO_x (as SO₂): 0.062 pounds per million Btu of heat input, 4095 pounds/month, and 24.9 tpy.
- c. CO: 0.200 pounds per million Btu of heat input, 13104 pounds/month, and 79.7 tpy.
- d. PM-10: 17 pounds per million standard cubic foot as Methane (lbs/MMscf of Methane), 1114 pounds/month, and 6.8 tpy.
- e. NMHC (VOC): 0.050 pounds per million Btu of heat input, 3276 pounds/month, and 19.9 tpy.

3. Determination of Requirements for Toxic Air Contaminants per AVAQMD Rule 1401.

a. New Source Review for Toxic Air Contaminants per AVAQMD Rule 1401.

Pursuant to AVAQMD Rule 1401 – New Source Review for Toxic Air Contaminants, AVRDF is subject to both State and Federal Toxic New Source Review, as AVRDF is a Modified Facility which has the potential to emit Toxic Air Contaminants; does not contain Emissions Units which are subject to an Airborne Toxic Control Measure (State T-NSR). Additionally, AVRDF does Not have the potential to emit 10 tons per year of a single Hazardous Air Pollutant (Federal T-NSR) and/or 25 tpy of a combination of HAPs.

Pursuant to the requirements of AVAQMD Rule 1401, an applicability analysis of state and federal air toxic regulations was conducted for the proposed equipment (State T-NSR and Federal T-NSR, respectively). The State T-NSR and Federal T-NSR analyses are described below:

AVAQMD Rule 1401 requires that if any ATCM applies to the proposed equipment, the requirements of that ATCM shall be added to the District permit. *District determined that the proposed equipment is NOT subject to any State ATCM.*

Pursuant to AVAQMD Rule 1401, section (E)(2), State T-NSR requires an Emission Unit Prioritization Score to be calculated utilizing the most recently approved CAPCOA Facility Prioritization Guidelines, the most recently approved OEHHA Unit Risk Factor for cancer potency factors, and the most recently approved OEHHA Reference Exposure Levels (REL's) for non-cancer acute factors, and non-cancer chronic factors. Therefore, and pursuant to AVAQMD Rule 1401, a Prioritization Score (PS) is calculated for this Modified emissions device based on the proposed potential to emit values. The results for this Proposed Modified Flare emission unit is provided:

Table 4 Prioritization Scores from Proposed Flare quantified using HARP2

	Cancer Priority	Acute Priority	Chronic Priority	Non-Cancer Priority
Proposed Flare	0.90	0.00457	0.00479	0.00703

Distance to receptor nearest residential receptor is 645 meters, located South, South-East of the Enclosed Flare.

Cancer Prioritization Score is 0.90, defined as “Low Priority”; associated health risk is considered acceptable.

Acute Priority Score is 0.00457, defined as “Low Priority”; associated health risk is considered acceptable.

Chronic Priority Score is 0.00479, defined as “Low Priority”; associated health risk is considered acceptable.

Non-Cancer Priority Score is 0.00703, defined as “Low Priority”; associated health risk is considered acceptable.

4. Control of Toxic Air Contaminants from Existing Sources per AVAQMD Rule 1402.

Pursuant to AVAQMD Rule 1402, the applicant submitted a 2018 Comprehensive Emission Inventory Report (CEIR), which was inputted into the HOTSPOTS ANALYSIS AND REPORTING PROGRAM EMISSION INVENTORY MODULE VERSION 2.1.0, (HARP2) Software program for subsequent analysis and results.

This methodology is consistent with the 2016 CAPCOA Facility Prioritization Guidelines, and based on nearest residential receptor at 645 meters.

Table 5 below summarizes the AVRDF facility post-modification prioritization scores. As shown, all Prioritization Scores are less than one (1), and therefore, AVRDF is categorized as an “Low Priority” facility as defined by AVAQMD Rule 1402, section (E)(1)(b). Therefore, no Contemporaneous Risk Reduction is required as a result of the proposed Flare modification.

Table 5 Prioritization Scores from Facility with Proposed Flare Modification quantified using HARP2

	Cancer Priority	Acute Priority	Chronic Priority	Non- Cancer Priority
Modified Flare	0.90	0.0242	0.00496	0.0267

Distance to receptor nearest residential receptor is 645 meters, located South, South-East of Enclosed Flare.

Facility Cancer Prioritization Score is 0.90; defined as “Low Priority”; associated health risk is considered acceptable.

Facility Acute Priority Score is 0.0242, defined as “Low Priority”; associated health risk is considered acceptable.

Facility Chronic Priority Score is 0.00469, defined as “Low Priority”; associated health risk is considered acceptable.

Facility Non-Cancer Priority Score is 0.0267, defined as “Low Priority”; associated health risk is considered acceptable.

5. Federal T-NSR:

Pursuant to section (F)(1) of AVAQMD Rule 1402, the Modified Facility/Emissions Unit was analyzed to determine if any current, enforceable Maximum Achievable Control Technology (MACT) standards apply to the affect Emission Units

Federal NSPS, 40 CFR Part 63, Subpart AAAA - Municipal Solid Waste Landfills: National Emission Standards for Hazardous Air Pollutants (NESHAP) applies to this facility.

This facility has been and continues to be in compliance with this subpart as it is equipped with a Landfill Gas Collection and Control System (LGCCS) that has destruction efficiency of at least 98% achieved through destruction at the permitted enclosed flare.

For full Regulations, see:

<https://www.epa.gov/stationary-sources-air-pollution/municipal-solid-waste-landfills-national-emission-standards#rule-summary>

40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions.

This facility has been and continues to be in compliance with this subpart.

AVAQMD Rule 1302, Procedure; AVAQMD Rule 1302(C)(1) Determination of Emissions Requirements

(1) Determination of Emissions

(a) The APCO shall analyze the application to determine the type, amount, and change (if any) in emissions pursuant to the provisions of AVAQMD Rule 1304.

AVAQMD Rule 1304, Emissions Calculations provides the procedures and formulas to calculate emissions increases and decreases for new or Modified Facilities. The results of such calculations shall be used to:

- (i) Determine the applicability of the provisions of AVAQMD Rule 1303.*
- (ii) Calculate SERs generated within the same Facility to reduce Proposed Emissions for purposes of applicability of AVAQMD Rule 1303(B).*
- (iii) Determine the Potential to Emit for new or Modified Facilities and Emissions Unit(s).*
- (iv) Calculate emissions decreases used to determine ERCs pursuant to the provisions of AVAQMD Rule 1309.*

Table 6 Determine applicability of the provisions of AVAQMD Rule 1303

Pollutant	Proposed Facility PTE Emissions TPY	AVAQMD Rule 1303 Offset Thresholds TPY	Offset Thresholds Exceeded Yes/No	SERs Required Yes/No
NO _x	24.9	25	No	No
SO _x	24.9	25	No	No
PM-10	14.9	15	No	No
VOC	24.9	25	No	No

AVAQMD Rule 1302(C)(1) Determination of Emissions Requirements, continued;

(b) If a Facility has provided information pursuant to subsection (B)(1)(a)(vi) above, the APCO shall also analyze the application to determine the type, amount and change (if any) in emissions pursuant to the provisions of AVAQMD Rule 1310. See table below for analysis.

Table 7 Pursuant to AVAQMD Rule 1303(B)(1); major facility thresholds are noted:

Pollutant	Proposed Emissions TPY	Major Source Threshold	Major Source Threshold Exceeded Yes/No
NOx	23.94	25	No
SOx	24.94	25	No
VOC	24.28	25	No
PM-10	6.77	15	No

PTE emissions from the facility is lower than NSR Major Source thresholds, therefore the modified facility will remain an NSR Minor Source.

NAAQS Impact Analysis

Requires that any New or Modified Facility located in an area classified by USEPA as nonattainment shall determine if the Facility will cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS). The proposed modification, discussed herein, through implementation of BACT as required by AVAQMD Rule 1302, will not contribute to a violation of the NAAQS.

6. Rules and Regulations Applicable to the Proposed Project

AVAQMD Rules

Rule 201/203 – *Permits to Construct/Permit to Operate*. Any equipment which may cause the issuance of air contaminants must obtain authorization for such construction from the Air Pollution Control Officer. AVRDF is in compliance with this rule as they appropriately applied for a District permit for all new equipment and maintains District permits for all residing equipment.

Rule 204 – *Permit Conditions*. To assure compliance with all applicable regulations, the Air Pollution Control Officer (Executive Director) may impose written conditions on any permit. The District has imposed permit conditions to ensure AVRDF complies with all applicable regulations.

Rule 206 – *Posting of Permit to Operate*. Equipment shall not operate unless the entire permit is affixed upon the equipment or kept at a location for which it is issued and will be made available to the District upon request.

Rule 207 – *Altering or Falsifying of Permit*. A person shall not willfully deface, alter, forge, or falsify any issued permit.

Rule 209 – *Transfer and Voiding of Permits*. AVRDF shall not transfer, whether by operation of law or otherwise, either from one location to another, from one piece of equipment to another, or from one person to another. When equipment which has been granted a permit is altered, changes location, or no longer will be operated, the permit shall become void.

Rule 210 – *Applications*. AVRDF provided all the required information to correctly address the proposed equipment pursuant to this rule, although there were instances in which additional information were required, in which the thirty (30) day clock was restarted.

Rule 212 – *Standards for Approving Permits*. This rule establishes baseline criteria for approving permits by the District for certain projects. In accordance with these criteria, the proposed modifications and application does not cause issuance of air contaminants in violation of Sections 41700 or 41701 of the State Health and Safety code.

Rule 221 – *Federal Operating Permit Requirement*. AVRDF is in compliance with this rule, as they currently hold and maintain a Federal Operating Permit.

Rule 301 – *Permit Fees*. The proposed equipment change will Not cause an increase in AVRDF's annual permit fees.

Rule 401 – *Visible Emissions*. This rule limits visible emissions opacity to less than 20 percent (or Ringlemann No. 1). In normal operating mode, visible emissions are not expected to exceed 20 percent opacity.

Rule 402 – *Nuisance*. This rule prohibits facility emissions that cause a public nuisance. The proposed modifications and associated equipment is required by permit condition to employ good engineering and operational principles in order to minimize emissions and the possibility of a nuisance.

Rule 404 – *Particulate Matter Concentration*. This rule requires that no person exceed the particulate matter concentration provided in Table 404(a). Combustion of Landfill Gas and occasionally propane at the Landfill Flare, and properly maintained and operated propane and Diesel Combustion equipment, will ensure that the emitted particulate concentration will comply with the requirements of this rule.

Rule 405 – *Solid Particulate Matter – Weight*. This rule requires that no person exceed the particulate matter process weights provided in Table 405(a). Propane, ultra-low sulfur fuel and Landfill Gases are the only fuel that will be combusted at this facility, therefore, the emitted Solid Particulate Matter will comply with the requirements of this rule, and Flare emissions will not exceed the limits in Table 405(a).

Rule 408 – *Circumvention*. This rule prohibits hidden or secondary rule violations. The proposed modifications as described are not expected to violate Rule 408.

Rule 430 – *Breakdown Provisions*. Any Breakdown which results in a violation to any rule or regulation as defined by Rule 430 shall be properly addressed pursuant to this rule.

Regulation IX:

AVAQMD Rule 900 – *Standards of Performance for New Stationary Sources (NSPS)*. Rule 900 adopts all applicable provisions regarding standards of performance for new stationary sources as set forth in 40 CFR 60. These regulations are periodically updated to reflect actions published in the Federal Register (FR) by the EPA.

40 CFR Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills. This Landfill was previously operated in compliance with the requirements of this subpart, however, this regulation no longer applies to AVRDF, as EPA formally clarified that subpart 40 CFR 60, Subpart Cf (once implemented via a state or federal plan) supersedes subparts WWW and Subpart Cc. The final rule revises the title and applicability of subpart WWW (at 40 CFR 60.750(a)) to distinguish the applicability dates from other landfills subparts. It clarifies that after the effective date of an EPA-approved state or tribal plan implementing subpart Cf, or after the effective date of a federal plan implementing subpart Cf, owners and operators of MSW landfills must comply with the approved and effective state, tribal, or federal plan implementing subpart Cf instead of subpart WWW or the state or federal plan implementing subpart Cc [85 FR 17248].

Regulation X – *National Emission Standards for Hazardous Air Pollutants*.

40 CFR AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. This Landfill has been and will remain in compliance with the requirements of this subpart.

AVRDF is required to comply with all applicable ATCMs and under state law, a federal National Emission Standards for Hazardous Air Pollutants (NESHAP) becomes the State ATCM, unless the Air Resources Board (ARB) has already adopted an ATCM for the source category and associated hazardous air pollutant(s).

In the case of the proposed modified Flare, there are no applicable State ATCM.

NESHAP Subpart ZZZZ is applicable to engine operating with District Permit E008939. The engine has been and will continue to be operated and maintained in compliance with this Subpart.

ATCM 17 CCR 93114 Airborne Toxic Control Measure to Reduce Particulate Emissions from Diesel Fueled Engines - Standards for Nonvehicular Diesel Fuel; has been added as an operational requirement per Condition in Title V Section II.

ATCM 17 CCR 93115, Stationary Diesel ATCM applies to the engine operating with District Permit B013476. This engine has been and will continue to be operated and maintained in compliance with this ATCM.

Regulation XXX – Title V Permits

This regulation contains requirements for sources which must have a FOP. AVRDF currently has a FOP and is expected to comply with all applicable rules and regulations.

AVAQMD Rule 3001 – Federal Operating Permit Definitions.

AVRDF is NOT defined as a federal “Major Facility” pursuant to this rule. It is subject to Title V Permitting requirements since the facility was required to have a Title V because of applicability to 40 CFR 60 Subpart WWW - Standards of Performance for Municipal Solid Waste Landfill.

AVAQMD Rule 3003 – Federal Operating Permits.

The proposed new Flare is subject to New Source Review and is being processed pursuant to AVAQMD Rule 1302, Procedures, which allows for Modifications to be processed concurrent with NSR actions. This procedure conforms to all applicable provisions of District Regulation XII. Further, this permit modification will be noticed similarly to AVAQMD Rule 3007 requirements and in accordance with AVAQMD Rule 1302.

This document represents the draft determination for the proposed modifications to AVRDF FOP. The proposed Modification will be properly noticed pursuant to AVAQMD Rule 3007, as required.

AVAQMD Rule 3005 – Modifications of Federal Operating Permits.

The proposed new Flare is defined as a Significant Permit Modification to AVRDF Federal Operating Permit (FOP), and subsequently, this permit modification will be issued in accordance with the provisions of AVAQMD Rule 1302 pursuant to Rule 3003.

AVAQMD Rule 3007 – Notice and Comment.

This NSR permitting action is being noticed concurrent with the Significant Modification of AVRDF Federal Operating Permit. Notably, this affords the public the right to petition USEPA to reconsider the decision to not object to the permit action.

AVAQMD Rule 3011 – Greenhouse Gas Provisions of Federal Operating Permits.

AVRDF is NOT a Major GHG Facility pursuant to Rule 3011.

Regulation XIII – New Source Review

AVAQMD Rule 1302 – Procedure.

This rule applies to all new or Modified Facilities and requires certain requirements to be fulfilled when submitting an application. All applicable requirements of this rule are discussed in this NSR document as part of the Analysis procedure. Certification of compliance with the Federal Clean Air Act, applicable implementation plans, and all applicable AVAQMD Rules and regulations have been addressed. The Authority to Construct (ATC) application package for the proposed equipment includes sufficient documentation to comply with Rule 1302(D)(5)(b)(ii). Permit conditions for the proposed Flare will require compliance with Rule 1302(D)(5)(b)(iii).

AVAQMD Rule 1303 – Requirements. This rule requires BACT and offsets for selected facility modifications. The Flare modification does trigger BACT and will meet BACT requirements for NO_x, VOC, and PM-10 emissions.

AVAQMD Rule 1304 – Emissions Calculations. The Proposed Emissions from the proposed modifications were calculated pursuant to section (B)(1)(a) of this rule.

AVAQMD Rule 1310 – Federal Major Facilities and Modifications. Emissions from the proposed Flare modification are determined to NOT be a Federal Major Modification as calculated in accordance with Rule 1310(E)(1)(a) as the Projected Actual Emissions, calculated pursuant to AVAQMD Rule 1310 (E)(3)(c), will not exceed the Federal Major Modification Thresholds. Calculation methodologies are similar to those required by AVAQMD Rule 1304(B)(1)(a).

AVAQMD Rule 1401 – New Source Review for Toxic Air Contaminants. Pursuant to the requirements of AVAQMD Rule 1401, an applicability analysis of State and Federal air toxic regulations was conducted for the proposed modifications (State T-NSR and Federal T-NSR, respectively) and is discussed in further detail in this document.

AVAQMD Rule 1402 – Control of Toxic Air Contaminants from Existing Sources. This permit action is subject to Rule 1520, as AVRDF is an existing Area Source that has a PTE to emit TACs. A facility prioritization analysis was conducted and it was determined that the facility is a Low Priority Facility, and the associated health effects are considered acceptable. See previous sections for additional details.

Regulation XVII - Prevention of Significant Deterioration:

This regulation is not currently used within the AVAQMD because the USEPA has not delegated authority for the PSD Program to the AVAQMD at this time. Nonetheless an analysis was conducted pursuant to 40 CFR 52.21 Prevention of Significant Deterioration and it was determined that the Flare modification does not trigger PSD requirements.

STATE REGULATIONS

Regulation XXX — Federal Operating Permits

This regulation contains requirements for sources which must have a federal operating permit. The identified changes constitute a significant modification of the Title V permit. Specific requirements of Regulation XII are stipulated as shown below.

AVAQMD Rule 3002 — Applications

This rule designates that official applications will be used as necessary under Regulation XXX and outlines the specified information which shall be included on the official application to the Air Pollution Control Officer to determine completeness as well as provides a timeline for that determination. This application includes official District forms. The District has evaluated this permitting action and concluded that the proposed project requires a significant Title V Modification and will be processed as such and in accordance with the procedure specified in the rule.

AVAQMD Rule 3003 — Federal Operating Permits (FOP)

The rule defines the permit operating term, stipulates the process by which FOPs, Significant Modifications to FOPs and Renewals of FOPs shall be issued. This rule further identifies restrictions on issuance, permit contents, operational flexibility, compliance certification, permit shield, and violation of permit conditions. The proposed FOP action is considered a significant permit modification. The District will submit this Preliminary SOB and Draft Title V FOP to the EPA and CARB and make documents available for public review and comment within the specified comment period in accordance with the procedure outlined in Rule 3003(B)(1).

AVAQMD Rule 3005 — Modifications of Federal Operating Permits

This rule specifies the process by which FOPs are modified. The District has determined that this permitting action constitutes a significant permit modification and will incorporate the changes as required by Regulation XXX, as applicable.

AVAQMD Rule 1302 — Procedure

Rule 1302 outlines the procedures for preparing an ATC permit application.

AVAQMD Rule 1303 — Requirements

The BACT and offset requirements of Regulation XIII are addressed in this rule.

BACT and offset requirements of Regulation XIII are addressed in this rule.

BACT: Any new or modified Permit Unit which emits, or has the Potential to Emit, 25 lbs/day or more of any Nonattainment Air Pollutant shall be equipped with BACT. Plus any new or Modified Facility which emits, or has the Potential to Emit, 25 tpy or more of any Nonattainment Air Pollutant shall be equipped with BACT for each new Permit Unit. BACT will apply to the Modified Flare for NO_x, VOC, and PM-10 per Rule 1303 (A)(3) since the Modified unit has a PTE that exceeds 25 pounds per day for these nonattainment air pollutants.

AVAQMD Rule 1304 — Emissions Calculations

The AVRDF modification involves the modification of their enclosed Flare. This rule outlines how to account for the associated emission increases and or changes.

AVAQMD Rule 1305 — Emissions Offsets

This Rule provides the procedures and formulas to determine the eligibility of, calculate the amount of, and determine the use of Offsets required pursuant to the provisions of AVAQMD Rule 1303(B); proposed modification does NOT trigger offsets as the facility is and will remain a Federal Area Source, and Not a Federal Major Source.

A live Excel spreadsheet is available for review at the District office upon request.

AVAQMD Rule 1310 - Federal Major Facilities and Federal Major Modifications

Rule was Rescinded on 07-20-23.

AVAQMD Rule 1401 - New Source Review for Toxic Air Contaminants

This rule is applicable to all new, Modified or Relocated Facilities or Permit Units which emit or have the potential to emit any HAP, TAC, or Regulated Toxic Substance. AVAQMD Rule 1401 follows a step-wise process for evaluating applications for compliance with air toxics requirements. The initial steps are outlined below, including applicability of Federal and State T-NSR, and conducting HRAs, if applicable for each EU. Note: The prioritization score for this facility is quantified as Low Priority and therefore an HRA is not required.

Federal T-NSR

The AVRDF facility is currently considered a HAP Area Source, and subject to Federal T-NSR. AVAQMD Rule 1401 requires that if a facility is subject to Federal T-NSR, any applicable NESHAP standards will apply.

The facility has been and will continue to operate in compliance with 40 CFR 63 Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills.

Additionally, Subpart ZZZZ is applicable to the propane engine operating with District Permit E008939. This engine will comply with the requirements of this subpart.

State T-NSR Program Analysis (State T-NSR)

This subsection requires the applicant and AVAQMD to identify and include in the permitting analysis any applicable and currently enforceable California Air Toxics Control Measures (ATCM).

Engine operating under District Permit B013476 is operating and will continue to operate in compliance with this California ATCM 17 CCR 93115.

Health Risk Assessment (HRA)

Under the State T-NSR, Rule 1401 requires evaluation of each Emission Unit using prioritization scoring and an HRA if the prioritization score is high. The facility has a prioritization score of less than 1 and therefore an HRA is not required.

AVAQMD Rule 1402 — Control of Toxic Air Contaminants from Existing Sources

This rule applies on a facility-wide basis requiring public notice and/or risk reduction at elevated levels of health risk for existing facilities based on actual levels of TAC emissions. 2018 emissions inventory resulted in a Prioritization score for Cancer of 0.9253. This prioritization score is less than 1. Therefore, the facility is considered an “Low Priority” facility, and the associated health risk is considered acceptable; an HRA is Not Required.

Regulation XVII - Prevention of Significant Deterioration:

This regulation is not currently used within the AVAQMD because the USEPA has not delegated authority for the PSD Program to the AVAQMD at this time. Nonetheless an analysis was conducted pursuant to 40 CFR 52.21 Prevention of Significant Deterioration and it was determined that the Flare modification does not trigger PSD requirements.

7. NSR Preliminary Decision - Conclusion

The District has reviewed the proposed new emission unit application for the Antelope Valley Recycling and Disposal Facility and conducted a succinct written analysis as required by

AVAQMD Rule 1302, section (D)(1)(b) and AVAQMD Rule 3003, section (B)(1)(a). The District has determined that the proposed equipment and application are in compliance with all applicable District, State, and Federal rules and regulations as proposed and when operated in terms of the permit conditions stated below. Public, and CARB/EPA Comment periods are in progress; see page one for applicable dates.

8. *Operating Conditions*

The following equipment descriptions and operating conditions are placed on the Authorities to Construct (ATC) for the project and in Part III of AVRDF FOP. The specific section numbers of the FOP are identified here as well.

ENCLOSED FLARE consisting of: Associated Landfill identified as SWIS (Solid Waste Information System) Number 19-AA-5624 and Classified as Active; facility area of 185 acres and a disposal area of 125 acres. Enclosed Flare is 11-foot in diameter and 50 feet in height. Flare is adjusted to operate with a stack temperature of 1400 to 1800 degrees F; design operating Exhaust temperature is 1650 degrees F. Inlet flow rate into flare is variable to 3,000 scfm maximum; Exhaust Flow Rate of 34,749 scfm (dry @ 12.22 Percent Oxygen); maximum heat input rate of 91.08 MMBtu/hr; AP-42 destruction efficiencies of 98% for halogenated compounds, and 99.7% for non-halogenated compounds. Landfill has a Landfill Gas Collection and Control System (LGCCS) which controls Methane as well as VOC, and HAP emissions; it is subject to, NESHAP - 40 CFR 63 Subpart AAAA, and the California Methane Regulation 17 CCR Sections 95460 through 95476. Facility elevation is 2892 feet above sea level.

EMISSIONS RATES:

Pollutant	Emission Factor	Units	Data Source
NO _x	0.06	Lbs/MMBtu	Manufacturers Guarantee/BACT
CO	0.20	Lbs/MMBtu	Manufacturers Guarantee/BACT
NMOC	98% Destruction	or 20 ppmv as hexane	NSPS-BACT
VOC	20	ppmv @ 3% O ₂ as Hexane	NSPS-BACT
PM-10	17	Lb/MMscf as Methane	AP-42 Table 2.4-5
PM-2.5	17	Lb/MMscf as Methane	AP-42 Table 2.4-5
SO _x	190	190 ppmv (Integrated) in inlet as H ₂ S; 250 ppmv Max (Daily Average, Rule 431.1 Limit)	Required to Preclude Triggering Rule 1303 Offset Threshold

EQUIPMENT:

Capacity	Equipment Description
0	One (1) LFG Specialties Enclosed Flare System, 3000 SCFM, Model EF1150I12, with peripheral equipment (capacity 9.11 - 91.08 MMBtu/hr of landfill gas; 300 - 3000 SCFM)
0	One Thermal Instruments 62-9TEF or equivalent flow meter
0	One 12 in. Enardo, or equivalent, flame arrestor, eccentric aluminum body and stainless element arrestor
0	One 14 in. fail safe automatic butterfly valve with PTFE seats and bushings
0	Moisture Separator, KOP, with Demister Pad
0	Two Lonestar or equivalent or equal multistage centrifugal landfill gas blowers
0	Pilot Gas, Propane train includes pressure regulator, pressure indicator, manual shutoff valve, strainer, fail safe valve, and connection hose
0	Condensate Injection; One LFG Specialties Condensate Injection System 0.5 - 4.0 gpm capacity of condensate to quench combustion; minimum gas flow of 450 SCFM required to operate condensate injection rate of 2 to 4 gpm.

CONDITIONS APPLICABLE TO NEW FLARE (District Permit C014523):

1. This equipment shall be installed, operated and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit. Additionally, this equipment and the associated landfill shall be operated in compliance with NESHAP40 CFR 63 Subpart AAAA.

[AVAQMD Rule 1302, NESHAP 40 CFR 63 Subpart AAAA]

2. All collected landfill gas shall be directed to the flare for combustion.

[AVAQMD Rules 1150.1 and 1303]

3. A sufficient number of sight glass windows shall be maintained in the flare to allow visual inspection of the flare flame at all times. Adequate and safe access shall be provided to all sight glass windows.

[AVAQMD Rule 204]

4. The owner-operator shall provide sampling ports necessary to perform source tests required to verify compliance with AVAQMD Rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.

[AVAQMD Rule 217]

5. A sampling port shall be maintained at the landfill gas inlet line to allow the collection of a landfill gas sample.

[AVAQMD Rule 217]

6. The flare shall be equipped with thermocouples and a recorder which measures and records the gas temperature in the flare stack. The temperature indicator and recorder shall operate whenever the flare is in operation.

[40 CFR 70.6 (a)(3)(B) Monitoring requirements, AVAQMD Rule 204]

7. Whenever the flare is in operation, a temperature of not less than 1400 degrees Fahrenheit, 15-minute average, as measured by the temperature indicator and recorder, shall be maintained except during periods of startup and shutdown. Startup is defined as the period from flare ignition to the time when 1400 degrees Fahrenheit is achieved, not to exceed 30 minutes. Shutdown is the period beginning when the gas valve begins to close and ending when the gas valve completely shuts off, not to exceed 30 minutes.

[AVAQMD Rule 204]

8. The flare shall be equipped with a failure alarm which shuts down the landfill gas blower, associated landfill gas supply valve, and the condensate injection pump in order to isolate the flare from the landfill gas supply line and condensate supply line, and to notify a responsible party of shutdown in the event of flare failure. This safety system shall be tested annually for proper operation.

[AVAQMD Rules 204 and 1303]

9. The landfill gas flow rate to the flare shall be monitored by a flow indicator and recorder.

[AVAQMD Rule 204]

10. The total volume of landfill gas and extracted air burned in the flare shall not exceed 91.08 MMBtu/hr (averaged on an hourly basis). In addition, the total volume of condensate burned in the flare shall not exceed 4 gallons per minute.

[AVAQMD Rules 204 and 1302]

11. Emissions from the flare shall not exceed the following:

a. NOX (as NO₂): 0.060 pounds per million Btu of heat input, 3931 pounds/month, and 23.9 tpy.

b. SOX (as SO₂): 0.062 pounds per million Btu of heat input, 4095 pounds/month, and 24.9 tpy.

c. CO: 0.200 pounds per million Btu of heat input, 13104 pounds/month, and 79.7 tpy.

d. PM-10: 17 pounds per million standard cubic foot as Methane (Lbs/MMscf of Methane), 1114 pounds/month, and 6.8 tpy.

e. NMHC (VOC): 0.050 pounds per million Btu of heat input, 3276 pounds/month, and 19.9 tpy.

To ensure continued compliance, these emissions limits shall be calculated based on the most current source test data, and Hydrogen Sulfide Monitoring; a log of the emissions above shall be kept for a minimum of five years and made available to District, State and Federal Personnel upon request.

[AVAQMD Rule 1303]

12. Combined facility emission shall Not Exceed the following Annual Emission Limits to preclude triggering Offset Threshold Amounts as required by AVAQMD Rule 1303:

a. PM10: Shall Not Exceed 14.9 tpy;

b. Oxides of Nitrogen (NO_x): Shall Not Exceed 24.9;

c. Oxides of Sulfur (SO_x as SO₂): Shall Not Exceed 24.9 tpy, and

d. Volatile Organic Compounds (VOC): Shall Not Exceed 24.9 tpy.
[AVAQMD Rule 1303]

13. This equipment shall not be operated unless Landfill Gas is treated with a Hydrogen Sulfide (H₂S) Treatment System, permitted under District Permit C014593, prior to entering Flare Inlet. Integrated H₂S levels shall be less than 190 ppmv to ensure Facility annual SO_x emissions Do Not Exceed 24.9 TPY. Additionally, pursuant to AVAQMD Rule 431.1, there shall not be at any time fuel entering the Flare that has a daily average hydrogen sulfide concentration in excess of 250 ppmv.

[AVAQMD Rules 204, 431.1, 1303]

14. The sulfur removal system shall be operated per manufacturer's recommended operating specifications. Additionally, the owner operator shall properly install and operate a continuous hydrogen sulfide measuring device at the Flare Inlet. The monitoring device manufacturer and model shall be approved by the AVAQMD prior to installation. The monitoring device shall measure the H₂S concentration every six hours and calculate a daily average. The daily averages shall be used to calculate a monthly average H₂S concentration at the landfill gas Flared inlet. If the measuring/monitoring device malfunctions, the owner operator shall take daily detector tube readings on business days until the device is either repaired or replaced.

[AVAQMD Rules 204, 431.1, 1150.1, 1303]

15. The sulfur removal system shall be operated per manufacturer's recommended operating specifications and shall be monitored on a quarterly basis at the flare inlet for hydrogen sulfide concentration using colorimetric H₂S detector tubes (Draeger). Quarterly lab samples shall be taken at the flare inlet for hydrogen sulfide concentration and total reduced sulfur as hydrogen sulfide using SCAQMD Method 307-91 or other EPA or District approved methods. Results of these samples shall be logged pursuant to Conditions 17 and 20.

[AVAQMD Rules 431.1 and 1303]

16. Any breakdown or malfunction of this equipment resulting in the emission of raw landfill gas shall be reported to the District within one hour of detection, and immediate remedial measures shall be undertaken to correct the problem and prevent further emissions into the atmosphere.

[AVAQMD Rule 430]

17. This equipment shall be performance tested biennially; additionally, H₂S monitoring shall occur in accordance with condition 15. The landfill company shall conduct performance tests in accordance with the District test procedures and furnish the District with written results of such performance tests within sixty (60) days after the tests are conducted. Written notice of the performance tests shall be provided to the District seven (7) days prior to the tests so that an observer may be present. All source testing and analytical methods shall be submitted to the District for approval at least thirty (30) days prior to the start of the tests. The performance tests shall be conducted at the maximum achievable flow rates allowed by this permit and shall include, but shall not be limited to, a test of the inlet landfill gas flare, and the flare exhaust for:

- a. Methane
- b. Total Non-Methane Organics
- c. Oxides of Nitrogen (exhaust only)
- d. Carbon Monoxide (exhaust only)

- e. PM-10 Particulates (exhaust only)
- f. Hydrogen Sulfide (inlet only)
- g. C1 and C3 Sulfur Compounds (speciated, inlet only)
- h. Carbon Dioxide
- i. SCAQMD Rule 1150.1 Table 1 Core Group List of Carcinogenic and Toxic Air Contaminants
- j. Oxygen
- k. Moisture Content (exhaust only)
- l. Temperature (exhaust only)
- m. Flow Rate in cfm.
[AVAQMD Rules 204 and 1303]

18. Pursuant to California's Landfill Methane Regulation Source Test Requirements; the owner or operator must conduct an annual source test for this Flare using the test methods identified in 95471(f). An initial source test must be conducted within 180 days of initial start-up of the gas collection and control system. Each succeeding complete annual source test must be conducted no later than 45 days after the anniversary date of the initial source test. (A) If a gas control device remains in compliance after three consecutive source tests the owner or operator may conduct the source test every three years. If a subsequent source test shows the gas collection and control system is out of compliance the source testing frequency will return to annual. Note that compliance is defined as a Methane Destruction efficiency of at least 99 percent. Records of source test results including destruction efficiency shall be maintained for at least 5 years and made available to District, State, and Federal personal upon request.

[Title 17, California Code of Regulations, Sections 95460 to 95476, AVAQMD Rules 204 and 1302]

19. This equipment shall achieve at least 98% destruction efficiency for non-methane hydrocarbons or less than or equal to 20 parts per million (ppmv as hexane at 3% oxygen), measured from landfill gas inlet to flare exhaust.

[AVAQMD Rules 1302 and 1303]

20. The owner-operator shall submit an application to modify this permit should additional flares or other gas control equipment be required for this landfill.

[AVAQMD Rule 1302]

21. The owner-operator shall maintain a current, on-site operations log for this system for at least five (5) years, and the log shall be provided to District, State or Federal personnel upon request.

The log shall include, at a minimum, the following information:

- a. Flare temperature;
- b. Flare failure system test date and test result;
- c. Landfill gas flowrate;
- d. Condensate flowrate;
- e. Hours of operation;
- f. Monthly and Yearly emissions of NO_x (as NO₂), SO_x (as SO₂), CO, PM-10, NMHC, and
- g. Daily Average Flare Inlet hydrogen sulfide concentrations.

[AVAQMD Rules 204, 1150.1, 1302, 1303]

22. This equipment and associated landfill shall be operated in compliance with Rule 1150, 1150.1, 17 CCR 95460-95476 (Methane Emissions from Municipal Solid Waste Landfills), and National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR 63, Subpart AAAA). In the event of conflict between these conditions, the more stringent shall govern. [AVAQMD Rule 204, 1302, 1303]

23. This equipment and the associated Landfill shall be operated such that no Odors are observed at the facility fence line. [A 0402- Nuisance, A1150.1- Control of Gaseous Emissions From Active Landfills]

24. A facility wide Comprehensive Emission Inventory (CEI) for all emitted criteria and toxic air pollutants must be submitted to the District, in a format approved by the District, upon District request. [AVAQMD Rules 107, and 204, H&S Code 39607 & 44341-44342, and 40 CFR 51, Subpart A]

E. Title V Permit/FOP – Significant Permit Modification

1. Proposed Changes to FOP

The Antelope Valley Recycling and Disposal Facility, Inc., submitted an application for a Title V Permit Modification in parallel with the application for District Permit modification; this application is being processed as a Major Permit Modification as the proposed Flare modification will result in an emission's increase and the associated increased flow rate is consider an increase in equipment capacity. The District is processing the proposed FOP changes in accordance with procedures specified in AVAQMD Rule 1302(D)(1)(d). This preliminary decision serves as the statement of basis for the changes to Federal Operating Permit number 122802470.

2. Title V/FOP – Conclusion

The District has reviewed the application and proposed modifications to the Antelope Valley Recycling and Disposal Facility Operating Permit, and determined that the proposed modification is in compliance with all applicable District, State, and Federal rules and regulations as proposed when operated in the terms of the operating conditions given herein.

F. Comment Period and Notifications

1. Public Comment

This public notice was published on 9-15-2023, (See Appendix B for Public Notice). The 30-Day Public Commenting Period ended at COB on 10-16-2023.

Noticing Methods included the following, per AVAQMD Rule 3007 (A)(1)(a) and AVAQMD Rule 1302(D)(2) and (3):

- Published in newspaper of general circulation - Antelope Valley Press on 9-15-2023.
- Mailed and/or emailed to AVAQMD contact list of persons requesting notice of actions (see the contact list following the Public Notice in Appendix B) on or about 9-18-2023.
- Posted on the AVAQMD Website at the following link; on or about 9-18-2023:
<http://avaqmd.ca.gov/permittingpublic-notices>

2. Notifications

The preliminary determination was submitted via e-mail to EPA and CARB pursuant to AVAQMD Rule 3007 for a forty-five (45) day review period on 9-14-2023; no comments were received during the required comment period, therefore, the final modified FOP is issued on or about 10-31-2023.

All correspondence as required by AVAQMD Rules 1302 and 3007 were forwarded electronically to the following recipients:

Director, Office of Air Division
United States EPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105
via EPA's EPS Portal: <https://cdx.epa.gov/>

Chief, Stationary Source Division
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812
via e-mail at: Permits@arb.ca.gov

Antelope Valley Recycling & Disposal Facility Inc
Waste Management
1200 W City Ranch Road
Palmdale, CA 93551
Attn: Collin Pavelchik
via e-mail at: cpavelch@wm.com

SCS ENGINEERS

Environmental Consultants & Contractors

March 17, 2022
File No. 01221166.00 Task 3

Antelope Valley Air Quality Management District
43301 Division Street, Suite 206
Lancaster, CA 93535

Subject: Application for Replacement Flare and Title V Permit Modification, Antelope Valley Recycling and Disposal Facility, Palmdale, California

To Whom It May Concern:

On behalf of Antelope Valley Recycling and Disposal Facility, Inc. in Palmdale, California, SCS Engineers (SCS) hereby submits to the Antelope Valley Air Quality Management District (AVAQMD) one (1) copy of the application for a new replacement flare and Title V Permit modification at the Antelope Valley Recycling and Disposal Facility. A check for fees in the amount of \$551 is enclosed.

If you have any questions, please contact Matt Darr of Waste Management at (714) 206-8939 or Gabrielle Stephens of SCS at (562) 355-6510.

Sincerely,



Gabrielle F. Stephens
Senior Project Manager
SCS Engineers



Patrick S. Sullivan, REPA, CPP, BCES
Senior Vice President
SCS Engineers

GFS/SS/PSS

cc: Matt Darr, WM
Collin Pavelchik, WM

Co/Fac: 1228/2470
Section/Category: APP-N
Type: Applications
Date: 3/17/22

Encl.

1 INTRODUCTION

1.1 OVERVIEW

This document, prepared by SCS Engineers (SCS) on behalf of Antelope Valley Recycling and Disposal Facility, Inc. (AVRDFI), provides information in support of an Authority to Construct (ATC)/Permit to Operate (PTO) and Title V modification for a new replacement flare at the Antelope Valley Recycling and Disposal Facility (AVRDF) located in Palmdale, California.

This information is formatted in accordance with the Antelope Valley Air Quality Management District (AVAQMD) ATC/PTO permit information requirements.

1.2 PROJECT LOCATION

The AVRDF is a Class III municipal solid waste (MSW) landfill as defined by Subtitle D located at 1200 West City Ranch Road in the City of Palmdale, California. The facility is situated in Township 6 North, Range 12 West, in the northern half of Section 33, SBB&M (1974 USGS, Ritter Ridge Quadrangle) in the northeastern portion of Los Angeles County within a semi-arid geographic area known as Antelope Valley.

1.3 BACKGROUND INFORMATION

1.3.1 Applicant Name and Address

Antelope Valley Recycling and Disposal Facility, Inc.
1200 West City Ranch Road
Palmdale, CA 93551

1.3.2 Facility Address

Antelope Valley Recycling and Disposal Facility
1200 West City Ranch Road
Palmdale, CA 93551

1.3.3 Nature of Business

Municipal Solid Waste Landfill

1.3.4 Persons to Contact Regarding Application

Mr. Matt Darr
Gas Operations Manager
2050 N. Glassell Street
Orange, CA 92865
(714) 206-8939

Ms. Gabrielle Stephens
SCS Engineers
4683 Chabot Dr, Ste 200
Pleasanton, California 94588
(562) 355-6510

1.3.5 Type of Entitlement

Authority to Construct/Permit to Operate and Title V Modification

1.3.6 Estimated Construction and Completion Date

Start: ASAP
Complete: 2022

1.3.7 Operation Schedule

24 hours per day
7 days per week
52 weeks per year
With scheduled shutdowns for flare maintenance

1.3.8 Status of Application

This is a new application for an enclosed LFG-fired flare to replace existing flare.

1.3.9 Facility Status

Existing

2 PROJECT DESCRIPTION

2.1 EXISTING OPERATION

AVRDF accepts various residential, commercial, and light industrial refuse. No regulated hazardous waste or liquid wastes are accepted at the site. AVRDF has an active landfill gas (LFG) collection and control system (GCCS). The permitted equipment installed onsite includes landfill condensate storage, a LFG collection system, a paint spray booth, an internal combustion (IC) engine powered fire pump, and an enclosed flare.

2.2 REASON FOR PERMITTING ACTION

The existing enclosed LFG flare has deteriorated due to age and a replacement is needed. In addition, the current flare does not have the capacity for the future LFG flows. With the installation of the replacement flare, the current LFG control system will be replaced with a system designed and sized properly for the amount of LFG currently being collected and into the future. The current flare will be taken out of service as soon as the new flare is operable. The new replacement flare will be located at the existing flare station as shown in Appendix A.

3 DESCRIPTION OF PROPOSED EQUIPMENT

3.1 PROPOSED FLARE

The new flare will be located at the existing flare station (replacing the existing flare), adjacent to the current flare location, as shown in Appendix A. The flare will operate up to a maximum of 91 MMBtu/hr (~3,000 standard cubic feet per minute (scfm) of LFG at 50% methane). The flare will also be equipped with condensate injection up to a maximum rate of 4 gallons per minute (gpm). The flare station will operate 24 hours per day, 7 days per week, and 52 weeks per year, except during periods of scheduled and unscheduled maintenance.

3.2 EQUIPMENT SPECIFICATIONS LFG-FIRED FLARE

Equipment specifications are included in Appendix B. Below are some specific details regarding the flare:

Quantity:	One (1) enclosed flare
Size:	10' diameter x 50' height
Stack Height:	50 feet above grade
Heat Input Capacity:	91 MMBtu/hour
Inlet Flow:	~3,000 scfm (@ 50% methane)
Exhaust Flow:	34,749 scfm (dry @12.22% oxygen)
Manufacturer:	LFG Specialties or equivalent

Table 13 (attached) shows the calculated Potential to Emit (PTE) for toxics and criteria pollutants for the new LFG-fired flare.

4 EXPECTED EMISSIONS

4.1 CHEMICAL NATURE OF AIR POLLUTION EMISSIONS

LFG is the product of the natural decomposition of organic materials (e.g., food, yard waste, etc.) deposited in a landfill environment. At MSW landfill sites, LFG as generated typically contains about 50 percent methane and 45 percent carbon dioxide (CO₂) by volume. LFG is also comprised of residual amounts of nitrogen, oxygen and a number of trace constituents, including Non-Methane Organic Compounds (NMOCs), volatile organic compounds (VOCs), and some hazardous air pollutants (HAPs)/toxic air contaminants (TACs).

4.2 AIR POLLUTION EMISSIONS

Table 13 attached provides estimates of the PTE pollutant emissions that may be expected from the proposed LFG-fired flare. Note there will be no changes to the other existing emissions sources at the AVRDF. Table 14 attached provides the estimates for the existing enclosed flare. Tables 15 and 16 attached provide estimates for the existing non-portable permitted emissions sources at AVRDF, including a paint spray booth and emergency propane fire pump. Table 17 attached summarize the current non-fugitive site-wide emissions and proposed site-wide emissions. Flare emissions of HAPs and NMOCs were estimated using site-specific data from source testing on June 18, 2021 or Waste Industry Air Coalition (WIAC) LFG emission data. Excerpts from the testing results can be found in Appendix C, and the WIAC report can be found in Appendix D. The *Compilation of Air Pollutant*

Emission Factors (AP-42) section on landfills (Section 2.4) was used if actual or WIAC data were unavailable for a specific chemical.

The WIAC report, entitled *Waste Industry Air Coalition Comparison of Recent Landfill Gas Analyses with Historic AP-42 Values* (WIAC, 2001) provides more comprehensive and recent data, as well as provides more realistic LFG constituents based on recent source tests throughout the United States. These are provided as an alternative to the AP-42 default concentrations, which we find to be high as compared to real data at MSW landfills today, as described in the WIAC report.

The HAP emissions were then generated using each constituent's concentration, flow rate into the flare at maximum flow (~3,000 scfm) and AP-42 destruction efficiencies of 98% for halogenated compounds, and 99.7% for non-halogenated compounds. Criteria pollutants generated during combustion in the flare, such as nitrogen oxides (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), particulate matter less than 10 microns (PM₁₀) and PM less than 2.5 microns (PM_{2.5}), were determined using the Best Available Control Technology (BACT) standards, manufacturer's guarantees and/or AVAQMD rule limits, which will be discussed in a later section.

4.2.1 Criteria Pollutants

Criteria pollutant emissions from the proposed flare will be generated during combustion, which includes VOC, NO_x, SO_x, CO, PM₁₀, and PM_{2.5}. Criteria pollutants emissions are based on the following emission factors in Table 1 below:

Table 1. Flare Emission Factors

Criteria Pollutants	Emission Factors	Data Source
NO _x	0.06 MMBtu/hr	Manufacturer's Guarantee/BACT
CO	0.20 MMBtu/hr	Manufacturer's Guarantee/BACT
NMOC	98% destruction efficiency or 20 ppmv as hexane	New Source Performance Standards (NSPS)/BACT
VOC	20 ppmv @ 3% O ₂ as Hexane	NSPS/BACT
PM ₁₀	17 lb/MMft ³ as methane	AP-42 Table 2.4-5
PM _{2.5}	17 lb/MMft ³ as methane	AP-42 Table 2.4-5
SO _x	250 ppmv (inlet) as H ₂ S	Rule 431.1/Maximum Expected

AVRDFI requests a facility-wide emissions cap for SO_x of 24.94 tons per year (tpy) to remain below the major source threshold of 25 tpy. The current permitted hydrogen sulfide concentration limit of 250 ppmv will remain in place; however, the flare will be operated such that facility-wide emissions will remain below the major source threshold annually.

4.2.2 Toxic Emissions

Toxic pollutant emissions from the proposed flare will include the TACs identified in Section 4.2. These emissions will consist of undestroyed toxic VOCs from the flare. The flare is expected to

reduce the stack NMOC concentration to 20 ppmv as hexane by volume, dry basis at 3% oxygen. Table 13 attached contains toxic pollutant emission calculations for the proposed flare. Please note that the calculation methodology for estimating NMOC/VOC emissions is based on meeting the outlet concentration of 20 ppmv as hexane, dry basis at 3% oxygen; whereas, in the past for the current flare, the calculation was based upon using the estimated inlet concentration of NMOCs and reducing by 98% destruction efficiency.

4.2.3 Summary of Flare and Facility-Wide Emissions

The methods previously described in the section were used to estimate the PTE resulting from all applicable processes at AVRDF (including both fugitive and non-fugitive emissions). Table 2 below summarizes the flare changes from the current permitted flare and proposed flare. Table 3 below summarizes the side-wide emissions based on the proposed changes described above.

Table 2. Summary of Flare PTE Emissions

Pollutant	Current Permitted Flare PTE (tpy)	Proposed Flare PTE (tpy)	Change (tpy)
NOx	16.64	23.94	7.30
CO	76.24	79.79	3.55
SOx	20.24	24.94	4.70
NMOC	1.66	19.82	18.16
VOC	1.66	19.82	18.16
PM ₁₀	4.71	6.70	1.99
PM _{2.5}	4.71	6.70	1.99
Total HAPs	2.30	3.30	1.00
Highest Single HAP	2.20	3.17	0.97

Table 3. Summary of Facility-Wide PTE (Non-Fugitive)

Pollutant	Current Permitted PTE (tpy)	Proposed PTE (tpy)	Change (tpy)
NOx	16.64	23.94	7.30
CO	76.30	79.84	3.55
SOx	20.24	24.94	4.70
NMOC	1.66	19.82	18.16
VOC	6.11	24.28	18.16
PM ₁₀	4.78	6.77	1.99
PM _{2.5}	4.78	6.77	1.99
Total HAPs	2.30	3.30	1.00
Highest Single HAP	2.20	3.17	0.97

5 MAJOR FACILITY STATUS/PREVENTION OF SIGNIFICANT DETERIORATION MAJOR STATIONARY SOURCE STATUS

According to AVAQMD Rule 1303(B)(1), the applicable major facility thresholds are noted below. Table 4 below summarizes the major source status determination.

Table 4. Major Facility Status Determination

Pollutant	Proposed PTE (tpy)	Major Source Threshold (tpy)	Major Source? (Yes/No)
Criteria Pollutants (Non-Fugitive Emissions Only)			
NO _x	23.94	25	No
CO	79.84	100	No
SO _x	24.94	25	No
VOC	24.28	25	No
PM ₁₀	6.77	15	No

As demonstrated above, AVRDF does not exceed the thresholds; therefore, AVRDF is not a major facility. In addition, AVRDF is not a federal major stationary source since emissions of CO, PM₁₀, NO_x, SO_x, and VOCs are less than 250 tpy; therefore, prevention of significant deterioration (PSD) does not apply to this modification.

6 NEW SOURCE REVIEW

New Source Review (NSR) per AVAQMD Rules 1301 through 1313 set pre-construction review requirements for modified facilities, without which a permit to construct will be denied. NSR requires sources resulting in specified emission increase of a non-attainment air contaminant to employ Best Available Control Technology (BACT). AVRDF will have a net emission increase of some non-attainment air contaminants, and may also have to meet requirements for modeling, emission offsets, sensitive zone requirements, facility compliance, and major polluting facilities, if applicable.

7.1 BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

Per AVAQMD Rule 1303, any new unit must meet BACT if non-attainment pollutant emissions for the unit are over 25 pounds per day (lb/day). Per the AVAQMD's California Environmental Quality Act (CEQA) and Federal Conformity Guidelines date August 2011, AVRDF is non-attainment for ozone and PM₁₀; therefore, these pollutants or their precursors are regulated under the BACT standard. Under these criteria, BACT requirements are triggered for NO_x and VOCs as detailed in Table 5 below.

Table 5. BACT Requirements

Pollutant	Proposed PTE (lb/day)	Major Source Threshold (lb/day)	Require BACT? (Yes/No)
Non-Attainment Pollutants			
NOx	131.16	25	Yes
VOC	108.62	25	Yes
PM ₁₀	36.72	15	Yes

SCS undertook an evaluation of the BACT standards that would apply to the proposed LFG-fired flare at AVRDF. This analysis encompassed a review of documentation pertaining to BACT decisions and requirements derived from other regulatory jurisdictions in California and nationwide. A copy of the BACT analysis can be found in Appendix E.

7.2 OFFSETS REQUIRED

Per AVAQMD Rule 1303(B)(1), any new or modified facility, which emits or has the Potential to Emit (PTE) a regulated air pollutant in an amount greater than or equal to the following offset threshold amounts of non-attainment air pollutants and their precursors, as calculated pursuant to AVAQMD District Rule 1304(B) less any Simultaneous Emission Reductions (SERs) as calculated and approved pursuant to District Rule 1304(C), shall obtain offsets.

Under District Rule 1304(B), emission increases from the proposed flare are calculated where Emissions Change = (Proposed Emissions) - (Historic Actual Emissions). The Historic Actual Emissions (HAE) for the new flare is zero since it is a new emissions unit. Since no other emission units are changing with this project, they are not included in this analysis. Also, because the existing flare will be shut down and replaced, its SER is equal to the HAE per Rule 1304(C)(2)(a), which includes the actual emissions, averaged over the two-year period which immediately proceeds the date of the application (2020 and 2021) and which is representative of the facility operations. Table 18 attached provides the calculations for developing the SER. The emission increase is calculated in Table 6 below:

Table 6. Emission Increase for Proposed Flare

Pollutant	HAE for New Emission Unit (tpy)	Potential Emissions for New Flare (tpy)	SER for Existing (tpy)	Increase in Emissions (tpy)	Offset Threshold (tpy)	Offsets? (Yes/No)
Non-Attainment Pollutants						
NOx	0	23.94	4.43	19.51	25	No
SOx	0	24.94	7.41	17.53	25	No
VOC	0	19.82	0.54	19.28	25	No
PM _{2.5}	0	6.70	2.11	4.59	10	No
PM ₁₀	0	6.70	2.11	4.59	15	No

Per AVAQMD Rule 1303(B), offsets are required for any modified facility which has a PTE of a regulated air pollutant in an amount greater than or equal to the threshold amounts of non-attainment air pollutants, less any SERs. There are no pollutants with emissions which exceed the offset thresholds. Also, per California Health and Safety Code, Section 42301.2, a district shall not require emission offsets for any emission increase at a source that results from the installation, operation, or other implementation of any emission control device used to comply with district, state, or federal control requirements, including BACT. Since this flare is being installed as an emissions control device to comply with federal, state, and local requirements, emissions from the flare are not required to be offset. Therefore, emission offsets are not required for the project, and this satisfies AVAQMD Rule 1305 for emission offsets.

7.3 FEDERAL MAJOR FACILITIES

Per AVAQMD Rule 1310, a facility is a federal major facility if it has the PTE rate greater than or equal to the thresholds or any physical change at a facility, which, by itself, would emit or have the PTE any regulated air pollutant in an amount greater than the Federal Major Facility Thresholds in Rule 1310 Table 1. Per Table 7 below, the facility is not considered a federal major facility. AVRDF does not trigger the requirement to review Lowest Achievable Emission Rate (LAER) emission factors because the project does not result in an emissions increase that constitutes a federal major modification as it is not a federal major facility.

Table 7. Major Facility Thresholds Emissions (Non-Fugitive)

Pollutant	Proposed PTE (tpy)	Federal Major Facility Threshold (tpy)	Federal Major Facility? (Yes/No)
Criteria Pollutants (Non-Fugitive Emissions Only)			
NOx	23.94	100	No
CO	79.84	100	No
SOx	24.94	100	No
NMOC	19.82	N/A	N/A
VOC	24.28	100	No
PM _{2.5}	6.77	N/A	No
PM ₁₀	6.77	100	No

As demonstrated above, AVRDF does not exceed the thresholds; therefore, AVRDF is not a major facility.

7 NEW SOURCE REVIEW FOR TOXIC AIR CONTAMINANTS

In accordance with AVAQMD Rule 1401, prior to obtaining a permit to construct, any modified facilities or emission unit that emit any HAP, TAC, or regulated toxic substance, a review must be conducted to determine whether the facility or emission unit will require control. Initial applicability will be conducted by the Air Pollution Control Officer (APCO) and they will notify AVRDF if a health risk assessment will be required. AVRDF will then comply by performing the required Health Risk Assessment (HRA) should the APCO determine that it is necessary prior to issuance of a permit. The

APCO will also analyze any submitted applications and Comprehensive Emission Inventories to determine if any Maximum Achievable Control Technology (MACT) standard applies. AVRDF is already subject to and complies with the landfill National Emissions Standard (NESHAP), which should meet any MACT criteria.

8 GREENHOUSE GAS EMISSIONS

This application includes greenhouse gas (GHG) emission calculations to determine whether Prevention of Significant Deterioration (PSD) and Title V permit requirements for GHGs will apply to the Project, if any. LFG-derived emissions of carbon dioxide (CO₂) are considered biogenic, meaning they come from a biofuel and do not contribute to a net increase in atmospheric CO₂.

Methane (CH₄) and nitrous oxide (N₂O) are combustion byproducts and are GHGs. Even when resulting from the combustion of a biofuel, methane and nitrous oxide are considered anthropogenic. All GHG from combustion of fossil fuels, such as diesel, are anthropogenic and must be included in the GHG emissions for Title V compliance. AVRDF will operate diesel and gasoline equipment, which has been included in the GHG emission calculations, including CO₂, N₂O and methane. The GHG sources at AVRDF are the enclosed LFG flare, LFG surface emissions, and small pieces of gasoline and diesel equipment. The current flare is permitted to operate at 63.3 MMBtu/hr. The proposed flare is 91 MMBtu/hr. The water pump and light plant operate at 0.01 MMBtu/hr. The two greenwaste grinder engines operate at 8.28 MMBtu/hr each. Fugitive emissions are not considered to determine major source emission levels. GHG emission factors are shown in Table 8 below.

Table 8. GHG Emission Factors

Fuel	Emission Factors (kilograms/MMBtu)		
	Carbon Dioxide	Methane	Nitrous Oxide
LFG	52.07	3.2E-03	6.3E-04
Gasoline	70.22	3.0E-03	6.0E-04
Diesel	73.96	3.0E-03	6.0E-04

Current and proposed GHG sources and their non-fugitive anthropogenic GHG emissions are provided below. Fugitive emissions of GHGs are not counted under the CAA; therefore, fugitive LFG emissions have not been calculated for their GHG contribution. Not all GHG have equal impact on the climate, so emissions of methane and N₂O have been converted into CO₂ equivalent (CO₂e) using a global warming potential factor of 25 for methane and 298 for N₂O.

Table 9. Current Total GHG Emissions

Sources		Current Flare	Emergency Propane Fire Pump
Activity Rate		63.3 MMBTU/hr	300 gal/yr
Emissions (metric tons CO _{2e})	CO ₂	41,011	2
	CH ₄	41.59	9.0 E-05
	N ₂ O	99.15	1.8 E-05
Total GHG Emissions (metric ton CO _{2e})		41,152.15	1.9
Total (short ton CO _{2e})		45,364.52	

Table 10. Proposed Total GHG Emissions

Sources		Proposed Flare	Emergency Propane Fire Pump
Activity Rate		91 MMBTU/hr	300 gal/yr
Emissions (metric tons CO _{2e})	CO ₂	2	2
	CH ₄	9.0 E-05	9.0 E-05
	N ₂ O	1.8 E-05	1.8 E-05
Total GHG Emissions (metric ton CO _{2e})		59,212.28	1.9
Total (short ton CO _{2e})		65,272.39	

Table 11. Current Regulated Total GHG Emissions

Sources		Current Flare	Emergency Propane Fire Pump
Activity Rate		63.3 MMBTU/hr	300 gal/yr
Emissions (metric tons CO _{2e})	CH ₄	41.59	9.0 E-05
	N ₂ O	99.15	1.8 E-05
Total GHG Emissions (metric ton CO _{2e})		140.73	1.1 E-04
Total (short ton CO _{2e})		140.73	

Table 12. Proposed Regulated Total GHG Emissions

Sources		Proposed Flare	Emergency Propane Fire Pump
Activity Rate		91 MMBTU/hr	300 gal/yr
Emissions (metric tons CO _{2e})	CH ₄	59.84	9.0 E-05
	N ₂ O	142.66	1.8 E-05
Total GHG Emissions (metric ton CO _{2e})		202.50	1.1 E-04
Total (short ton CO _{2e})		263.85	

For purposes of the federal Title V rules, this facility's regulated GHGs (excluding fugitive emissions) from the project are estimated at 264 tpy of CO_{2e}. Since the facility is subject to Title V, the inclusion of this GHG inventory will satisfy the necessary requirements for adding GHGs to the Title V permit during the application process. A modification application for the Title V permit (which is pending from the AVAQMD) will be submitted under separate cover and will also include GHG emission estimates. No other requirements for GHGs should apply to this application.

Since the facility or project is not a federal major PSD source for any pollutant besides GHGs, the project cannot trigger PSD for GHG.

9 COMPLIANCE INFORMATION

A regulatory analysis for AVRDF is included in Appendix F. The regulatory analysis contains a compliance demonstration for applicable reporting, recordkeeping and test method requirements.

10.1 COMPLIANCE SCHEDULE

AVRDF is currently in compliance with all applicable requirements; therefore a compliance schedule is not required.

10.2 COMPLIANCE PLAN

AVRDF is currently in compliance with all applicable requirements; therefore a compliance plan is not required.

10 COMPLIANCE ASSURANCE MONITORING (CAM)

The requirements of 40 Code of Federal Regulations (CFR) Part 64, CAM, do not apply to this source since it is not a major source for any pollutants and is subject to federal New Source Performance Standards (NSPS). AVRDF is subject to the approved state plan under 40 CFR Part 60, Subpart Cf (which in California includes AB 32 Landfill Methane Rule and portions of 40 CFR Part 62 Subpart 000). Therefore, CAM requirements do not apply.

TABLE 13
 POTENTIAL TO EMIT FOR PROPOSED ENCLOSED STANDARD LANDFILL GAS FLARE
 ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY
 PALMDALE, CALIFORNIA

CAS NUMBER	COMPOUNDS	Molecular Weight (g/Mol)	Ave. Concentration of Compounds Found in LFG (ppmv) ^(a)	Pollutant Flow Rate to Flare (tons/yr)	Flare Destruction Efficiency (%) ^(c)	Maximum Emissions from Flare (lbs/yr)	Maximum Emissions from Flare (lbs/day)	Maximum Emissions from Flare (lbs/yr)	Maximum Emissions from Flare (tons/yr)
Hazardous Air Pollutants (HAPs)^(b)									
71-55-6	1,1,1-Trichloroethane (methyl chloroform) [*]	133.41	0.05	1.24E-02	98.0%	5.04E-05	1.35E-03	4.94E-01	2.47E-04
79-34-5	1,1,2,2-Tetrachloroethane	167.85	0.07	2.41E-02	98.0%	1.10E-04	2.64E-03	8.62E-01	4.81E-04
75-34-4	1,1-Dichloroethane (ethylene dichloride) [*]	98.97	0.07	1.36E-02	98.0%	6.28E-05	1.51E-03	5.50E-01	2.75E-04
75-35-4	1,2-Dichloroethane (ethylene dichloride) [*]	98.94	0.07	1.35E-02	98.0%	6.15E-05	1.48E-03	5.38E-01	2.68E-04
107-06-2	1,2-Dichloroethane (ethylene dichloride) [*]	98.96	0.78	1.59E-01	98.0%	7.29E-04	1.74E-02	6.39E+00	3.16E-03
78-87-5	1,2-Dichloroethane (ethylene dichloride)	112.89	0.02	5.32E-03	98.0%	2.43E-05	5.83E-04	2.13E-01	1.05E-04
67-63-0	2-Propanol (isopropyl alcohol)	60.11	7.91	9.73E-01	99.7%	6.87E-04	1.60E-02	5.84E+00	2.92E-03
107-13-1	Acrylonitrile	53.06	0.04	3.91E-03	99.7%	2.58E-06	6.43E-05	2.35E-02	1.17E-05
75-25-2	Bromodichloromethane	163.83	0.31	1.04E-01	98.0%	4.70E-04	1.14E-02	4.17E+00	2.09E-03
71-43-2	Benzene ^(d)	78.11	2.70	4.32E-01	99.7%	2.95E-04	7.11E-03	2.59E+00	1.30E-03
75-15-0	Carbon disulfide	76.13	0.32	4.99E-02	99.7%	3.42E-05	8.20E-04	2.95E-01	1.50E-04
56-23-5	Carbon tetrachloride ^(e)	153.84	0.97	2.14E-02	98.0%	9.76E-05	2.34E-03	8.55E-01	4.25E-04
46-058-1	Carbonyl sulfide	60.07	0.18	2.25E-02	99.7%	1.54E-05	3.70E-04	1.35E-01	6.75E-05
109-90-7	Chlorobenzene ^(f)	112.86	0.08	1.76E-02	98.0%	8.04E-05	1.95E-03	7.04E-01	3.52E-04
75-45-6	Chlorodifluoromethane	86.47	0.36	5.29E-02	98.0%	2.87E-04	6.85E-03	2.51E+00	1.28E-03
75-00-3	Chloroethane (ethyl chloride)	64.52	0.24	3.10E-02	98.0%	1.44E-04	3.46E-03	1.20E+00	6.31E-04
67-66-3	Chloroform ^(g)	119.39	0.05	1.11E-02	98.0%	5.05E-05	1.21E-03	4.42E-01	2.21E-04
74-87-3	Chloromethane (methyl chloride)	50.49	0.25	2.57E-02	98.0%	1.18E-04	2.82E-03	1.03E+00	5.10E-04
106-46-7	Dichlorobenzenes ^(h)	147.00	1.60	3.01E-01	98.0%	1.36E-03	3.30E-02	1.21E+01	6.03E-03
75-43-4	Dichlorodifluoromethane	120.91	1.75	4.33E-01	98.0%	1.88E-03	4.75E-02	1.73E+01	8.67E-03
75-71-6	Dichlorofluoromethane	102.92	1.75	3.69E-01	98.0%	1.89E-03	4.64E-02	1.48E+01	7.38E-03
75-09-2	Dichloromethane (methylene chloride) ⁽ⁱ⁾	84.94	0.68	1.13E-01	98.0%	5.14E-04	1.23E-02	4.50E+00	2.35E-03
100-41-4	Ethylbenzene	106.16	6.79	1.48E+00	99.7%	1.01E-03	2.43E-02	8.65E+00	4.43E-03
106-93-4	Ethylene dibromide (1,2-Dibromoethane) ^(j)	187.88	0.65	1.74E-02	98.0%	7.95E-05	1.91E-03	6.95E-01	3.48E-04
76-69-4	Fluorochloromethane	137.40	0.33	9.20E-02	98.0%	4.20E-04	1.01E-02	3.68E+00	1.84E-03
110-54-3	Hexane	86.18	2.32	4.10E-01	99.7%	2.81E-04	6.74E-03	2.48E+00	1.23E-03
2149-07-8	Hydrogen Sulfide (s)	34.08	190.00	1.33E+01	99.7%	8.08E-03	2.10E-01	7.95E+01	3.98E-02
7439-97-8	Mercury (total) (l)	200.61	2.92E-04	1.20E-04	—	2.74E-05	6.57E-04	2.40E-01	1.20E-04
78-93-3	Methyl ethyl ketone	72.11	10.56	1.56E+00	99.7%	1.07E-03	2.60E-02	9.30E+00	4.68E-03
109-10-1	Methyl isobutyl ketone	100.95	0.75	1.54E-01	99.7%	1.05E-04	2.53E-03	9.23E-01	4.61E-04
127-18-4	Perchloroethylene (tetrachloroethylene) ^(k)	165.83	0.44	1.49E-01	98.0%	6.79E-04	1.63E-02	5.95E+00	2.97E-03
78-01-6	Tetrachloroethylene (tetrachloroethene) ^(k)	131.40	0.17	4.80E-02	98.0%	2.10E-04	5.04E-03	1.94E+00	9.19E-04
75-91-4	Vinyl chloride ^(l)	62.50	0.10	1.28E-02	98.0%	5.88E-05	1.41E-03	5.14E-01	2.67E-04
7847-01-0	Hydrochloric acid (g)	36.50	42.09	3.14E+00	—	7.23E-01	1.74E+01	6.34E+03	3.17E+00
108-98-3	Toluene ^(m)	92.13	17.19	3.24E+00	99.7%	2.22E-03	5.33E-02	1.95E+01	8.73E-03
1339-20-7	Xylenes ⁽ⁿ⁾	106.16	14.03	3.05E+00	99.7%	2.09E-03	5.01E-02	1.83E+01	9.15E-03
Totals: HAPs						6.75	17.99	6,545.4	3.28

CAS Number	Compounds	Emission Factor (lb/ton)(f)	Maximum Emissions from Flare (lbs/yr)	Maximum Emissions from Flare (lbs/day)	Maximum Emissions from Flare (lbs/yr)	Maximum Emissions from Flare (tons/yr)		
	PAHs (without Naphthalene)	4.09E-05	7.36E-06	1.77E-04	0.05	3.22E-05		
91-20-3	Naphthalene	1.01E-05	1.82E-06	4.35E-05	0.02	7.90E-06		
50-00-0	Formaldehyde	1.50E-02	2.88E-03	6.91E-02	25.23	1.20E-02		
Totals: HAPs						6.93E-02	25.31	1.27E-02

Criteria Air Pollutants	Molecular Weight (g/mol)	Outlet Concentration of Compound (ppmv)	Emission Factor (lb/MT) ^(f)	Maximum Emissions from Flare (lbs/yr)	Maximum Emissions from Flare (lbs/day)	Maximum Emissions from Flare (lbs/yr)	Pollutant Flow Rate from Flare (tons/yr)
Total Non-Methane Organics (NMOCs) as Hexane @3% O ₂	86.18	20.00	—	4.53	108.62	39,644.83	19.82
Volatile Organic Compounds (VOCs) (i)	86.18	20.00	—	4.53	108.62	39,644.83	19.82

Criteria Air Pollutants	Molecular Weight (g/Mol)	Rep. Concentration of Compound (ppmv)	Emission Factor (lb/MT) ^(f) methane	Emission Factor (lb/MT)(g)	Maximum Emissions from Flare (lbs/yr)	Maximum Emissions from Flare (lbs/day)	Maximum Emissions from Flare (tons/yr)
Nitrogen Oxides (NO _x)	—	—	—	0.06	5.46	131.16	23.94
Carbon Monoxide (CO)	—	—	—	0.20	16.22	437.18	79.79
Sulfur Dioxide (SO ₂)(h)	64.10	250.00	—	—	5.69	136.84	24.94
Particulate Matter (PM ₁₀)(PM _{2.5})	—	—	17.00	—	1.53	36.72	6.70

Notes:

- (a) List of hazardous air pollutants was from Title III Clean Air Act Amendments, 1990, and include compounds found in landfill gas, as determined from a list in AP-42 Tables 2.4-1 ("Default Concentrations for Landfill Gas Constituents, 11/98").
- (b) Average concentration of HAPs found in LFG were taken from "Waste Industry Air Coalition Comparison of Recent Landfill Gas Analysis with Historic AP-42 Values" if site-specific analysis (*) not available. Site-specific analysis from 8/18/21 (Source Test) adjusted to 50% methane (methane during test was 44.2%). If ND, the detection limit was used.
- (c) Pollutant emission rate based on estimated maximum rate that control device is equipped to handle.
- (d) Values taken from AP-42 Table 2.4-3 ("Control Efficiencies for LFG Constituents")
- (e) Concentration of hydrogen sulfide based on maximum expected.
- (f) Concentration of Mercury based on EPA AP-42 Section 2.4 Table 2.4-1 (11/98).
- (g) Concentration of HCl is based on AP-42 default, 2.4.4.2, (11/98).
- (h) Site-specific information for flare not available and default emission factors overestimated so emission factors based on source testing of standard flare at Mid-Valley Landfill in 2012 and 2013.
- (i) VOCs assumed to equal NMOCs.
- (j) Max LFG exhaust rate from flare from manufacturer at 1,600 degrees F (34,749 scfm at 12.22% oxygen (dry) converts to 16,860 scfm @3% oxygen).
- (k) SO₂ maximum emissions based on emissions cap of 24.84 by (calculated from 190 ppmv).

**TABLE 13
POTENTIAL TO EMIT FOR PROPOSED ENCLOSED STANDARD LANDFILL GAS FLARE
ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY
PALMDALE, CALIFORNIA**

Variables:

MODEL INPUT VARIABLES:			
Methane Content		50%	
Max LFG Collection Rate to Flare (c)		3,000	SCFM
Max LFG Exhaust Rate from Flare (j)		16,850	SCFM
Flare Rating (Using heating value of 1,012 Btu/scf)		81.1	MMBtu/hr

Criteria pollutant emission factors used for flare:		
Pollutant	Emission Factor	Data Source
NMOCs/VOCs	20 ppmv outlet @3% O ₂ as hexane	BACT/Manufacturer's Guarantee/NSPS
CO	0.2 lb/MMBtu	BACT/Manufacturer's Guarantee
SO ₂	250 ppmv	Maximum Expected
NO _x	0.05 lb/MMBtu	BACT/Manufacturer's Guarantee
PM ₁₀ /PM _{2.5}	17 lb/MMBtu as methane	BACT/AP-42 Table 2.4-5

CONVERSIONS	
ton conversion	2000 lbs
lb conversion	453.6 g
hour conversion	60 min
day conversion	24 hrs
12 months	365 days
mol conversion	24.04 L @ STP
cf conversion	28.32 L
mmBtu conversion	1,000,000 btu

EXAMPLE CALCULATIONS

(HAPS)

Total Pollutant Flow Rate (To Flare) = ((Molecular Weight of Compound [g/mol]) * (Concentration of Compound [ppm]) * 1,000,000) / (Total LFG to Flare [cfm]) * (60min * 24hr * 365 days) * (1ton/2000 lb) * (1lb/453.6g) * (1mol/24.04L @ STP) * (28.32L/1cf)

Pollutant Flow rate to Flare = (Total pollutant flow rate [tons/yr]) * (Collection efficiency)

Pollutant Emissions through landfill = (Total pollutant flow rate [tons/yr]) * (1 - collection efficiency)

Emission = Rate * Emission Factor;

(NMOCs/VOCs)

Maximum Flare flow rate = (Molecular Weight of Compound [g/mol]) * (Concentration of Compound [ppm]) * 1,000,000 / (LFG Flow from flare [cfm]) * (60min * 24hr * 365 days) * (1ton/2000lb) * (1lb/453.6g) * (1mol/24.04L @ STP) * (28.32L/1cf)

**TABLE 14
POTENTIAL TO EMIT FOR CURRENT ENCLOSED STANDARD LANDFILL GAS FLARE
ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY
PALMDALE, CALIFORNIA**

CAS NUMBER	COMPOUNDS	Molecular Weight (g/mol)	Ave. Concentration of Compounds Found in LFG (ppmv) ^(a)	Pollutant Flow Rate to Flare (tons/yr)	Flare Destruction Efficiency (%) ^(b)	Maximum Emissions from Flare (lb/yr)	Maximum Emissions from Flare (lb/day)	Maximum Emissions from Flare (lb/yr)	Maximum Emissions from Flare (tons/yr)
Hazardous Air Pollutants (HAPs)^(c)									
71-55-8	1,1,1-Trichloroethane (methyl chloroform) ^(d)	133.41	0.05	8.58E-03	98.0%	3.92E-05	9.41E-04	3.43E-01	1.72E-04
75-34-6	1,1,2,2-Tetrachloroethane	167.85	0.07	1.67E-02	98.0%	7.63E-05	1.83E-03	6.68E-01	3.34E-04
75-34-3	1,1-Dichloroethane (ethylene dichloride) ^(e)	98.97	0.07	9.55E-03	98.0%	4.36E-05	1.06E-03	3.82E-01	1.91E-04
75-35-4	1,1-Dichloroethene (vinylidene chloride) ^(e)	96.94	0.07	9.35E-03	98.0%	4.27E-05	1.03E-03	3.74E-01	1.87E-04
107-06-2	1,2-Dichloroethane (ethylene dichloride) ^(e)	98.96	0.79	1.10E-01	98.0%	5.04E-04	1.21E-02	4.42E+00	2.21E-03
78-87-5	1,2-Dichloropropane (propylene dichloride)	112.99	0.02	3.65E-03	98.0%	1.69E-05	4.05E-04	1.48E-01	7.38E-05
67-63-0	2-Propanol (isopropyl alcohol)	80.11	7.91	6.79E-01	99.7%	4.03E-04	1.11E-02	4.05E+00	2.03E-03
107-13-1	Acrylonitrile	53.06	0.04	2.72E-03	99.7%	1.88E-05	4.46E-05	1.63E-02	8.15E-06
75-25-2	Bromodichloromethane	163.83	0.31	7.34E-02	98.0%	3.31E-04	7.94E-03	2.90E+00	1.45E-03
71-43-2	Benzene ^(f)	78.11	2.70	3.02E-01	99.7%	2.06E-04	4.94E-03	1.80E+00	9.01E-04
75-15-0	Carbon disulfide	76.13	0.32	3.49E-02	99.7%	2.37E-05	5.69E-04	2.08E-01	1.04E-04
56-23-5	Carbon tetrachloride ^(g)	153.84	0.07	1.49E-02	98.0%	6.78E-05	1.63E-03	5.94E-01	2.97E-04
46-355-1	Carbonil sulfide	60.07	0.18	1.59E-02	99.7%	1.07E-05	2.67E-04	9.38E-02	4.69E-05
108-90-7	Chlorobenzene ^(h)	112.55	0.08	1.22E-02	98.0%	5.58E-05	1.34E-03	4.88E-01	2.44E-04
75-45-6	Chlorodifluoromethane	86.47	0.36	4.36E-02	98.0%	1.99E-04	4.78E-03	1.75E+00	8.75E-04
75-00-3	Chloroethane (ethyl chloride)	64.52	0.24	2.19E-02	98.0%	1.00E-04	2.40E-03	8.77E-01	4.38E-04
67-66-3	Chloroform ⁽ⁱ⁾	119.39	0.05	7.88E-03	98.0%	3.51E-05	8.42E-04	3.07E-01	1.54E-04
74-87-3	Chloromethane (methyl chloride)	50.48	0.25	1.79E-02	98.0%	8.16E-05	1.98E-03	7.15E-01	3.57E-04
106-46-7	Dichlorobenzenes ^(j)	147.00	1.00	2.09E-01	98.0%	9.56E-04	2.29E-02	8.37E+00	4.18E-03
75-43-4	Dichlorodifluoromethane	120.91	1.75	3.01E-01	98.0%	1.37E-03	3.30E-02	1.20E+01	6.02E-03
75-71-8	Dichlorofluoromethane	102.92	1.75	2.56E-01	98.0%	1.17E-03	2.81E-02	1.02E+01	5.12E-03
75-09-2	Dichloromethane (methylene chloride) ^(k)	84.94	0.65	7.81E-02	98.0%	3.57E-04	8.86E-03	3.13E+00	1.56E-03
100-41-4	Ethylbenzene	106.16	6.79	1.02E+00	98.7%	7.02E-04	1.68E-02	6.10E+00	3.07E-03
106-93-4	Ethylene dibromide (1,2-Dibromoethane) ^(l)	187.83	0.05	1.21E-02	98.0%	5.52E-05	1.32E-03	4.83E-01	2.42E-04
75-69-4	Fluorochloromethane	137.40	0.33	6.39E-02	98.0%	2.92E-04	7.00E-03	2.50E+00	1.26E-03
116-54-3	Hexane	86.18	2.32	2.89E-01	98.7%	1.95E-04	4.88E-03	1.71E+00	8.54E-04
2148-87-8	Hydrogen Sulfide (H ₂ S)	34.08	250.00	1.21E+01	99.7%	8.30E-03	1.99E-01	7.27E+01	3.63E-02
7439-97-6	Mercury (total) ^(m)	200.61	2.82E-04	8.33E-05	-	1.90E-05	4.59E-04	1.67E-01	8.33E-05
78-93-3	Methyl ethyl ketone	72.11	10.59	1.08E+00	98.7%	7.41E-04	1.79E-02	6.49E+00	3.25E-03
108-10-1	Methyl isobutyl ketone	100.16	0.75	1.07E-01	98.7%	7.31E-05	1.78E-03	6.41E-01	3.20E-04
127-18-4	Perchloroethylene (tetrachloroethylene) ⁽ⁿ⁾	165.83	0.44	1.03E-01	98.0%	4.71E-04	1.13E-02	4.13E+00	2.06E-03
79-01-6	Trichloroethylene (trichloroethene) ^(o)	131.40	0.17	3.18E-02	98.0%	1.46E-04	3.60E-03	1.28E+00	6.38E-04
75-01-4	Vinyl chloride ^(p)	62.50	0.10	8.92E-03	98.0%	4.07E-05	9.77E-04	3.67E-01	1.76E-04
7647-01-0	Hydrochloric acid (HCl)	36.50	42.00	2.18E+00	-	5.02E-01	1.21E+01	4.40E+03	2.20E+00
106-88-9	Toluene ^(q)	92.13	17.19	2.25E+00	98.7%	1.54E-03	3.70E-02	1.35E+01	6.70E-03
1330-20-7	Xylenes ^(r)	106.16	14.03	2.12E+00	98.7%	1.45E-03	3.48E-02	1.27E+01	6.35E-03
Totals: HAPs						0.52	12.64	4.57E+0	2.29

CAS Number	Compounds	Emission Factor (lb/masscf)(h)	Maximum Emissions from Flare (lb/day)	Maximum Emissions from Flare (lb/yr)	Maximum Emissions from Flare (lb/yr)	Maximum Emissions from Flare (tons/yr)
	PAHs (without Naphthalene)	4.06E-05	5.11E-05	1.23E-04	0.04	2.24E-05
91-20-3	Naphthalene	1.01E-06	1.26E-09	3.03E-08	0.01	5.63E-06
50-00-0	Formaldehyde	1.60E-02	2.00E-03	4.80E-02	17.52	8.76E-03
Totals: HAPs				4.81E-02	17.57	8.79E-03

Criteria Air Pollutants	Maximum Emissions from Flare (lb/yr)	Maximum Emissions from Flare (lb/day)	Maximum Emissions from Flare (lb/yr)	Pollutant Flow Rate from Flare (tons/yr)
Total Non-Methane Organics (NMOCs) as Hexane @3% O ₂	0.58	9.10	3.320	1.66
Volatile Organic Compounds (VOCs) (i)	0.58	9.10	3.320	1.66
Nitrogen Oxides (NO _x)	3.80	91.18	33,280	16.64
Carbon Monoxide (CO)	17.41	417.75	152,480	76.24
Sulfur Dioxide (SO ₂)	4.82	110.99	40,480	20.24
Particulate Matter (PM ₁₀)/PM _{2.5}	1.08	25.81	6,420	4.71

Notes:

- (a) List of hazardous air pollutants was from Title III Clean Air Act Amendments, 1990, and include compounds found in landfill gas, as determined from a list in AP-42 Tables 2.4-1 ("Default Concentrations for Landfill Gas Constituents, 11/88").
- (b) Average concentration of HAPs found in LFG were taken from "Waste Industry Air Condition Comparison of Recent Landfill Gas Analyzes with Historic AP-42 Values" if site-specific analysis (*) not available. Site-specific analysis from 8/18/21 (Source Test) adjusted to 50% methane (methane during test was 44.2%), if ND, the detection limit was used.
- (c) Pollutant emission rate based on estimated maximum rate that control device is equipped to handle.
- (d) Values taken from AP-42 Table 2.4-3 ("Control Efficiencies for LFG Constituents")
- (e) Concentration of hydrogen sulfide based on current permitted limit of 250 ppmv.
- (f) Concentration of Mercury based on EPA AP-42 Section 2.4 Table 2.4-1 (11/88).
- (g) Concentration of HCl is based on AP-42 default, 2.4.4.2, (11/88).
- (h) Site-specific information for flare not available and default emission factors overestimated so emission factors based on source testing of standard flare at Mid-Valley Landfill in 2012 and 2013.
- (i) VOCs assumed to equal NMOCs.

**TABLE 14
POTENTIAL TO EMIT FOR CURRENT ENCLOSED STANDARD LANDFILL GAS FLARE
ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY
PALMDALE, CALIFORNIA**

Variables:

MODEL INPUT VARIABLES:		
Methane Content	50%	
Max LFG Collection Rate to Flare (c)	2,063	SCFM
Flare Rating (Using heating value of 1,012 Btu/scf)	53.3	MMBtu/hr

Criteria pollutant emission factors used for flare:		
Pollutant	Emission Factor	Data Source
NMOCs/VOCs	1.66 tons/yr	Current Permitted
CO	76.24 tons/yr	Current Permitted
SO ₂	20.24 tons/yr	Current Permitted
NO _x	16.64 tons/yr	Current Permitted
PM ₁₀ /PM _{2.5}	4.71 tons/yr	Current Permitted

CONVERSIONS

ton conversion	2000 lbs
lb conversion	453.6 g
hour conversion	60 min
day conversion	24 hrs
12 months	365 days
mol conversion	24.04 L @ STP
cf conversion	28.32 L
mmBtu conversion	1,000,000 Btu

EXAMPLE CALCULATIONS

(HAPS)

Total Pollutant Flow Rate (To Flare) = (Molecular Weight of Compound [g/mol]) * (Concentration of Compound [ppm] / 1,000,000) * (Total LFG to Flare [cfm]) * (60 min / 24 hr * 365 days) * (1 ton / 2000 lb) * (1 lb / 453.6 g) * (1 mol / 24.04 L @ STP) * (28.32 L / 1 cf)

Pollutant Flow rate to Flare = (Total pollutant flow rate [tons/yr]) * (Collection efficiency)

Pollutant Emissions through landfill = (Total pollutant flow rate [tons/yr]) * (1 - collection efficiency)

Emission = Rate * Emission Factor;

(NMOCs/VOCs)

Maximum Flare flow rate = (Molecular Weight of Compound [g/mol]) * (Concentration of Compound [ppm] / 1,000,000) * (LFG Flow from flare [cfm]) * (60 min / 24 hr * 365 days) * (1 ton / 2000 lb) * (1 lb / 453.6 g) * (1 mol / 24.04 L @ STP) * (28.32 L / 1 cf)

**TABLE 15
PAINT SPRAY BOOTH POTENTIAL TO EMIT
ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY
PALMDALE, CALIFORNIA**

Pollutant	Potential Amount of Paint Used (1)	VOC Content	Potential Emissions
	(gal/yr)	(lbs/gal)	(tons/yr)
VOCs	7,300	1.22	4.45

Notes:

(1) Based on a permitted VOC maximum emission daily limit of 24.9 pounds, a monthly limit of 760 pounds, and an operation of 365 days per year. Therefore - with the appropriate VOC content conversion factor of 1.220 - the total amount of paint used cannot exceed 20 gallons per day.

**TABLE 16
EMERGENCY FIRE PUMP IC ENGINE POTENTIAL TO EMIT
ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY
PALMDALE, CALIFORNIA**

Pollutant	Emissions Factor (lbs/mmbtu) (1)	Potential Emissions (lbs/yr)	Potential Emissions (tons/yr)
CO	4.08	110.16	0.055
NOx	0.32	8.56	0.004
PM ₁₀	5.0	135	0.0675
SOx	5.88E-04	1.59E-02	7.94E-06
VOCs	0.12	3.19	0.002

Potential amount of gallons used (2):	300	gallons
Heat content value of propane:	90,000	Btu/gallon

Notes:

(1) Based on AP-42: Chapter 3.2 factors.

(2) Based on a permitted operational limit of 100 hours per year. One hour of operation equals 3 gallons of fuel use, per site logs. Therefore, the maximum potential amount of fuel use is 300 gallons per year.

**TABLE 17
SUMMARY OF FACILITY-WIDE POTENTIAL TO EMIT (NON-FUGITIVE)
ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY
PALMDALE, CALIFORNIA**

Non-Fugitive Emission Sources	Current Potential to Emit (tons/yr)						
	PM ₁₀ /PM _{2.5}	HAPs/TACs	NMOC	VOC	NOx	CO	SOx
Current Landfill Gas Flare (2,083 scfm)	4.71	2.30	1.66	1.66	16.64	76.24	20.24
Paint Spray Booth	-	-	-	4.45	-	-	-
Fire Pump	0.068	-	-	0.002	0.004	0.055	7.94E-06
Total Non-Fugitive Emissions	4.78	2.30	1.66	6.11	16.64	76.30	20.24

Non-Fugitive Emission Sources	Proposed Potential to Emit (tons/yr)						
	PM ₁₀ /PM _{2.5}	HAPs/TACs	NMOC	VOC	NOx	CO	SOx
Proposed Landfill Gas Flare (3,000 scfm)	6.70	3.30	19.82	19.82	23.94	79.79	24.94
Paint Spray Booth	-	-	-	4.45	-	-	-
Fire Pump	0.068	-	-	0.002	0.004	0.055	7.94E-06
Total Non-Fugitive Emissions	6.77	3.30	19.82	24.28	23.94	79.84	24.94
Emissions Change	1.99	1.00	18.16	18.16	7.30	3.55	4.70

**TABLE 18
TWO-YEAR AVERAGE FOR SER EMISSIONS ESTIMATES FOR CURRENT ENCLOSED FLARE
ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY
PALMDALE, CALIFORNIA**

CAS Number	Pollutant	Molecular Weight (g/Mol)	2020 Concentration Found in LFG (ppmv) (3)	2021 Concentration Found in LFG (ppmv) (3)	Destruction Efficiency (%)	2020 Actual Emissions			2021 Actual Emissions			3-Year Average Emissions from Flare (tpy)
						Pollutant Flow Rate to Flare (tpy)(4)	Emissions from Flare (lb/hr)	Emissions from Flare (tpy)	Pollutant Flow Rate to Flare (tpy)(4)	Emissions from Flare (lb/hr)	Emissions from Flare (tpy)	
Hazardous Air Pollutants (HAPs) (1)												
71-45-6	1,1,1-Trichloroethane (methyl chloroform)	133.41	0.875	0.945	98.50%	7.67E-03	3.50E-05	1.59E-04	4.23E-03	1.93E-05	8.44E-05	1.19E-04
79-34-5	1,1,2,2-Tetrachloroethane*	187.85	0.870	0.970	98.50%	8.66E-03	4.10E-05	1.89E-04	6.24E-03	3.79E-05	1.85E-04	1.72E-04
75-34-3	1,1-Dichloroethane (ethylene dichloride)	96.87	5.134	5.956	98.00%	1.02E-02	4.85E-05	2.03E-04	4.71E-03	2.15E-05	8.43E-05	1.49E-04
75-35-4	1,1-Dichloroethane (vinylidene chloride)	96.94	0.875	0.955	98.00%	5.97E-03	2.92E-05	1.11E-04	4.61E-03	2.11E-05	8.23E-05	1.02E-04
107-06-2	1,2-Dichloroethane (ethylene dichloride)	96.94	0.854	0.785	98.00%	7.26E-03	3.50E-04	1.44E-03	5.45E-02	2.49E-04	1.56E-03	1.27E-03
78-87-3	1,2-Dichloropropane (propylene dichloride)**	112.92	0.823	0.323	98.00%	1.69E-03	9.00E-05	3.97E-05	1.82E-03	0.32E-05	3.54E-05	3.81E-05
107-11-1	Arylonitrile*	53.06	0.038	0.036	99.70%	1.46E-03	8.69E-07	4.38E-06	1.34E-03	9.17E-07	4.02E-06	4.20E-06
71-43-2	Benzene	78.11	4.078	2.704	99.70%	2.43E-01	1.67E-04	7.30E-04	1.45E-01	1.01E-04	4.44E-04	5.87E-04
75-15-6	Carbon disulfide*	76.13	0.320	0.320	99.70%	1.00E-02	1.27E-03	5.58E-05	1.71E-02	1.17E-05	5.12E-05	5.35E-05
56-23-5	Carbon tetrachloride	153.84	0.063	0.068	99.00%	7.37E-03	3.37E-05	1.47E-04	7.32E-03	3.34E-05	1.46E-04	1.47E-04
493-59-1	Cumyl sulfide**	80.07	0.183	0.183	99.70%	8.40E-03	5.75E-05	2.52E-05	7.71E-03	5.28E-05	2.31E-04	2.42E-04
108-99-7	Chlorobenzene	112.56	0.151	0.078	99.00%	1.26E-02	5.01E-05	2.56E-04	6.03E-03	2.75E-05	1.21E-04	1.80E-04
75-09-3	Chloroethane (ethyl chloride)*	64.52	0.239	0.239	99.00%	1.18E-02	5.39E-05	2.34E-04	1.94E-02	4.84E-05	2.16E-04	2.26E-04
67-68-3	Chloroform	119.38	0.038	0.045	99.00%	3.43E-03	1.57E-05	6.87E-05	3.79E-03	1.73E-05	7.57E-05	7.22E-05
74-87-3	Chloromethane (methyl chloride)*	50.49	0.269	0.249	99.00%	9.02E-03	4.39E-05	1.82E-04	8.81E-03	4.02E-05	1.70E-04	1.84E-04
105-46-7	Dichlorobenzene (1,4-Dichlorobenzene)	147.00	1.119	1.001	99.00%	1.93E-01	8.81E-04	3.84E-03	1.03E-01	4.71E-04	2.06E-03	2.96E-03
75-09-2	Dichloromethane (Methylene Chloride)	84.94	0.850	0.647	99.00%	4.41E-02	2.01E-04	8.83E-04	3.89E-02	1.78E-04	7.71E-04	8.27E-04
100-41-4	Ethylbenzene*	106.16	6.769	6.789	99.70%	5.91E-01	3.77E-04	1.65E-03	5.08E-01	3.46E-04	1.52E-03	1.98E-03
106-03-4	Ethylene dibromide (1,2-Dibromoethane)	187.86	0.038	0.045	99.00%	5.40E-03	2.47E-05	1.06E-04	5.88E-03	2.72E-05	1.19E-04	1.14E-04
110-54-3	Hexane*	86.18	2.324	2.324	99.70%	1.53E-01	1.05E-04	4.50E-04	1.40E-01	8.62E-05	4.21E-04	4.49E-04
2148-87-8	Hydrogen sulfide (3)	34.08	250	250	99.70%	6.81E+00	4.40E-03	1.89E-02	5.97E+00	4.09E-03	1.79E-02	1.87E-02
7428-97-0	Mercaptan (meth)**	200.61	2.82E-04	3.95E-04	-	4.47E-05	1.02E-05	4.47E-05	4.11E-05	9.38E-06	4.15E-05	4.29E-05
78-85-3	Methyl ethyl ketone*	72.11	10.557	10.557	99.70%	5.82E-01	3.95E-04	1.74E-03	5.34E-01	3.66E-04	1.59E-03	1.67E-03
100-10-1	Methyl isobutyl ketone*	100.16	0.750	0.750	99.70%	5.74E-02	3.93E-05	1.72E-04	5.27E-02	3.61E-05	1.59E-04	1.69E-04
127-18-4	Perchloroethylene (tetrachloroethylene)	165.83	0.999	0.436	98.50%	1.27E-01	5.78E-04	2.63E-03	5.09E-02	2.32E-04	1.02E-03	1.77E-03
109-39-3	Toluene	92.13	36.010	17.193	99.70%	2.53E+00	1.74E-03	7.60E-03	1.11E+00	7.61E-04	3.33E-03	5.47E-03
79-01-6	Trichloroethylene (dichloroethene)	131.40	0.329	0.171	98.50%	3.36E-02	1.81E-04	6.69E-04	1.57E-02	7.19E-05	3.15E-04	4.87E-04
75-01-4	Vinyl chloride	62.50	0.072	0.100	98.50%	3.44E-03	1.87E-05	8.89E-05	4.40E-03	2.01E-05	8.79E-05	7.84E-05
1330-20-7	Xylenes	106.16	7.848	14.033	99.70%	6.86E-01	4.36E-04	1.91E-03	1.04E+00	7.15E-04	3.13E-03	2.52E-03
7647-01-8	Hydrochloric Acid (HCl)** (5)	36.45	42.000	42.000	-	5.17E+00	2.70E-01	1.15E+00	1.07E+00	2.45E-01	1.67E+00	1.13E+00
Total HAPs						11.85	0.29	1.23	9.87	0.25	1.11	1.37

Criteria Air Pollutants	Molecular Weight (g/Mol)	2020 Actual Emissions		2021 Actual Emissions		3-Year Average Emissions from Flare (tpy)
		Emissions from Flare (lb/hr)	Emissions from Flare (tpy)	Emissions from Flare (lb/hr)	Emissions from Flare (tpy)	
Non-Methane Organic Compounds (NMOCs as Hexane (7))	86.18	0.06	0.27	0.18	0.81	0.54
Volatile Organic Compounds (VOCs) (8)	86.18	0.06	0.27	0.18	0.81	0.54
Sulfur Dioxide (SO ₂)	64.1	1.88	5.27	1.51	5.01	7.41
Carbon Monoxide (CO)		4.51	19.75	1.23	5.38	12.67
Nitrogen Oxides (NO _x)		0.83	3.63	1.19	5.23	4.43
Particulates (PM _{2.5} , PM ₁₀ , TSP)		0.19	0.85	0.77	3.37	2.11

NOTES:

- (1) Listed Hazardous Air Pollutants (HAPs) are among compounds commonly found in landfill gas (LFG), as presented in AP-42, Tables 2.4-1 and 2.4-2
- (2) Concentrations of pollutants in LFG are based on the results flare source tests conducted on February 27, 2020 and June 18, 2021 adjusted to 50% methane.
- (3) The detection limit was used for not-detected compounds. For compounds not listed for in this source test, concentrations are based on Waste Industry Air Coefficient Values (marked with single asterisk), or on AP-42, Tables 2.4-1 and 2.4-2 (marked with double asterisk).
- (4) Flare destruction efficiency for HAPs taken from AP-42, Table 2.4-3.
- (5) For HAPs, LFG emissions from flare = (LFG to flare) * (1-control efficiency).
- (6) Based on permitted hydrogen sulfide content of 250 ppmv.
- (7) Concentration of HCl is from AP-42, Section 2.4.4.
- (8) Converted from as methane to as hexane
- (9) VOCs assumed to equal NMOCs.
- (10) Actual flow rate to flare based on 2020 recovery (650.31 MMscf @41.51% methane).
- (11) Actual flow rate to flare based on 2021 recovery (780.39 MMscf @45.23% methane).

MODEL INPUT VARIABLES:

Methane Concentration	50%
Minimum LFG Collection Rate to Flare (2020 Actual) (9)	1,627 scfm
Minimum LFG Collection Rate to Flare (2021 Actual)(10)	1,119 scfm

2020 Actual

Pollutant	Concentration	Notes
NMOCs/VOCs	0.0618 lb/hr	Based on 2020 Source Test Results (as methane)
SO ₂	183 ppmv	Based on 2020 Source Test Results
CO	4.51 lb/hr	Based on 2020 Source Test Results
NO _x	0.828 lb/hr	Based on 2020 Source Test Results
PM _{2.5} /PM ₁₀ /PM	0.193 lb/hr	Based on 2020 Source Test Results

2021 Actual

Pollutant	Concentration	Notes
NMOCs/VOCs	0.184 lb/hr	Based on 2021 Source Test Results (as methane)
SO ₂	135 ppmv	Based on 2021 Source Test Results
CO	1.23 lb/hr	Based on 2021 Source Test Results
NO _x	1.19 lb/hr	Based on 2021 Source Test Results
PM _{2.5} /PM ₁₀ /PM	0.77 lb/hr	Based on 2021 Source Test Results

**BEST AVAILABLE CONTROL TECHNOLOGY (BACT) ANALYSIS
LANDFILL GAS-FIRED FLARE
ANTELOPE VALLEY RECYCLING AND DISPOSAL FACILITY
PALMDALE, CALIFORNIA**

INTRODUCTION

On behalf of Antelope Valley Recycling and Disposal Facility, Inc. (AVRDFI), SCS Engineers (SCS) has developed the following information and analysis concerning Best Available Control Technology (BACT) for one (1) 3,000 standard cubic feet per minute (scfm), 91.1 million British thermal units per hour (MMBtu/hr) replacement flare at the Antelope Valley Recycling and Disposal Facility (AVRDF). A copy of the manufacturer's specification for the proposed flare can be found in Attachment A.

In the Antelope Valley Air Quality Management District (AVAQMD), BACT is triggered at the following emission levels for stationary sources:

- Any new Permit Unit which emits, or has the Potential to Emit, 25 pounds per day or more of any Nonattainment Air Pollutant shall be equipped with BACT.

The Antelope Valley is classified as non-attainment for particulate matter less than 10 microns (PM₁₀) and ozone. For this project, the estimated emissions from the proposed flare is as follows:

- NO_x: 131.2 pounds per day
- VOC: 108.6 pounds per day
- PM₁₀: 36.7 pounds per day

BACT is triggered for PM₁₀ since the emissions exceed 25 pounds per day or more. BACT is also triggered for nitrogen oxides (NO_x) and volatile organic compounds (VOCs), since they are precursors to ozone. For the flare, we are requesting the following limits, which we believe can be justified as BACT for each pollutant:

- NO_x limit of 0.06 pounds per MMBtu (lb/MMBtu)
- VOC limit of 20 ppmv outlet at 3 percent (%) oxygen
- PM₁₀ limit of 17 lb/million cubic feet (MMcf) of methane

Please note that the proposed flare emissions for the criteria pollutants above are less than the major facility limits per Rule 1303 as follows:

Criteria Pollutant	Proposed Flare PTE (tpy)	Proposed Facility-Wide PTE (tpy)	Major Source Threshold (tpy)	Major Source? (Yes/No)
NO _x	23.94	23.94	25	No
VOC	19.82	24.28	25	No
PM ₁₀	6.70	6.70	15	No

We believe these limits can be considered to be "achieved in practice". Any lower limits would need to be considered "cost-effective" and/or "technologically feasible" BACT, which allows an analysis of costs and other implementation factors associated with the more stringent levels.

AVRDFI respectfully requests that the AVAQMD consider the proposed emission limits above as BACT based upon the supplemental information provided in the following analysis.

An emission limit or control technology maybe be considered "achieved in practice" for a category or class of source if it exists in any of the following regulatory documents or programs:

- California Air Pollution Control Officers Association (CAPCOA) BACT Clearinghouse
- United States Environmental Protection Agency (U.S. EPA) Reasonably Available Control Technology (RACT)/BACT/Lowest Achievable Emission Rate (LAER) Clearinghouse (RBLC)
- Other Districts' and states' BACT Guidelines
- BACT requirements in New Source Review (NSR) permits issued by other agencies such as Bay Area Air Quality Management District (BAAQMD), South Coast Air Quality Management District (SCAQMD), San Joaquin Valley Air Pollution Control District (SJVAPCD), and San Diego Air Pollution Control District (SDAPCD).

BACT FOR FLARES

California LFG-Fired Flare Installations

The AVAQMD does not have a BACT database for determinations.

The Santa Barbara County Air Pollution Control District (SBCAPCD) BACT Clearinghouse does not have any BACT determinations for landfill gas (LFG) flares on their website; however, the SBCAPCD provided a copy of the most recent Authority to Construct (ATC) for the Tajiguas Landfill. The permit notes that the materials recovery facility enclosed flare combusting LFG during normal operations met BACT with the following emission levels: 0.06 lb/MMBtu/hr (1,600 degrees Fahrenheit (F)) to 0.08 lb/MMBtu (1,800 degrees F) for NO_x, 0.003 lb/MMBtu/hr for VOC, and 0.042 lb/MMBtu for PM₁₀. Note that this is higher than the emissions proposed using the 17 lb/MMscf of methane emission factor for PM₁₀. A copy of the ATC can be found in Attachment B.

The BAAQMD defines BACT for LFG flares at non-hazardous waste landfills as the following, as shown in Attachment C:

- VOCs: Enclosed ground flare with >0.6 second retention time at >1400 degrees F, automatic combustion air controls with an automatic shut-off valve for LFG and automatic restart system.
- NO_x: 0.06 lb/MMBtu
- PM₁₀: Condensate knockout vessel and fuel gas filter.

The SJVAPCD BACT database does not have any current determinations for BACT for LFG flares.

The SDAPCD BACT Guidance Document does not have any determinations for BACT for LFG flares.

The Ventura County Air Pollution Control District (VCAPCD) BACT guidance does not include any determinations.

The SCAQMD BACT database has two determinations for BACT for LFG flares in 2001 and 2017. The NO_x BACT was determined to be 0.06 lb/MMBtu and 0.025 lb/MMBtu, respectively.

Note that the 2017 determination was an ultra-low emission flare that met lowest achievable emission rate (LAER), which was required because the project triggered federal NSR. The VOC BACT was determined to be 98% destruction efficiency or maximum 20 ppmv in stack, dry corrected to 3 percent (%) oxygen for both. The PM₁₀ BACT was determined to be 6.1 lb/MMscf of landfill gas for the standard flare, and there was no determination for the ultra-low emission flare. The determinations can be found in Attachment D.

There are four BACT determinations in the CARB database for flares. This includes two flares installed in the SCAQMD jurisdiction, and two flares installed out of state. For the two flares installed in SCAQMD, these are the same determinations noted above in the SCAQMD database. For the two out of state determinations, one determination no longer has BACT information. For the second determination from Rhode Island, the ultra-low emission flare met LAER and NOx was determined to be 0.025 lb/MMBtu. There was not a determination for VOC or PM₁₀. The determination did note that the facility reports that the flare is complicated and has required a lot of operator attention. The determination can be found in Attachment E.

VOC BACT was determined to be 20 ppmv as hexane (outlet). The New Source Performance Standards (NSPS) for landfills as well as SDCAPCD, VCAPCD, and SJVAPCD allow VOC emissions to be 98% destruction efficiency or 20 ppmv as hexane.

USEPA BACT/LAER Determinations

The USEPA's RBLC contains 7 listings for LFG flares. Of these, two are open flares. Other entries include the following regulatory jurisdictions: (1) New York State Department of Environmental Conservation (two entries), (2) Florida Department of Environmental Protection, (3) Oregon Department of Environmental Quality (ODEQ), and (4) Maine Department of Environmental Protection.

The New York agency set forth two determinations that were deemed LAER for NOx: 0.06 lb/MMBtu. The agency did not have determinations for VOCs. The agency had one determination for PM₁₀ of 0.017 lb/MMBtu. Note that this is higher than the emissions proposed using the 17 lb/MMscf of methane emission factor.

The Florida agency only had a determination for visible emissions.

The Oregon agency set forth a determination that was deemed BACT: (1) 0.06 lb/MMBtu for NOx and (2) 20 ppm @3% oxygen for VOCs/ROCs. The agency did not have a determination for PM₁₀. Note that the determination noted that an ultra-low emission flare was not considered cost effective. The Oregon analysis was part of a Prevention of Significant Deterioration (PSD) BACT analysis, which used the BAAQMD BACT criteria in the evaluation.

The Maine agency set forth a determination that was deemed BACT: (1) 7.24 pounds per hour (lb/hr) for NOx, (2) 0.32 lb/hr for VOCs, and (3) 1.81 lb/hr for PM₁₀. Note that 1.81 lb/hr is higher than the lb/hr proposed using the 17 lb/MMscf of methane emission factor.

Determinations from the U.S. EPA RBLC can be found in Attachment F.

SUMMARY

The conclusions that we can draw from the above information is that BACT for LFG flares is an enclosed flare that can meet the following requirements.

Appendix A- Application

- 0.025 (technologically feasible) to 0.08 lb/MMBtu (achieved in practice) for NO_x
- 20 ppmv at 3% oxygen as hexane, >0.6 second residence time, >1400 degrees F, automatic combustion air control, automatic shut-off valve for LFG and automatic restart system, or 98% destruction efficiency for VOCs
- Fuel gas filter and condensate knock-out vessel with an emission limit up to 0.042 lb/MMBtu

Based on the above review and information, SCS believes the proposed emission limits for the flare of 0.06 lb/MMBtu for NO_x, 20 ppmv as hexane @ 3% oxygen (outlet) concentration for VOCs, and 17 lb/MMscf of methane for PM₁₀ are considered BACT. Because BACT is clear and well defined for VOCs and PM₁₀, a cost analysis is not required or relevant for this project. A cost analysis for NO_x can be provided upon request; however, SCS has demonstrated in other instances, similar to the Oregon case, as well as in SJVAPCD, that ultra-low emission flares are not cost-effective BACT for NO_x.



AUTHORITY TO CONSTRUCT MODIFICATION 14500 - 02

TAJIGUAS RESOURCE RECOVERY PROJECT

**14470 CALLE REAL, GOLETA
SANTA BARBARA COUNTY, CA**

OWNER

COUNTY OF SANTA BARBARA

OPERATORS

**MSB INVESTORS LLC
MARBORG INDUSTRIES
MUSTANG RENEWABLE POWER VENTURES, LLC
BEKON ENERGY TECHNOLOGIES INC.**

**Santa Barbara County
Air Pollution Control District**

October 2018

4.8.3 Emission Controls: Each engine is equipped with a Steuler dual SCR/oxidation catalyst control system. The manufacturer guarantees the systems reduces emissions of NO_x by 80 percent, ROC by 74 percent, and CO by 93 percent. To control SO_x emissions, the sulfur concentration of the LFG is reduced to no more than 22 ppmv used a hydrogen sulfide treatment system.

4.9 Materials Recovery Facility Enclosed Flare

4.9.1 General: An enclosed flare is utilized to combust the LFG during normal operations. The throughput of the MRF enclosed flare is increased when one of the MRF CHP engines is nonoperational. Propane may be used to supplement the LFG when the heat content of the LFG is below the minimum level needed for proper combustion in the flare. The enclosed flare is also equipped with a propane pilot flame. This combustion produces NO_x, ROC, CO, SO_x, PM, PM₁₀ and PM_{2.5} emissions.

Collected condensate from the condensate tank may be injected into the MRF enclosed flare for disposal via evaporation. The emissions from this source are negligible.

4.9.2 Emission Factors: The MRF enclosed flare emission factors are based on manufacturer guarantees. The NO_x factor is 0.080 lb/MMBtu (based on a combustion temperature of 1,800 °F), ROC factor is 0.003 lb/MMBtu, CO factor is 0.200 lb/MMBtu (based on a combustion temperature of 1,600 °F), and PM/PM₁₀/PM_{2.5} factor is 0.042 lb/MMBtu. The SO_x emission factor was determined using mass balance.

The manufacturer provided separate NO_x and CO emission factors for combustion temperatures of 1,600 °F and 1,800 °F. The emission calculations are based on the higher of the two provided emission factors for each pollutant. Permitted emissions are calculated using the following formula:

$$ER = EF * FPP * HHV * 10^6$$

Where:

- ER = emission rate (lb/time period)
- EF = pollutant specific emission factor (lb/MMBtu)
- FPP = gas flow rate per operating period (scf/time period)
- HHV = fuel higher heating value (Btu/scf)

All the MRF enclosed flare operational scenarios use the formula above.

4.9.3 Emission Controls: Emissions from the enclosed flare are controlled with high efficiency burner design, adequate combustion zone residence time, and air-to-fuel ratio controls to regulate the combustion zone temperature. The combustion zone residence time is dependent on the size of the flare enclosure, combustion zone temperature, gas flow rate, and amount of excess air. The air-to-fuel ratio controller monitors the gas flow rate and combustion zone temperature, and opens or closes louvers at the base of the enclosed flare to regulate the amount of excess air. If the flame zone is too hot, the amount of excess air is increased; if it is too cold, the amount is decreased. To control SO_x emissions, the sulfur concentration of the LFG is reduced to no more than 22 ppmv used a hydrogen sulfide treatment system.

4.10 Condensate Management System

4.10.1 General: Upstream of the LFG treatment system blower, a condensate knockout removes and collects the water vapor from LFG. The condensate is stored in a tank. Collected condensate is trucked offsite to an approved disposal facility, evaporation in the MRF enclosed flare, or sent to the onsite wastewater treatment system. There are no emissions associated with the condensate management system.

4.11 Emergency Generators

4.11.1 General: Two emergency, diesel-fired generators are used during electrical outages to provide power to the enclosed flares. The engines are permitted to operate up to 0.5 hours/day and 26 hours/year for maintenance and testing. The engines are otherwise only permitted to operate during the loss of electrical power to the facility.

4.11.2 Emission Factors: The emission factors are based on the engines' rating and year of manufacture. Default Tier III emission factors are used for these units. These emission factors are documented on the District's webpage at <http://www.ourair.org/dice/emission-factors/>. The SO_x emission factor was determined using mass balance. Emissions are determined using the following equation:

$$ER = BHP * EF * OH * CF$$

Where:

- ER = emission rate (lb/time period)
- BHP = engine brake horsepower rating
- EF = pollutant specific emission factor (g/bhp-hr)
- OH = operating hours (hours/time period)
- CF = conversion factor from grams to pounds (1 lb/453.6 g)

4.11.3 Emission Controls: The engines powering the emergency generators are EPA Tier III engines.

4.12 Other Emissions Sources

4.12.1 Onsite Mobile Source Emissions: Trucks are used to drop off MSW and CSSR at the MRF. Off-road diesel powered mobile equipment such as loaders and material handlers are used inside the MRF and ADF. These emissions were quantified in the project's 2017 Amended Environmental Impact Report (EIR). Note that the equipment and the associated emissions are not subject to this permit.

4.13 BACT/NSPS/NESHAP/MACT

4.13.1 BACT: BACT is required for all emission units for NO_x, ROC, SO_x, PM, PM₁₀ and PM_{2.5}. The applicable BACT control technologies of this permit are listed in Table 4.1 and the corresponding BACT performance standards are listed in Table 4.2. Equipment and operations subject to BACT determinations include the baghouses, CHP engines, enclosed flares, composting operations, and emergency electrical generators. BACT standards apply for the life of this project.

Appendix A- Application

MRF, ADF, CMU, and paper recycling BACT control technologies established during the ATC 14500 permit application process. These BACT control technologies are based on similar projects from the South Coast AQMD and Bay Area AQMD. ADF CHP engine control technologies are based on Bay Area AQMD BACT Guidelines for IC Engines – Biogas Fired ≥ 50 bhp output (Source: <http://www.baaqmd.gov/~media/files/engineering/bact-tbact-workshop/combustion/96-2-4.pdf?la=en>). ADF enclosed flare control technologies are based on a combination of Bay Area AQMD BACT Guidelines for Flare – Digester or Landfill Gas from nonhazardous waste landfills (Source: <http://www.baaqmd.gov/~media/files/engineering/bact-tbact-workshop/waste-processing-industry/80-1.pdf?la=en>), San Joaquin Valley United APCD BACT Guideline 1.4.4 for digester gas-fired flares (Source: <https://www.valleyair.org/busind/pto/bact/chapter1.pdf>), and ATC 14500 application material. MRF CHP engine BACT control technologies are based on previous SBCAPCD permitting actions for LFG fired engines and ATC Mod 14500-02 application material. MRF enclosed flare BACT control technologies are based on previous SBCPACD permitting actions for LFG fired engines and ATC Mod 14500-02 application material. Diesel fired emergency generator BACT is from SBCAPCD BACT Guideline 3.1 for Emergency Compressor Ignition Engines (Source: <https://www.ourair.org/wp-content/uploads/BACT-Guideline-3.1.pdf>).

The NO_x and CO BACT standards for the enclosed flares are based on the worst-case operational scenarios presented in the manufacturer specifications. The MRF and ADF enclosed flare NO_x BACT standards of 0.080 lb/MMBtu are based on a combustion temperature of 1,800 °F that was presented as the worst-case emissions scenario. The ADF enclosed flare's CO factor of 0.200 lb/MMBtu and MRF enclosed flare's CO factor of 0.200 lb/MMBtu are based on a combustion temperature of 1,600 °F.

Table 4.1 – Taiiguas Resource Recovery Project BACT

Emissions Source	NO _x	ROC	CO	SO _x	PM/PM ₁₀ /PM _{2.5}
MRF	N/A	N/A	N/A	N/A	Fully enclosed, vented to a baghouse
ADF	N/A	Fully enclosed, vented to a combustion unit or ROC control device	N/A	N/A	Fully enclosed, vented to a baghouse
ADF CHP Engines	Gas pre-treatment (filtration, refrigeration, carbon adsorption), SCR with urea injection	Gas pre-treatment (filtration, refrigeration, carbon adsorption), oxidation catalyst	Gas pre-treatment (filtration, refrigeration, carbon adsorption), oxidation catalyst	Low sulfur biogas and LFG	Gas pre-treatment (filtration and condensation)
ADF Enclosed Flare	Burner design, enclosed flare	Ground level, enclosed, auto combustion air control, automatic shutoff gas valve and automatic restart system, burner design	Ground level, enclosed, auto combustion air control, automatic shutoff gas valve and automatic restart system, burner design	Scrubbing and/or carbon adsorption for hydrogen sulfide removal, LPG or natural gas pilot	Smokeless combustion, LPG or natural gas pilot
Composting Operations: Wood Chipper	N/A	N/A	N/A	N/A	Best management practices
Composting Operations: Windrows	N/A	Best management practices	N/A	N/A	N/A
Paper Recycling	N/A	N/A	N/A	N/A	Vented to a baghouse
MRF CHP Engines	Gas pre-treatment (filtration, refrigeration, carbon adsorption), SCR with urea injection	Gas pre-treatment (filtration, refrigeration, carbon adsorption), oxidation catalyst	Gas pre-treatment (filtration, refrigeration, carbon adsorption), oxidation catalyst	Low sulfur LFG	Gas pre-treatment (filtration and condensation), vented to a baghouse
MRF Enclosed Flare	Burner design, enclosed flare	Ground level, enclosed, auto combustion air control, automatic shutoff gas valve and automatic restart system, burner design	Ground level, enclosed, auto combustion air control, automatic shutoff gas valve and automatic restart system; burner design	Hydrogen sulfide treatment system, LPG or natural gas pilot	Smokeless combustion, LPG or natural gas pilot
Diesel Fired Emergency Generators	Tier III engine	Tier III engine	Tier III engine	Ultra-low sulfur CARB diesel	CARB ATCM standards

Table 4.2 - BACT Performance Standards

Emission Source	NO _x	ROC	CO	SO _x	PM/PM ₁₀ /PM _{2.5}
MRF ¹	N/A	N/A	N/A	N/A	0.0020 gr/scf
ADF ¹	N/A	95% ROC control	N/A	N/A	0.0020 gr/scf
ADF CHP Engines 1, 2, 3, 4, 5	0.120 g/bhp-hr, 0.042 lb/MMBtu, 9 ppmv @ 15% O ₂ (as nitrogen dioxide [NO ₂])	0.120 g/bhp-hr, 0.042 lb/MMBtu, 26 ppmv @ 15% O ₂ (as methane)	0.300 g/bhp-hr, 0.105 lb/MMBtu, 38 ppmv @ 15% O ₂	20 ppmv sulfur content (as H ₂ S) biogas, 22 ppmv sulfur content (as H ₂ S) LFG, 0.0060 lb/MMBtu	0.118 g/bhp-hr, 0.042 lb/MMBtu
ADF Enclosed Flare ^{1,2,6}	1,600 °F: 0.060 lb/MMBtu 1,800 °F: 0.080 lb/MMBtu	0.003 lb/MMBtu	1,600 °F: 0.200 lb/MMBtu 1,800 °F: 0.150 lb/MMBtu	One Engine Offline: 200 ppmv sulfur content (as H ₂ S) biogas, 22 ppmv sulfur content (as H ₂ S) LFG, 0.0575 lb/MMBtu Purging: 200 ppmv sulfur content (as H ₂ S) biogas, 0.0585 lb/MMBtu	0.042 lb/MMBtu
Composting Operations: Wood Chipper ¹	N/A	N/A	N/A	N/A	PM: 0.024 lb/ton PM ₁₀ /PM _{2.5} : 0.0144 lb/ton
Composting Operations: Windrows ¹	N/A	90% ROC control	N/A	N/A	N/A
Paper Recycling Baghouse ¹	N/A	N/A	N/A	N/A	0.0032 gr/scf
MRF CHP Engines 1, 2, 3, 4, 5	0.120 g/bhp-hr, 0.037 lb/MMBtu, 9 ppmv @ 15% O ₂ (as NO ₂)	0.115 g/bhp-hr, 0.036 lb/MMBtu, 25 ppmv @ 15% O ₂ (as methane)	0.200 g/bhp-hr, 0.062 lb/MMBtu, 25 ppmv @ 15% O ₂	22 ppmv sulfur content (as H ₂ S) LFG, 0.0069 lb/MMBtu	N/A
MRF Enclosed Flare ^{1,2,6}	1,600 °F: 0.060 lb/MMBtu 1,800 °F: 0.080 lb/MMBtu	0.003 lb/MMBtu	1,600 °F: 0.200 lb/MMBtu 1,800 °F: 0.150 lb/MMBtu	22 ppmv sulfur content (as H ₂ S) LFG, 0.0069 lb/MMBtu	0.042 lb/MMBtu
Diesel Fired Emergency Generator	2.80 g/bhp-hr	0.1998 g/bhp-hr	2.60 g/bhp-hr	0.0055 g/bhp-hr	0.15 g/bhp-hr

Table Notes:

1. Compliance with the BACT performance standards demonstrated through source tests and process flow monitoring as required by the applicable Section 9 permit conditions.
2. "lb/MMBtu" standards are based on contribution of heating value from the fuel gas on a HHV basis.
3. CHP Engine BACT standards apply to all operations, except during the SCR burn-in period as well as the 30-minute time startup and shutdown periods.
4. In addition to source testing, compliance with NO_x and CO BACT Performance Standards shall be demonstrated through use of CEMS as require by Condition 9.C.21 and process flow monitoring data as required by Condition 9.C.25.
5. Compliance for the CHP engines will be based on the ppmv @ 15% O₂ values.
6. Enclosed flare BACT standards apply to all operations, except during pilot light-off and automatic equipment shutdowns from, for example, loss of flare flame.

4.13.2 **NSPS:** Discussion of applicability and compliance status regarding with NSPS (i.e. 40 CFR Part 60 Subpart JJJJ, Subpart IIII, Subpart WWW) can be found in Section 3.2.2 of this permit. An engineering analysis of the affected equipment is provided in Sections 4.4 and 4.8 above.

4.13.3 **NESHAP:** This facility is not subject to the provisions of 40 CFR Part 61.

4.13.4 **MACT:** TRRP is subject to the EPA-promulgated MACT standards of Subpart AAAA. Subpart AAAA requires TRRP to do the following:

- Develop and implement a written *SSM Plan* according to the provisions of 40 CFR §63.6(e)(3).
- Comply with all Subpart WWW requirements

These requirements have been included in this permit under Section 9.C to ensure TRRP's compliance with these federal standards.

4.14 CEMS/Process Monitoring/CAM

4.14.1 **CEMS:** The District reviewed the TRRP facility to determine the emission sources and other parameters that must be monitored continuously to ensure permit compliance. Table 4.3 provides details regarding the CEMS requirements. In order for the District to assess facility operation status and to ensure major emission sources are operating properly, selected monitoring data is telemetered to the District offices on a real-time basis. As required by the applicable permit conditions, both calculated and raw data is telemetered in accordance with District specifications for the life of the project.

The emission sources requiring continuous monitoring are the four CHP engines. Besides pollutant emissions, process parameters (such as SCR temperature and differential pressure) also require monitoring. Detailed data is required for the SCR/oxidation catalyst emission control system to ensure that emission control systems are operating as specified in the applicable permit conditions. The District may require additional continuous emission monitors and redundant monitor system components in the future if problems with the facility or monitoring operations warrant additional monitoring develop.

The monitors must meet the requirements set forth in District Rule 328 and 40 CFR Parts 51, 52, and 60. The monitors must also be installed in accordance with manufacturer's specifications and the EPA requirements as specified in the CFR.

BAAQMD BACT:

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Best Available Control Technology (BACT) Guideline

Source Category

Source:	Flare - Digester Gas or Landfill Gas from Non-Hazardous Waste landfill	Revision:	1
Class:	All	Document #:	88.1
		Date:	12/16/91

Determination

POLLUTANT	BACT 1. Technologically Feasible/ Cost Effective 2. Achieved in Practice	TYPICAL TECHNOLOGY
POC	1. n/d 2. Ground level, enclosed, ≥0.6 sec. retention time at ≥1400°F, auto combustion air control, automatic shutoff gas valve and automatic re-start system ^b	1. n/d 2. BAAQMD Approved Design and Operation ^b
NO _x	1. ≤0.06 lb/MMBtu 2. 0.06 lb/MMBtu	1. n/s 2. n/s
SO ₂	1. Scrubbing and/or carbon adsorption for hydrogen sulfide removal ^c 2. n/d	1. BAAQMD Approved Design and Operation ^b 2. n/d
CO	1. n/d 2. Same as for POC above ^b	1. n/a 2. BAAQMD Approved Design and Operation ^b
PM ₁₀	1. n/s 2. n/s	1. Fuel Gas Filter 2. Knockout Vessel
NPOC	1. n/a 2. n/a	1. n/a 2. n/a

References

b. BAAQMD
c. CARB/CAPCOA Clearinghouse

SCAQMD BACT/LAER:

Section I: AQMD BACT Determinations
Application No.: 245157
Equipment Category – Landfill Gas Gathering System

1. GENERAL INFORMATION		DATE: 06/08/2001
A. MANUFACTURER:		
B. TYPE: Landfill Gas Flaring System (4 new flares being added to existing 3-flare system)	C. MODEL:	
D. STYLE:		
E. APPLICABLE AQMD REGULATION XI RULES: 1150.1		
F. COST: \$ (2000)	SOURCE OF COST DATA:	
G. OPERATING SCHEDULE: 24 HRS/DAY	7 DAYS/WK	52 WKS/YR
2. EQUIPMENT INFORMATION		APP. NO.: 245157
A. FUNCTION: Burns landfill gas to destroy organic gases.		
B. MAXIMUM HEAT INPUT: 248 MMBtu/hr	C. MAXIMUM THROUGHPUT: 8750 scfm	
D. BURNER INFORMATION: NO.: one per flare	TYPE: hexagonal, spud-type	
E. PRIMARY FUEL: landfill gas	F. OTHER FUEL:	
G. OPERATING CONDITIONS: Landfill gas flow and Btu value vary with weather conditions and gradually decline over time. One or more flares may be shutdown when gas flow is low.		
3. COMPANY INFORMATION		APP. NO.: 245157
A. NAME: City of Los Angeles, Bureau of Sanitation	B. SIC CODE: 4953	
C. ADDRESS: 11950 Lopez Canyon Road CITY: Los Angeles STATE: CA ZIP: 91342		
D. CONTACT PERSON: John Hamilton	E. PHONE NO.: 818-834-5115	
4. PERMIT INFORMATION		APP. NO.: 245157
A. AGENCY: SCAQMD	B. APPLICATION TYPE: modification	
C. AGENCY CONTACT PERSON: Linda Dejbakhsh	D. PHONE NO.: 909-396-2614	
E. PERMIT TO CONSTRUCT/OPERATE INFORMATION: <input type="checkbox"/> CHECK IF NO P/C	P/C NO.: P/O NO.: F38381	ISSUANCE DATE: 8/28/1991 ISSUANCE DATE: 3/29/ 2001
F. START-UP DATE: 12/91 (estimate at time of application)		

5. EMISSION INFORMATION		APP. NO.: 245157
A. PERMIT		
A1. PERMIT LIMIT: Maximum landfill gas flow rate: 8750 scfm total, 1250 scfm per flare. Minimum temperature in flare stack: 1400 deg F. Maximum emission rates, lb/hr per flare (total all flares): NOx 2.1 (9.4), SOx 0.38 (2.7), CO 0.35 (2.5), PM 0.63 (4.8), NMHC 0.63 (4.4). Maximum pollutant concentrations: NOx .06 lb/MMBtu, CO .01 lb/MMBtu, PM 6.1 lb/MMSCF landfill gas. Minimum NMHC destruction efficiency of 98% or maximum NMHC concentration in stack of 20 ppm, dry corrected to 3% O2 as hexane (as required by Rule 1150.1).		
A2. BACT/LAER DETERMINATION: Maximum NOx concentration: .06 lb/MMBtu. Minimum temperature in flare stack: 1400 deg F.		
A3. BASIS OF THE BACT/LAER DETERMINATION: BACT Guidelines, Part D.		
B. CONTROL TECHNOLOGY		
B1. MANUFACTURER/SUPPLIER:		
B2. TYPE:		
B3. DESCRIPTION:		
B4. CONTROL EQUIPMENT PERMIT APPLICATION DATA:		P/C NO.: ISSUANCE DATE:
		P/C NO.: ISSUANCE DATE:
B5. WASTE AIR FLOW TO CONTROL EQUIPMENT:		FLOW RATE:
ACTUAL CONTAMINANT LOADING:		BLOWER HP:
B6. WARRANTY:		
B7. PRIMARY POLLUTANTS:		
B8. SECONDARY POLLUTANTS:		
B9. SPACE REQUIREMENT:		
B10. LIMITATIONS:		B11. UNUSED
B12. OPERATING HISTORY:		
B13. UNUSED		B14. UNUSED
C. CONTROL EQUIPMENT COSTS		
C1. CAPITAL COST: <input type="checkbox"/> CHECK IF INSTALLATION COST IS INCLUDED IN EQUIPMENT COST		
EQUIPMENT: \$		INSTALLATION: \$ (2000) SOURCE OF COST DATA:
C2. ANNUAL OPERATING COST: \$ (2000)		SOURCE OF COST DATA:
D. DEMONSTRATION OF COMPLIANCE		
D1. STAFF PERFORMING FIELD EVALUATION:		
ENGINEER'S NAME:		INSPECTOR'S NAME: Carmelta Benitez DATE: 2/2/01
D2. COMPLIANCE DEMONSTRATION: Facility found to be in compliance with permit conditions		
D3. VARIANCE:		NO. OF VARIANCES: DATES:
CAUSES:		
D4. VIOLATION:		NO. OF VIOLATIONS: Numerous DATES: 1991 - 11/28/00
CAUSES: None relating to the flare station (reviewed back to 1997).		
D5. MAINTENANCE REQUIREMENTS:		D6. UNUSED

5. EMISSION INFORMATION	APP. NO.: 245157
<p>D7. SOURCE TEST/PERFORMANCE DATA RESULTS AND ANALYSIS:</p> <p>DATE OF SOURCE TEST: 8/99 (3 flares tested), 8/00 (one flare tested) CAPTURE EFFICIENCY:</p> <p>DESTRUCTION EFFICIENCY: 98.3 (8/99, avg.), 98.5 (8/00) OVERALL EFFICIENCY:</p> <p>SOURCE TEST/PERFORMANCE DATA:</p> <p>OPERATING CONDITIONS: For these tests, the flares were operating at approx. 40-60% of their max. permitted flow rate. The following pollutant concentrations were found: NO_x .045 lb/MMBtu or less, CO .008 lb/MMBtu or less, PM 4.79 lb/MMSCF landfill gas or less.</p> <p>TEST METHODS:</p>	

6. COMMENTS	APP. NO.: 245157
<p>In this example, the landfill gas flares are being operated with pollutant concentrations below the following limits: NO_x .06 lb/MMBtu, CO .01 lb/MMBtu, PM 6.1 lb/MMSCF landfill gas. This NO_x limit is already contained in Part D of the BACT Guidelines (guidelines for non-major facilities). The CO and PM limits are thus the significant information in this listing. The CO limit of .01 lb/MMBtu appears to be a relatively low limit and may not be achievable in all cases.</p>	



Part B, Section 1, SCAQMD BACT Determination

Source Type: **Major/LAER**
 Application No.: **491442**
 Equipment Category: **Flare**
 Equipment Subcategory: **Landfill Gas, Active Solid Waste
 Landfill, Non-Hazardous Waste**
 Date: **March 17, 2017**

1. EQUIPMENT INFORMATION		
A. MANUFACTURER: John Zink		B. MODEL: Zink Ultra Low Emission (ZULE)
C. DESCRIPTION: 120 MMBtu/hr maximum input to enclosed flares, landfill gas fired with propane pilot		
D. FUNCTION: Flare incinerates landfill gas vented from landfill gas collection system. Flare is part of a two flare system. Propane gas pilot.		
E. SIZE/DIMENSIONS/CAPACITY: 12'D. x 50' H., 120 MMBtu/hr, 4000 SCFM landfill gas permitted limit		
COMBUSTION SOURCES		
F. MAXIMUM HEAT INPUT: 120 MMBtu/hr		
G. BURNER INFORMATION		
TYPE	INDIVIDUAL HEAT INPUT	NUMBER
ZULE	120 MMBtu/hr	1
H. PRIMARY FUEL: LANDFILL GAS		I. OTHER FUEL: PROPANE GAS (PILOT)
J. OPERATING SCHEDULE: 24 HRS/DAY 7 DAYS/WEEK 52 WKS/YR		
K. EQUIPMENT COST:		
L. EQUIPMENT INFORMATION COMMENTS:		
2. COMPANY INFORMATION		
A. COMPANY: Chiquita Canyon, LLC		B. FAC ID: 119219
C. ADDRESS: 29201 Henry Mayo Drive CITY: Valencia STATE: CA ZIP: 91355		D. NAICS CODE: 582212
E. CONTACT PERSON: Mike Dean		F. TITLE: General Manager
G. PHONE NO.: 661-257-3655		H. EMAIL: deanmj@repsrv.com

3. PERMIT INFORMATION						
A. AGENCY: SCAQMD			B. APPLICATION TYPE: NEW CONSTRUCTION			
C. SCAQMD ENGINEER: Gaurang Rawal						
D. PERMIT INFORMATION: PC ISSUANCE DATE: 6/27/12 P/O NO.: G25306 PO ISSUANCE DATE: 3/7/2013						
E. START-UP DATE: 12/7/2009 Source Test Date						
F. OPERATIONAL TIME: 7 years						
4. EMISSION INFORMATION						
A. BACT EMISSION LIMITS AND AVERAGING TIMES:						
	VOC	NOX	SOX	CO	PM OR PM ₁₀	INORGANIC
BACT Limit		0.025 lb/MMBtu		0.06 lb/MMBtu		
Averaging Time		1 HR		1 HR		
Correction						
B. OTHER BACT REQUIREMENTS:						
C. BASIS OF THE BACT/LAER DETERMINATION: Achieved in Practice/New Technology						
D. EMISSION INFORMATION COMMENTS: Maximum 4000 scfm landfill gas (Condition 8 - project specific), 1400°F Min temp (Condition 5 – project specific), Annual performance tests (Condition 12). Per source test PM10 as PM. BACT Limits apply when unit is fired on landfill gas.						

5. CONTROL TECHNOLOGY			
A. MANUFACTURER:		B. MODEL:	
C. DESCRIPTION:			
D. SIZE/DIMENSIONS/CAPACITY:			
E. CONTROL EQUIPMENT PERMIT INFORMATION:			
APPLICATION NO.		PC ISSUANCE DATE:	
PO NO.:		PO ISSUANCE DATE:	
F. REQUIRED CONTROL EFFICIENCIES:			
CONTAMINANT	OVERALL CONTROL EFFICIENCY	CONTROL DEVICE EFFICIENCY	COLLECTION EFFICIENCY
VOC	98%	___%	___%
NOx	___%	___%	___%
SOx	___%	___%	___%
CO	___%	___%	___%
PM	___%	___%	___%
PM ₁₀	___%	___%	___%
INORGANIC	___%	___%	___%
G. CONTROL TECHNOLOGY COMMENTS 99% by wt. Destruction Efficiency Methane. 98% by wt destruction efficiency or less than 20 ppmvd, hexane, @ 3% O2			

6. DEMONSTRATION OF COMPLIANCE
A. COMPLIANCE DEMONSTRATED BY: Source Test
B. DATE(S) OF SOURCE TEST: 12/7/2009
C. COLLECTION EFFICIENCY METHOD: N/A
D. COLLECTION EFFICIENCY PARAMETERS: N/A
E. SOURCE TEST/PERFORMANCE DATA: 98.9% TGNMO Destruction Eff., 2.13 ppm VOC (as hexane) @3% O2, < 0.02 lb CO/MMBtu; <23.3 ppm CO@ 3% O2, 0.01 lb/MMBtu NOx, 6.7 ppm NOx @3% O2; 1.22 lb SOX/hr (as SO2); 0.75 lb PM/hr;
F. TEST OPERATING PARAMETERS AND CONDITIONS: 2367 dscfm landfill gas
G. TEST METHODS (SPECIFY AGENCY): SCAQMD 25.3, 100.1, SCAQMD 5.1, ARB Mod. Method 307.91
H. MONITORING AND TESTING REQUIREMENTS: Source Testing annually for Methane, TGNMO, NOx, CO, SOx, PM10 (as PM), O2, N2, H2O, Temp and Flow
I. DEMONSTRATION OF COMPLIANCE COMMENTS:

7. ADDITIONAL SCAQMD REFERENCE DATA			
A. BCAT: Click here to enter text.		B. CCAT: 50	
D. RECLAIM FAC? YES <input type="checkbox"/> NO <input type="checkbox"/>		E. TITLE V FAC: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
C. APPLICATION TYPE CODE: 10			
F. SOURCE TEST ID(S): PR09359			
G. SCAQMD SOURCE SPECIFIC RULES:			
H. HEALTH RISK FOR PERMIT UNIT			
H1. MICR:	H2. MICR DATE:	H3. CANCER BURDEN:	H4. CB DATE:
H5. HIA:	H6. HIA DATE:	H7. HIC:	H8. HIC DATE:

CARB BACT/LAER DETERMINATION:

6/23/2021 | Process Information - Details | RACT/BACT/LAER Clearinghouse | Clean Air Technology Center | Technology Transfer Network | US EPA



Technology Transfer Network
Clean Air Technology Center - RACT/BACT/LAER Clearinghouse

Process Information - Details

For information about the pollutants related to this process, click on the specific pollutant in the list below.

- [RBLC Home](#)
- [New Search](#)
- [Search Results](#)
- [Facility Information](#)
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- [Process Information](#)

[Help](#)

DRAFT

RBLC ID: OR-0052
Corporate/Company: WASTE MANAGEMENT DISPOSAL SERVICES OF OREGON, INC.
Facility Name: COLUMBIA RIDGE LANDFILL AND RECYCLING CENTER
Process: Flares

Pollutant Information - List of Pollutants

[help](#)

Primary Fuel: landfill gas
Throughput: 1156.00 MMdscfCH4/yr
Process Code: 19.320

Pollutant	Primary Emission Limit	Basis	Verified
<u>Carbon Monoxide</u>	0.2000 LB/MMBTU	BACT-PSD	UNKNOWN
<u>Nitrogen Oxides (NOx)</u>	0.6000 LB/MMBTU	BACT-PSD	UNKNOWN
<u>Sulfur Dioxide (SO2)</u>	300.0000 PPM	BACT-PSD	UNKNOWN
<u>Volatile Organic Compounds (VOC)</u>	20.0000 PPM @3%O2	BACT-PSD	UNKNOWN

Process Notes: Two enclosed flares (FLR-1, FLR-2, both rated at 4,000 scfm, 132 MMBtu/hr) and smaller utility flare (FLR-3, rated at 1,350 scfm, 40.5 MMBtu/hr)



Technology Transfer Network
Clean Air Technology Center - RACT/BACT/LAER Clearinghouse

Pollutant Information

Click on the **Process Information** button to see more information about the process associated with this pollutant.
Or click on the **Process List** button to return to the list of processes.

RBL Home	New Search	Search Results	Facility Information	Process List	Process Information
Pollutant Information					

[Help](#)
DRAFT

RBL ID: OR-0052
Corporate/Company: WASTE MANAGEMENT DISPOSAL SERVICES OF OREGON, INC.
Facility Name: COLUMBIA RIDGE LANDFILL AND RECYCLING CENTER
Process: Flares

Pollutant: Nitrogen Oxides (NOx) **CAS Number:** 10102

Pollutant Group(s): Inorganic Compounds, Oxides of Nitrogen (NOx), Particulate Matter (PM), **Substance Registry System:** Nitrogen Oxides (NOx)

Pollution Prevention/Add-on Control Equipment/Both/No Controls Feasible: N

P2/Add-on Description:

Test Method: EPA/OAR Mthd 7E [EPA/OAR Methods](#) [All Other Methods](#)

Percent Efficiency: 0
Compliance Verified: Unknown
EMISSION LIMITS:
Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Other Factors Influence Decision: Unknown
Emission Limit 1: 0.6000 LB/MMBTU
Emission Limit 2: 33.0000 LB/MMDSCF
Standard Emission Limit: 0

COST DATA:
Cost Verified? No
Dollar Year Used in Cost Estimates:
Cost Effectiveness: 0 \$/ton
Incremental Cost Effectiveness: 0 \$/ton

Pollutant Notes: There have not been any BACT determinations for flares that resulted in add-on controls for NOx emissions. BACT has almost universally been established as utilizing good combustion practices. There is a flare designed to have ultra low emissions (guaranteed 0.025 lb NOx/MMBtu) which would result in a 14 ton/year reduction for each of the enclosed flares. The existing enclosed flares have emissions in the 0.05 to 0.06 lb NOx/MMBtu range. The annualized cost to install a new ultra low emission flare is approximately \$516,000. Costs to retrofit the existing flares could be slightly higher. The resulting cost effectiveness for NOx removal is about \$36,900 per additional ton of NOx removed. In general, anything over \$10,000 has not been considered cost effective in previous permit actions. BACT for the flares will be established at 0.06 lb NOx/MMBtu.



Technology Transfer Network
Clean Air Technology Center - RACT/BACT/LAER Clearinghouse

Process Information - Details

For information about the pollutants related to this process, click on the specific pollutant in the list below.

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FINAL

RBLC ID: NY-0111

Corporate/Company: WASTE MANAGEMENT OF NEW YORK LLC

Facility Name: HIGH ACRES LANDFILL & RECYCLING CENTER

Process: Enclosed flare

Primary Fuel: landfill gas
Throughput: 0
Process Code: 19.320

Pollutant Information - List of Pollutants

[Help](#)

Pollutant	Primary Emission Limit	Basis	Verified
Carbon Monoxide	0.2000 LB/MMBTU	BACT-PSD	UNKNOWN
Nitrogen Oxides (NOx)	0.0600 LB/MMBTU	LAER	UNKNOWN

Process Notes:



Technology Transfer Network
Clean Air Technology Center - RACT/BACT/LAER Clearinghouse

Process Information - Details

For information about the pollutants related to this process, click on the specific pollutant in the list below.

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FINAL

RBLC ID: NY-0110
Corporate/Company: MONROE COUNTY
Facility Name: MILL SEAT LANDFILL
Process: Enclosed flare

Pollutant Information - List of Pollutants

[Help](#)

Primary Fuel: landfill gas
Throughput: 0
Process Code: 19.320

Pollutant	Primary Emission Limit	Basis	Verified
Carbon Dioxide Equivalent (CO ₂ e)	0	BACT-PSD	UNKNOWN
Carbon Monoxide	0.2000 LB/MMBTU	BACT-PSD	UNKNOWN
Nitrogen Oxides (NO _x)	0.0500 LB/MMBTU	LAER	UNKNOWN
Particulate matter, filterable (FPM)	0.0170 LB/MMBTU	BACT-PSD	UNKNOWN

Process Notes:



Technology Transfer Network
Clean Air Technology Center - RACT/BACT/LAER Clearinghouse

Process Information - Details

For information about the pollutants related to this process, click on the specific pollutant in the list below.

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FINAL

RBLC ID: ME-0038

Corporate/Company: STATE OF MAINE AND NEWSME LANDFILL OPERATIONS, LLC

Facility Name: JUNIPER RIDGE LANDFILL

Process: Landfill Gas Flare

Pollutant Information - List of Pollutants

[Help](#)

Primary Fuel: Landfill Gas
Throughput: 106.50 MMBTU/H
Process Code: 19.320

Pollutant	Primary Emission Limit	Basis	Verified
<u>Carbon Monoxide</u>	39.4100 LB/H	BACT-PSD	UNKNOWN
<u>Nitrogen Oxides (NOx)</u>	7.2400 LB/H	BACT-PSD	UNKNOWN
<u>Particulate matter, filterable (FPM)</u>	1.8100 LB/H	BACT-PSD	UNKNOWN
<u>Sulfur Dioxide (SO2)</u>	157.0000 LB/H	BACT-PSD	UNKNOWN
<u>Volatile Organic Compounds (VOC)</u>	0.3200 LB/H	BACT-PSD	UNKNOWN

Process Notes:

EPA BACT DETERMINATIONS:

Section II: Other LAER/BACT Determinations
Application No.: 02-540ML
Equipment Category – Flare, Landfill Gas from Non-Hazardous Waste Landfill

1. GENERAL INFORMATION		DATE: 4/18/2006
A. MANUFACTURER: John Zink Co.		
B. TYPE: Enclosed Ground Flare	C. MODEL: ZULE	
D. STYLE: Forced Air		
E. APPLICABLE AQMD RULER:		
F. COST: \$ (NA) SOURCE OF COST DATA:		
G. OPERATING SCHEDULE: 24 HRS/DAY 3 DAYS/WK 4 WKS/YR		

2. EQUIPMENT INFORMATION		APP. NO.: 02-540ML
A. FUNCTION: Burns product gas from decomposing landfill waste. Operated intermittently, backing up a landfill gas-fired power plant, for first two years (approx.) of operation. Now operates continuously at well below maximum input.		
B. MAXIMUM HEAT INPUT:)	C. MAXIMUM THROUGHPUT: 6000 scfm (design)	
D. BURNER INFORMATION: NO.: Multiple TYPE: 24" dia. coiled tip, premix		
E. PRIMARY FUEL: Landfill Gas (49-51% CH4)		F. OTHER FUEL:
G. OPERATING CONDITIONS: Intermittent		

3. COMPANY INFORMATION		APP. NO.: 02-540ML
A. NAME: Rhode Island Resource Recovery Corp.		B. SIC CODE: 4953
C. ADDRESS: Central Landfill, 65 Shun Pike		
CITY: Johnston		STATE: RI ZIP: 02919
D. CONTACT PERSON: Claude Cote		E. PHONE NO.: 401-942-1430 x221

4. PERMIT INFORMATION		APP. NO.: 02-540ML
A. AGENCY: USEPA (consent decree)	B. APPLICATION TYPE: new construction	
C. AGENCY CONTACT PERSON: Rebecca Kurowski		D. PHONE NO.: 617-918-1863
E. PERMIT TO CONSTRUCT/OPERATE INFORMATION: PIC NO.: ISSUANCE DATE:		
<input checked="" type="checkbox"/> CHECK IF NO PIC		P/O NO.: Civil Action 02-540ML, federal district court
ISSUANCE DATE: 7/2003		
F. START-UP DATE: March 2004		

5. EMISSION INFORMATION		APP. NO.: 02-540ML
A. PERMIT		
A1. PERMIT LIMIT: Lb/MMBtu limits: NOx-.025, CO-.06. Source test every three years. Mass emission limits (tpy): NOx-21.6, CO-52.		

5. EMISSION INFORMATION		APP. NO.: 02-540ML
A2. BACT/LAER DETERMINATION: Concentration limits in 5A1.		
A3. BASIS OF THE BACT/LAER DETERMINATION: Vendor guarantee		
B. CONTROL TECHNOLOGY		
B1. MANUFACTURER/SUPPLIER: John Zink Co.		
B2. TYPE: Low-emission burner system		
B3. DESCRIPTION: Landfill gas and air are premixed prior to entering the flare. This requires an air blower as opposed to natural draft used in conventional landfill gas flares. The burners are enlarged relative to conventional landfill gas flare burners to accommodate the larger volume throughput. Landfill gas and air are injected to the mixer at 15 In. W.C. versus 5 In. W.C. landfill gas pressure used in conventional flare.		
B4. CONTROL EQUIPMENT PERMIT APPLICATION DATA:		ISSUANCE DATE:
FIC NO.:		ISSUANCE DATE:
PID NO.:		
B5. WASTE AIR FLOW TO CONTROL EQUIPMENT:		FLOW RATE:
ACTUAL CONTAMINANT LOADING:		BLOWER HP:
B6. WARRANTY: .025 lb/MMBtu NOx, .06 lb/MMBtu CO		
B7. PRIMARY POLLUTANTS: VOC		
B8. SECONDARY POLLUTANTS: NOx, CO		
B9. SPACE REQUIREMENT: Flare dimensions 13' D x 60' H. Additional plan area required for air blower and duct, venturi flow meter and static mixer.		
B10. LIMITATIONS:		B11. UNUSED
B12. OPERATING HISTORY: After solving some problems with the initial design startup was in the first quarter of 2004. The flare operated intermittently, backing up a power plant, for the first two years (approx.) and then, in December 2005, transitioned to continuous operation at well below rated (6000 scfm) landfill gas input.		
B13. UNUSED		B14. UNUSED
C. CONTROL EQUIPMENT COSTS		
C1. CAPITAL COST: <input type="checkbox"/> CHECK IF INSTALLATION COST IS INCLUDED IN EQUIPMENT COST		
EQUIPMENT: \$	INSTALLATION: \$	(NA) SOURCE OF COST DATA:
C2. ANNUAL OPERATING COST: \$ (NA) SOURCE OF COST DATA:		
D. DEMONSTRATION OF COMPLIANCE		
D1. STAFF PERFORMING FIELD EVALUATION:		
ENGINEER'S NAME:	INSPECTOR'S NAME:	DATE:
D2. COMPLIANCE DEMONSTRATION:		
D3. VARIANCE:	NO. OF VARIANCES: None	DATES:
CAUSES:		
D4. VIOLATION:	NO. OF VIOLATIONS: None	DATES:
CAUSES:		
D5. MAINTENANCE REQUIREMENTS:		D6. UNUSED

5. EMISSION INFORMATION		APP. NO.: 02-540ML
D7. SOURCE TEST/PERFORMANCE DATA RESULTS AND ANALYSIS:		
DATE OF SOURCE TEST:	6/9/2004	CAPTURE EFFICIENCY:
DESTRUCTION EFFICIENCY:		OVERALL EFFICIENCY:
SOURCE TEST/PERFORMANCE DATA:		
LFG Flow, scfm	4533	
O2, % (dry)	12.6	
NOx, lb/MMBtu (ppmvd, uncorrected)	.01 (3.7)	
CO, lb/MMBtu (ppmvd, uncorrected)	<.00017 (<0.1)	
NMOC, lb/MMBtu (ppmvd@3%O2 as hexane)	<.0014 (<0.5)	
OPERATING CONDITIONS:		
TEST METHODS: Average of three 1-hr tests using continuous gas analyzers.		

6. COMMENTS		APP. NO.: 02-540ML
The facility reports that this flare is complicated, has required a lot of operator attention and special training was required. The facility modified the flame detectors to reduce the frequency of shutdowns caused by false loss-of-flame indications.		

Regulatory Analysis:

Compliance With Applicable Requirements

Regulatory Citation	Regulatory Title	Applicable Requirement	Compliance Demonstration
CODE OF FEDERAL REGULATIONS			
40 CFR Part 60 (Subpart Cf) (California – Compliance with AB 32 Landfill Methane Rule and Portions of 40 CFR 62 Subpart OOO)	New Source Performance Standards for Municipal Solid Waste Landfills	Requires owners or operators of landfills with a design capacity equal to or greater than 2.5 million megagrams (Mg) or 2.5 million cubic meters to calculate an annual NMOC emission rate. If the NMOC emission rate is equal to or greater than 34 Mg per year, the owner or operator must submit a collection and control system design plan within one year, install the collection and control system within 30 months. Requires monitoring, reporting, recordkeeping, and test methods to demonstrate compliance with NSPS rule.	<ol style="list-style-type: none"> 1. AVRDF has submitted an initial design capacity report and a Tier 1 Emission Rate Survey. The results of the Tier 1 Survey indicated that the NMOC emissions exceeded the standard of 50 megagrams per year, which was the requirement under 40 CFR 60 Subpart WWW. 2. AVRDF submitted a GCCS Design Plan prepared by a professional engineer to AVAQMD. The design plan submittal met the permit modification requirements of Subpart WWW. The design plan included the operational standards, test methods, procedures, compliance measures, monitoring recordkeeping, and reporting provisions as described in §60.754 through §60.758. 3. The Landfill installed a landfill gas collection and control system within 30 months of exceeding 50 Mg per year of NMOCs. 4. The Landfill will continue to comply with the monitoring, reporting, recordkeeping, and test methods pursuant to requirements in the NSPS rule with the addition of the proposed flare, through compliance with NESHAP Subpart AAAA.
40 CFR Part 61 (Subpart A)	National Emission Standards for Hazardous Air Pollutants: General Provisions	Monitoring, recordkeeping, reporting and testing requirements for Hazardous Air Pollutants (HAPs)	The Landfill will continue to comply with the monitoring, reporting, recordkeeping, and test methods pursuant to requirements in the NESHAP rule with the addition of the proposed flare.
40 CFR Part 63 (Subpart A)	National Emission Standards for Hazardous Air Pollutants: General	Outlines performance testing requirements for the flare	AVRDF will comply with the performance testing requirements and perform source tests on an annual basis for the proposed enclosed landfill gas flare.

Compliance With Applicable Requirements

Regulatory Citation	Regulatory Title	Applicable Requirement	Compliance Demonstration
	Provisions		
40 CFR Part 63 (Subpart AAAA)	National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills	Compliance with rules for testing, monitoring, and operation of the GCCS.	AVRDF will continue to comply with the requirements under Subpart AAA with the proposed enclosed landfill gas flare.
40 CFR Part 70	State Operating Permit Program	Establishes procedures for obtaining a Title V permit, including application requirements and processing procedures, permit contents, permit review, compliance plan requirements, administrative requirements and public participation provisions.	AVRDF complied by submitting a Title V Permit application in 2009.
ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT (AVAQMD) RULES AND REGULATIONS			
AVAQMD Rule 203	Permit to Operate	Requires obtaining an air quality permit prior to operation of any equipment which may cause air pollutant emissions.	AVRDF complies by obtaining air quality permits from AVAQMD for all equipment which are required. Permits are renewed annually. By submitting this application, AVRDF will comply with this Rule for the proposed flare.
AVAQMD Rule 204	Permit Conditions	Allows the Air Pollution Control Officer to impose written conditions on any permit.	AVRDF complies with all written conditions imposed on air permits by the Air Pollution Control Officer and will continue to comply with the proposed flare.
AVAQMD Rule 206	Posting of Permit to Operate	Requires a copy of AVAQMD permits be mounted on or posted within 8 meters (26 feet) of any permitted equipment. Requires facility permit be kept at the location for which it is issued.	AVRDF complies by posting copies of air permits on or within 8 meters of any permitted equipment. AVRDF will post the proposed flare permit as required. AVRDF complies by keeping a copy of the facility permit at the landfill.
AVAQMD Rule 209	Transfer and Voiding of Permits	A permit shall not be transferable from one location to another or from one piece of equipment to another, or from one person to another.	AVRDF complies by obtaining a permit for each piece of equipment at the landfill and applies for a new permit if transferring equipment.
AVAQMD Rule 217	Provision for Sampling and Testing Facilities	Allows the Air Pollution Control Officer to impose requirements for sampling and testing	AVRDF complies with all written requirements for sampling and testing and will continue to comply with the proposed flare.

Compliance With Applicable Requirements

Regulatory Citation	Regulatory Title	Applicable Requirement	Compliance Demonstration
AVAQMD Rule 219	Equipment Not Requiring a Permit	Lists requirements for equipment to be exempt from permitting.	AVRDF will continue to comply by listing all exempt equipment in Form 3002-I and describing in the Title V permit application information sufficient to demonstrate compliance with the requirements in Rule 219 for exemption from permitting requirements.
AVAQMD Rule 225	Federal Operating Permit Requirements	Requires facilities subject to Regulation XXX (Title V Permits) to obtain a Federal Operating Permit.	AVRDF submitted an application for Title V in 2009 and is compliant with this rule.
AVAQMD Rule 301	Permit Fees	Establishes a fee schedule and requires fees be paid for: facility permits, facility registrations, or permits to construct and/or operate; annual operating permit renewal fees; annual operating permit emissions fee.	AVRDF complies by paying all required permit fees.
AVAQMD Rule 312	Fees for Federal Operating Permits	Requires fees to be paid for Federal Operating Permits	AVRDF will comply by paying all required fees in a timely manner.
AVAQMD Rule 401	Visible Emissions	Prohibits emissions sources from discharging into the air for more than 3 minutes of any hour any contaminant which exceeds specified opacity thresholds.	AVRDF will conduct visible opacity tests (according to Reference Method 9), as necessary, of emissions from the proposed flare and from any other non-exempt sources at the landfill which have the potential to discharge into the atmosphere levels of air contaminants that cause exceedances of opacity thresholds designated in Rule 401. AVRDF will keep written logs recording the results of the opacity tests, and makes test results available for review when requested by AVAQMD.
AVAQMD Rule 402	Nuisance	Prohibits air contaminants which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public.	AVRDF will not cause nuisance with the proposed enclosed landfill gas flare.
AVAQMD Rule 403	Fugitive Dust	Prohibits emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area, such that the dust remains visible in the atmosphere beyond the site property line of the emission	AVRDF is in compliance with the standards under Rule 403 and AVRDF utilizes reasonably available control measures to minimize dust emissions from each fugitive dust source type. If necessary, AVRDF will submit a Dust Control Plan that meets the requirements of Rule 403(D).

Compliance With Applicable Requirements

Regulatory Citation	Regulatory Title	Applicable Requirement	Compliance Demonstration
		<p>source. Prohibits 20% opacity or greater during observations in any 3 minutes of any hour except when the provisions of Rule 403(F) apply. Requires (utilization of reasonably available control measures to minimize fugitive dust emissions from each fugitive dust source type. Prohibits PM10 levels from exceeding 50 micrograms per cubic meter, determined by simultaneous sampling, using an EPA approved method, upwind and downwind of key activity areas and as close to the property line as possible, except when the provisions of Rule 403(F) apply. Prohibits track-out extending 25 feet or more from point of origin from an active operation. Prohibits conducting active operation, construction, excavation, etc. with disturbed surface area of 5 or more acres or daily import of 100 cubic yards of bulk material without utilizing listed measures. Whenever the landfill has more than 5 acres of disturbed surface area ("large operation"), the following actions, except when the provisions of Rule 403(F) apply. Submit a Dust Control Plan pursuant to the conditions of Rule 403(D).</p>	
AVAQMD Rule 404	Particulate Matter – Concentration	Prohibits discharging into the atmosphere from any source, particulate matter in excess of the concentrations at standard conditions shown in Table 404(a).	AVRDF will demonstrate compliance with the particulate emissions limitation requirement in Rule 404 through annual flare source tests, the results of which are reported to AVAQMD, for the proposed flare.

Compliance With Applicable Requirements

Regulatory Citation	Regulatory Title	Applicable Requirement	Compliance Demonstration
AVAQMD Rule 405	Solid Particulate Matter – Weight	Prohibits discharging into the atmosphere from any source, solid particulate matter in excess of the concentrations shown in Table 405(a).	AVRDF complies with the solid particulate emissions limitation requirement by not having any sources which produce solid particulate matter emissions containing lead or lead compounds.
AVAQMD Rule 407	Liquid and Gaseous Air Contaminants	Prohibits discharging into the atmosphere from any equipment CO exceeding 2,000 ppm (averaged over 15 minutes). (Note that sulfur compound limits do not apply to Lancaster region.)	AVRDF demonstrates compliance with the CO emissions limitation requirement through annual flare source tests, the results of which are reported to AVAQMD, and will continue to comply with the proposed flare.
AVAQMD Rule 408	Circumvention	Prohibits reduction or concealment of an emission without a reduction of the total amount of air contaminant emissions.	AVRDF will continue to comply with the circumvention requirement in AVAQMD Rule 408.
AVAQMD Rule 409	Combustion Contaminants	Prohibits discharging into the atmosphere from the burning of fuel, combustion contaminants exceeding 0.23 gram per cubic meter over 15 consecutive minutes.	AVRDF demonstrates compliance with the combustion contaminant limitation requirement through annual flare source tests, the results of which are reported to AVAQMD, and will continue to comply with the proposed flare.
AVAQMD Rule 430	Breakdown Provisions	Allows the Air Pollution Control Officer to refrain from enforcement action against an owner/operator of any equipment which has violated a technology-based emission limitation, provided a breakdown has occurred, and provided specified provisions and reporting occur.	In the event of a breakdown as defined in Rule 430(C), the AVRDF will comply with any requirements specified in Rule 430(C) (Breakdown Provisions), and with reporting requirements in Rule 430(D) (Verification of Breakdown).
AVAQMD Rule 431.1	Sulfur Content of Gaseous Fuels	Sets limits on the sulfur content of LFG burned in the flare based a daily limit. Establishes monitoring, reporting and recordkeeping requirements, and test methods allowable for demonstrating compliance.	AVRDF demonstrates compliance by performing routine monitoring of the landfill gas for hydrogen sulfide (H ₂ S) on a monthly basis and laboratory sample for H ₂ S and total reduced sulfur on a quarterly basis. In addition, testing of the landfill gas is performed during the annual source test on the flare per AVAQMD-approved test methods and AVRDF will continue this with the proposed flare.
AVAQMD Rule	Sulfur Content of	Sets limits on the sulfur content of	AVRDF complies with the sulfur content of liquid fuels

Compliance With Applicable Requirements

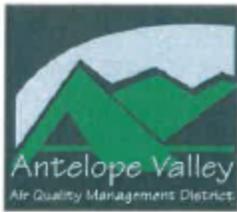
Regulatory Citation	Regulatory Title	Applicable Requirement	Compliance Demonstration
431.2	Liquid Fuels	diesel and other liquid fuels used.	requirement by not using in any fuel-burning equipment on site any fuels which have a sulfur content in excess of the limits set by Rule 431.2.
AVAQMD Rule 444	Open Fires	Prohibits the burning of combustible materials in an open outdoor fire without first obtaining a permit, except under special conditions described in Rule 444.	AVRDF complies with the ban on open fires without a permit or except under special conditions specified in Rule 444 by not having any open fires without a permit except under conditions specified in Rule 444.
AVAQMD Rule 473	Disposal of Solid and Liquid Wastes	Prohibits the burning of combustible refuse in an incinerator except under conditions defined in Rule 473.	AVRDF complies with the ban on refuse incineration by not burning refuse.
AVAQMD Rule 474	Fuel Burning Equipment – Oxides of Nitrogen	Prohibits discharging into the atmosphere from any non-mobile fuel-burning equipment oxides of nitrogen in excess of the concentration limits listed in Rule 474(a).	AVRDF demonstrates compliance with the oxides of nitrogen limitation requirement through annual flare source tests, the results of which are reported to AVAQMD, and will continue to comply with the proposed flare.
AVAQMD Rule 900	Standards of Performance for New Stationary Sources	Incorporates 40 CFR 60, Subpart Cf by reference.	See compliance demonstrations for 40 CFR 60, Subpart Cf, which is compliance with NESHAP Subpart AAAAA.
AVAQMD Rule 1150	Excavation of Landfill Sites	Sets forth requirements for excavation of an active or inactive landfill and an Excavation Management Plan, except under exemptions per Rule 1150(c).	AVRDF will comply with the excavation requirements by submitting an Excavation Management Plan, if applicable during excavation activities at the landfill.
AVAQMD Rule 1150.1	Control of Gaseous Emissions from Active Landfills	Requires installation and maintenance in good condition an approved LFG control system of sufficient capacity to draw the LFG to the gas collection devices without overdraw. Requires the LFG control system to be designed and installed in an approved manner, and to be extended as necessary to prevent off-site LFG migration and provide	AVRDF complies by having installed and maintained in good condition, an approved LFG control system of sufficient capacity to the gas collection devices without overdraw. The proposed flare will assist in maintaining this compliance. AVRDF has an approved 1150.1 Compliance Plan which includes all required elements. AVRDF conducts monitoring, reporting, recordkeeping, and testing in accordance with the requirements of Rule 1150.1(c) and the Compliance Plan.

Compliance With Applicable Requirements

Regulatory Citation	Regulatory Title	Applicable Requirement	Compliance Demonstration
		<p>for LFG recovery.</p> <p>Requires installation of sampling probes at the site perimeter to determine whether off-site migration exists. Requires submittal of a plan for probe installation.</p> <p>Sets monitoring, reporting, recordkeeping, and test methods requirements. Requires analysis of samples on a monthly, or less frequent basis if approved, to determine concentrations of total organic compounds (TOCs) and toxic air contaminants.</p>	
AVAQMD Regulation XIII (Rules 1301 – 1313)	New Source Review	<p>Sets pre-construction review requirements for new, modified, or relocated facilities, including the following, without which a permit to construct will be denied:</p> <p>Requires sources resulting in any emission increase of a non-attainment air contaminant to employ BACT.</p> <p>Requires sources with net emission increases of any non-attainment air contaminant to meet requirements for modeling, emission offsets, sensitive zone requirements, facility compliance, and major polluting facilities.</p>	<p>AVRDF will comply with any applicable pre-construction review requirements by conducting the following prior to commencing any construction of new, modified, or relocated facilities:</p> <ol style="list-style-type: none"> (1) Demonstrate use of BACT. (2) Meet any applicable requirements pursuant to Regulation XIII for modeling, emission offsets, sensitive zone requirements, facility compliance, and major polluting facilities. <p>AVRDF has conducted NSR as part of the application submittal.</p>
AVAQMD Rule 1401	New Source Review for Toxic Air Contaminants	<p>Prior to obtaining a permit to construct any new, modified, reconstructed or relocated facilities or emission unit that emit any hazardous air pollutant, toxic air contaminant or regulated toxic substance, a review</p>	<p>AVRDF will comply by performing the required Health Risk Assessment should the Air Pollution Control Officer determine that it is necessary for the proposed flare prior to issuance of a permit. AVRDF understands that the Air Pollution Control Officer will also analyze the submitted applications and Comprehensive Emission Inventories to determine if any</p>

Compliance With Applicable Requirements

Regulatory Citation	Regulatory Title	Applicable Requirement	Compliance Demonstration
		<p>must be conducted to determine whether the facility or emission unit will require control. Initial applicability to be conducted by Air Pollution Control Officer and will notify the applicant if a health risk assessment will be required.</p>	<p>MACT standard applies.</p>
AVAQMD Regulation XXX (Rules 3000 – 3011)	Title V Permits	<p>Establishes requirements for the following: Title V permit applications; Title V permit (permit term, issuance, restrictions on issuance, permit contents, operational flexibility, compliance certification, permit shield, violation of permit conditions); modifications of Title V permits; reopening, reissuance, and termination of Title V permits; notice and comment; certification; and appeals and greenhouse gas provisions.</p>	<p>AVRDF complies by submitting the Title V application, and obtaining and complying with a Title V permit, when issued, pursuant to the requirements of Regulation XXX.</p>

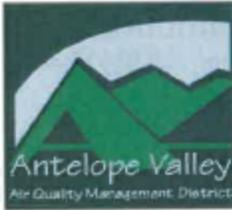


Antelope Valley Air Quality Management District
 43301 Division Street, Suite 206, Lancaster, CA 93535-4649

Please type or print.

Please refer to Rule 301 for Application Filing Fee.

1. Permit to be issued to (name of company to receive permit): Antelope Valley Recycling and Disposal Facility, Inc.		1a. Federal Tax ID #:																	
2. Mailing/Billing Address (for the above company name): 1200 West City Ranch Road, Palmdale, CA 93551																			
3. Facility or Business Name on License (for equipment location): Antelope Valley Recycling and Disposal Facility																			
4. Facility Address/Location of Equipment (if same as company, enter "Same"): Same		Facility UTM or Lat/Long: 394.75E, 3825.620N																	
5. Contact Name and Title: Matt Darr, Gas Operations Manager	E-mail Address: mdarr@wm.com	Phone and Fax #: 714-206-8939																	
6. Application is hereby made for the Authority to Construct (ATC) and Permit to Operate (PTO) the following equipment: Installation of enclosed landfill gas-fired flare to replace existing flare																			
7. Air Pollution Control Equipment, if any*: \neq																			
(**Note that most APCEs require a separate application.)																			
8. Application is for: <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Modification* <input type="checkbox"/> Change of Owner*		*For modification or change of owner: Current permit #: _____																	
9. Type of Organization (check one): <input type="checkbox"/> Individual Owner <input type="checkbox"/> Partnership <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Utility <input type="checkbox"/> Local Agency <input type="checkbox"/> State Agency <input type="checkbox"/> Federal Agency																			
10. Distances (feet and direction to closest): Fenceline <u>127' S</u> Residence <u>2,150' SE/E</u> Business <u>4,40' E</u> School <u>6,349' NE/E</u>																			
11. General Nature of Business: Municipal Solid Waste Landfill		12. Principal Product: N/A	13. SIC Code (if known): 4953																
14. Facility Annual Throughput by Quarters (percent): <table border="0"> <tr> <td><u>25</u> %</td> <td><u>25</u> %</td> <td><u>25</u> %</td> <td><u>25</u> %</td> </tr> <tr> <td>Jan-Mar</td> <td>Apr-Jun</td> <td>Jul-Sep</td> <td>Oct-Dec</td> </tr> </table>		<u>25</u> %	<u>25</u> %	<u>25</u> %	<u>25</u> %	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	15. Expected Facility Operating Hours: <table border="0"> <tr> <td><u>24</u></td> <td><u>7</u></td> <td><u>52</u></td> <td><u>8,760</u></td> </tr> <tr> <td>Hrs/Day</td> <td>Days/Wk</td> <td>Wks/Yr</td> <td>Total Hrs/Yr</td> </tr> </table>		<u>24</u>	<u>7</u>	<u>52</u>	<u>8,760</u>	Hrs/Day	Days/Wk	Wks/Yr	Total Hrs/Yr
<u>25</u> %	<u>25</u> %	<u>25</u> %	<u>25</u> %																
Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec																
<u>24</u>	<u>7</u>	<u>52</u>	<u>8,760</u>																
Hrs/Day	Days/Wk	Wks/Yr	Total Hrs/Yr																
16. Do you claim Confidentiality of Data? (If yes, state nature of data in an attachment.) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																			



Antelope Valley Air Quality Management District

43301 Division Street, Suite 206, Lancaster, CA 93535-4649

Phone 661.723.8070

www.avaqmd.ca.gov

Application for Authority to Construct and Permit to Operate

17. Stack Emissions Information					
Stack #	Stack Height ¹	Stack Diameter ²	Exhaust Temp. ³	Exhaust Flow Rate ⁴	Exhaust Velocity ⁵
1	50' above grade	10'	1,400 degrees Fahrenheit	34,749 scfm (dry @12.22% oxygen)	
2					
3					

**List additional stacks on a separate sheet as needed.

Measurements Key:

- Stack height is the distance in feet above ground level to discharge point.
- Stack diameter is the diameter (or equivalent circular diameter) of discharge point (nearest tenth foot). If using cross-sectional area (A in square feet), equivalent diameter is $D = (1.273A)^{0.5}$
- Exhaust temp. in degrees F, actual or estimated to nearest 50 degree F.
- Exhaust flow rate at discharge point in actual cubic feet per minute (ACFM).
- Exhaust velocity in feet per second, design or measured.

18. Remarks
 This section may include your basis for confidentiality, process description, modification description, and so forth. If you wish to specify process information as proprietary or confidential, use this space. Note that the kinds and rates of emissions cannot be held confidential and that emissions are subject to public disclosure. Attach additional sheets as needed.

See Application.

Signature of Responsible Official: 		Official Title: District Manager	
Typed or Printed Name of Responsible Official: Nicole Stetson		Phone Number: (661) 223-3418	Date Signed: 3-17-22
For District Use Only			
Application #:	Invoice #:	Permit #:	Company/Facility #:

NOTICE OF PRELIMINARY DETERMINATION

NOTICE IS HEREBY GIVEN THAT the Antelope Valley Recycling and Disposal Facility, located at 1200 West City Ranch Road Palmdale, California 93551 submitted an application package to the AVAQMD to increase the capacity of their Landfill Gas Flare as preparation for continuing expansion of Landfill operations. Concurrently, the applicant has submitted a Title V Permit modification application for their Federal Operating Permit, 122802470, pursuant to the provisions of the Antelope Valley Air Quality Management AVAQMD Regulation XXX. The facility was previously Subject to 40 CFR 60 Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills, and as such, it was issued, maintained, and operated in compliance with their Federal Title V Operating Permit. The proposed facility changes require the AVAQMD to perform a thorough New Source Review (NSR) pursuant to District Regulation XIII, as the Flare replacement will result in an increase in Criteria and Hazardous Air Pollutant (HAP) emissions. Accordingly, the AVAQMD has reviewed the proposal, analyzed the emissions and control equipment associated with the proposed flow rate and determined that the modified facility will continue to operate in compliance with all District, State, and Federal requirements once the modification is complete.

REQUEST FOR COMMENTS: Interested persons are invited to submit written comments and/or other documents regarding the terms and conditions of the proposed NSR modification, and the associated Federal Operating Permit. If you submit written comments, you may also request a public hearing on the NSR action and proposed modification to the Federal Operating Permit. To be considered, comments, documents and requests for public hearing must be submitted no later than 5:00 P.M. on October 16th, 2023 to the AVAQMD at the address listed below.

PETITION FOR REVIEW: The NSR action and Draft Federal Operating Permit are subject to review and approval by USEPA and the CARB. If USEPA/CARB do not object to the proposed permit and Statement of Legal and Factual Basis, and the AVAQMD has not addressed a public comment in a satisfactory manner, the public may petition the USEPA, Region IX, Operation Permits Section at 75 Hawthorne Street, San Francisco, CA 94105 within 60 days after the end of the USEPA review period for USEPA to reconsider its decision not to object to the permit.

AVAILABILITY OF DOCUMENTS: The proposed Federal Operating Permit, as well as the application and other supporting documentation are available for review at the AVAQMD offices, Antelope Valley Air Quality Management District, 2551 West Avenue H, Lancaster CA 93536. In addition, these documents are available on the AVAQMD website and can be viewed at following link: <https://avaqmd.ca.gov/permitting-public-notice>. Please contact Barbara Lods at 661-723-8070, extension 23, or at blods@avaqmd.ca.gov for additional questions pertaining to this action and/or corresponding documents.

*Traducción en español esta disponible por solicitud. Por favor llame: (661) 723-8070

Appendix B Public Notice • Email List of Persons Requesting Notice of Actions:

D. Rothbart	drothbart@lacs.org
A. Herath	aherath@cityofpalmdale.org
Alan DeSalvio	engineering@mdaqmd.ca.gov
Alex Saschin	alex.saschin@sonoma-county.org
Ali Reza Ghasem	engineering@vcapcd.org
Anne McQueen	AMcQueen@YorkeEngr.com
Anthony Morales	GTTribalcouncil@aol.com
Ben Beattie	notify@ysaqmd.org
Bill Whitaker	billw@charlesmcmurray.com
Bret Banks	avreporting@avaqmd.ca.gov
Carlene Saxton	csaxton@cityofpalmdale.org
Carrol Kaufman	cykaufman@mwdh2o.com
Colby Morrow	CLMorrow@semprautilities.com
Collin Pavelchik	cpavelch@wm.com
Daniel McGivney	dmcgivney@socalgas.com
El Dorado County AQMD	aqmd@edcgov.us
George Jung	george.jung@ngc.com
Angelica C. Jackson	angelica.c.jackson@nasa.gov
Jocelyn Swain	jswain@cityoflancasterca.org
Judy Rocchio	Judy_Rocchio@nps.gov
Karin Fickerson	kfickerson@semprautilities.com
Kyle Mertens	kmertens@wm.com
Lauren Wurm	lwurm@mmm.com
Marci Stepman	Marci.Stepman@Verdant-env.com
Marianne Strange	mstrange@mfsair.com
Marla Hughes	marla@avpaints.com
Mary Giraud	mgiraud@mbard.org
McKay (US), Vincent P	vincent.p.mckay@boeing.com
Mitch Haimov	publicnotice@aqmd.gov
Monique Cadle	mcadle@glaze-n-seal.com
Nicole Stetson	nstetson@wm.com
Omar Elfar	oelfar@trinityconsultants.com
Paul Bauer	Paul_Bauer@mthigh.com
Reenu M. Ko	reenu.m.ko@lmco.com
San Diego APCD	APCDEngineering@sdcounty.ca.gov
Sara Head	SHead@YorkeEngr.com
Scott Dickinson	bradley.dickinson@us.af.mil
Stepman, Marci B	marci.b.stepman@lmco.com
Tim Hughes	timothy.hughes.24@us.af.mil
Tonnie Cummings	Tonnie_Cummings@nps.gov

Appendix B- Public Notice

Appendix B Public Notice List of Persons Requesting Notice of Actions:

	A	B	C	D	E	F
2	Air Division (Attr: AIR-3)	United States EPA, Region IX	75 Hawthorne Street	San Francisco	CA	94105
3	Andrew Gates	Gabriel Band of Mission Indians - Kiah Nation	PO Box 393	Covina	CA	91723
4	Andy School	Wm Bohhouse Farms	7200 E. Brundage Lane	Bakersfield	CA	93307
5	Angelica Jackson	NASA Armstrong Flight Research Center, Safety and Environmental Office	PO BOX 273, MS 4822B	Edwards AFB	CA	93523
6	Anne McQueen	Yorke Engineering, LLC	31725 Rancho Viejo Road, Suite 218	San Juan Capistrano	CA	92675
7	Anthony Morales	San Gabriel Band of Mission Indians	PO Box 693	San Gabriel	CA	91778
8	Bill Whitaker	Charles McMurry Co.	2801 Leland Ave.	Sacramento	CA	95815
9	Brad Poirier	Mojave Desert AQMD	14306 Park Avenue	Victorville	CA	92392-2310
10	Bree Saville	Annapole Valley AQMD	43301 Division St., Suite 206	Lancaster	CA	93335
11	Brian Polson	L.A. County Sanitation Districts	1355 Workman Mill Road	Whittier	CA	90601
12	Carol Kaufman	Metropolitan Water District	700 N Alameda Street, 8th Floor Rm 106	Los Angeles	CA	90012
13	Catherine Jacobson	3M Company, Material EHS	3M Center, Building 0220-06-E-03	St. Paul	MN	55144
14	Chris Mastero	Los Angeles County	5050 Commercial Drive	Baldwin Park	CA	91706
15	Clifford Burg	PDCC	3504 Walnut Avenue, Suite A	Carmichael	CA	95608
16	Colby Monroe	Southern California Gas Co.	2088 E. Lester Avenue	Fresno	CA	93720-3962
17	Dan Willie	Wm Bohhouse Farms	7200 East Brundage Lane	Bakersfield	CA	93307
18	Daniel Pournieu	Lyondell Basell Industries	1221 McKinney Street	Houston	TX	77010
19	David Rothbart	Los Angeles County Sanitation District	1985 Workman Mill Road	Whittier	CA	90601
20	Dennis Sloan		5310 E. Meredith Avenue	Palmdale	CA	93552
21	Donna Termeer	Field Deputy, Supervisor Barger	42455 10th Street West, Suite 104	Lancaster	CA	93534
22	Doris Lo	United States EPA, Region IX	75 Hawthorne Street	San Francisco	CA	94105
23	Environmental Contact	Delus Financial Services	42933 Business Center Parkway	Lancaster	CA	93535
24	Environmental Contact	Air Force Base Research Laboratory	2650A	Edwards AFB	CA	93524-0060
25	Gary Rubenstein	Sierra Research	1801 J Street	Sacramento	CA	95814
26	George Jung	Northrop Grumman	3520 E. Avenue M, PA114G	Palmdale	CA	93380
27	Glen Stephens	Eastern Kern Air Pollution Control District	2000 "M" Street, Suite 302	Bakersfield	CA	93301-2370
28	J.J. Murphy	City of Palmdale	38300 Sierra Highway	Palmdale	CA	93550
29	Janet Bell	Metropolitan Water District	700 North Alameda Street	Los Angeles	CA	90012
30	Janet Laurain	Adams Broadwell Joseph & Cardozo	601 Gateway Blvd., St. 1000	South San Francisco	CA	94080-7037
31	Jason Claude	City of Lancaster	44933 N Fern Avenue	Lancaster	CA	93534
32	Jenna Lat	CARBO/Office of Ombudsman	9480 Tealster Avenue, Annex 1	El Monte	CA	91731
33	Judy Roodhoo	National Park Service	333 Bush St. Ste. 300	San Francisco	CA	94104
34	Kristine Tierney	ESA/Energy	1425 N. McDowell Boulevard, Suite 200	Petaluma	CA	94954
35	LA County Farm Bureau		41228 12th Street West, Suite A.	Palmdale	CA	93551-1400
36	Leslee Newton-Read	California Department of Fish and Game	3883 Ruffin Road Ste. A	San Diego	CA	92123
37	Lih Wang	Los Angeles World Airports	7301 World Way West, Room 312	Los Angeles	CA	90045
38	Linea Norby	Air Force Plant 42	412 TW/OL-APP 42	Palmdale	CA	93550
39	Lisa Seckham	United States EPA, Region IX	75 Hawthorne Street	San Francisco	CA	94105
40	Marci Stepman	Verdant Environmental	809 Mendocino Avenue, Unit G	South Pasadena	CA	91100
41	Michael Tolstrup	California Air Resources Board	P.O. Box 2815	Sacramento	CA	95812
42	Mike Kirby	US Borax Inc.	14486 Borax Rd.	Boron	CA	93516
43	Monique Cadee	Glaze 'N Seal Products	16207 E. McDermott St., Suite C	Irvine	CA	92614
44	Nicole Stebson	Waste Management of California, Inc	P.O. Box 4040	Palmdale	CA	93534
45	Noel Muyco	Sempra Energy	555 W. 9th St., Mt. 1703	Los Angeles	CA	90051-1249
46	Rob Duchow	Southern California Gas Co.	3701 Pagosa Drive, Suite 114	Bakersfield	CA	93308
47	Scott Walsh	95AIRWCE/C	5 East Poposa Ave., Bldg 2850A	Edwards AFB	CA	93524
48	David Sadrudin	San Joaquin Valley APCD	1930 E. Gentryburg	Fresno	CA	93726
49	Shari Arnold	Annapole Valley Press	P.O. Box 880	Palmdale	CA	93590
50	Shari Haggard	MOAQMD	14306 Park Ave	Victorville	CA	92392
51	Southern California Edison	Altamont ESD	P.O. Box 5085	Rosemead	CA	91770-0908

	A	B	C	D	E	F
52	Supervisor Kathryn Barger	County of Los Angeles	42455 10th Street West, Suite 104	Lancaster	CA	93534
53	Susan Tsai	L.A. County Dept. Regional Planning	320 W. Temple St, Room 1348, Hall of Records	Los Angeles	CA	90012
54	Suzanne Johnson	Lockheed Martin Aeronautics Company	1011 Lockheed Way, Mail Zone 0524	Palmdale	CA	93559
55	Sylvia Vanderspek	California Air Resources Board	P.O. Box 2815	Sacramento	CA	95812
56	Thomas Gross	Southern California Edison	2131 Walnut Grove Avenue	Rosemead	CA	91770
57	Tornie Cummings	National Park Service, Pacific West Region	812 E. Reserve Street	Vancouver	WA	98681
58	Tung Le	California Air Resources Board	P. O. Box 2815	Sacramento	CA	95812
59	Vinco McKay	Boeing Company - Site 1 Team Palmdale/Edwards	1800 E. Ave M, M/C 841-PL01	Palmdale	CA	93580
60	Vincent Masuraha	Terby Consultants, Inc.	20 Corporate Park Suite 200	Irvine	CA	92606
61	Wayne Nantz	South Coast AQMD	21865 Copley Dr.	Diamond Bar	CA	91765-4182
62		L.A. County Fire	42110 6th Street West	Lancaster	CA	93534