San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

January 9, 2024

Mr. Glenn Eastes
City of Clovis - Landfill
155 N Sunnyside Ave
Clovis, CA 93611

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
Facility Number: C-3074
Project Number: C-1223534

Dear Mr. Eastes:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The proposed modification is to correct and clarify certain conditions that are included in the current permit for the existing municipal solid waste landfill (permit unit C-3074-8) related to monitoring of the landfill gas collection devices in the expansion area and monitoring of landfill surface emissions.

The notice of preliminary decision for this project has been posted on the District's website (www.valleyair.org). After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Nick Peirce, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

Brian Clements
Director of Permit Services

Enclosures

cc: Courtney Graham, CARB (w/enclosure) via email
cc: Gerardo Rios, EPA (w/enclosure) via EPS

San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Correct Landfill Monitoring Conditions and
Reduce VOC Emission Limit of the Backup Flare for Compliance with District Rule 4311

Facility Name:	City of Clovis - Landfill	Date:	January 9, 2024
Mailing Address:	155 N Sunnyside Ave Clovis, CA 93611	Engineer:	Ramon Norman
		Lead Engineer:	Dustin Brown
Applicant:	Glenn Eastes, Assistant Public Utilities Director		
Telephone:	(559) 324-2600	Cell Phone:	(559) 905-7322
E-Mail:	glenne@ci.clovis.ca.us		
Contact Person:	Melissa St. John, SCS Engineers		
Telephone:	(916) 406-5476	E-Mail:	MStJohn@scsengineers.com
Application #s:	C-3074-8-8		
Project #:	C-1223534		
Deemed Complete:	June 23, 2023		

I. Proposal

The primary business of City of Clovis - Landfill is the disposal of municipal solid waste (MSW). City of Clovis - Landfill has requested an Authority to Construct (ATC) permit to modify their existing municipal solid waste landfill (Permit Unit C-3074-8) by correcting and clarifying certain conditions that are included in the current permit related to monitoring of the landfill gas collection devices in the expansion area and monitoring of landfill surface emissions.

In addition to the proposed corrections and clarifications to the existing monitoring requirements for the landfill requested by the applicant, other permit conditions will updated as needed to clarify applicable requirements.

Disposition of Outstanding ATCs

Under District project C-1222892, City of Clovis - Landfill was issued ATC C-3074-8-7 for the installation of a new 33 MMBtu/hr low NO_X flare to act as the primary disposal device for the landfill gas and to designate the existing 30 MMBtu/hr flare as a backup flare. The applicant indicates that the changes authorized by ATC C-3074-8-7 will be implemented prior to or concurrent with the implementation of this ATC. Therefore, ATC C-3074-8-7 will serve as the base document. The following condition will be included on ATC C-3074-8-8 to ensure compliance:

- Authority to Construct (ATC) C-3074-8-7 will be implemented prior to or concurrently with the modification authorized by this ATC. [District Rule 2201]

Draft ATC C-3074-8-8 is included in Appendix A. Current Permit to Operate (PTO) C-3074-8-6 and valid ATC C-3074-8-7 are included in Appendix B.

City of Clovis - Landfill received their Title V Permit on June 9, 2014. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period and 30-day public notice period will be satisfied prior to the issuance of the Authority to Construct. City of Clovis - Landfill must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 1070	Inspections (12/17/92)
Rule 2201	New and Modified Stationary Source Review Rule (8/15/19)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (8/15/19)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4311	Flares (12/17/20)
Rule 4651	Soil Decontamination Operations (9/20/07)
Rule 4642	Solid Waste Disposal Sites (4/16/98)
Rule 4801	Sulfur Compounds (12/17/92)
Rule 8011	General Requirements (8/19/04)
Rule 8031	Bulk Materials (8/19/04)
Rule 8041	Carryout and Trackout (8/19/04)
Rule 8071	Unpaved Vehicle/Equipment Traffic Areas (9/16/04)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

California Code of Regulations (CCR) Title 17 (Public Health), Division 3 (Air Resources), Chapter 1 (Air Resources Board), Subchapter 10 (Climate Change), Article 4 (Regulations to Achieve Greenhouse Gas Emission Reductions), Subarticle 6 (Methane Emissions from Municipal Solid Waste Landfills), Sections 95460 through 95476

California Code of Regulations Title 17, Subchapter 10, Article 4, Subarticle 6, sections 95460 through 95476: Methane Emissions from Municipal Solid Waste Landfills

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)

California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The facility is located at 15679 Auberry Rd near Clovis, CA. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The City of Clovis - Landfill operates a municipal solid waste (MSW) landfill. Municipal solid waste is collected and brought to the landfill to be disposed by being buried. Anaerobic decomposition of the buried waste results in the generation of methane as well as other constituent gases that are VOCs. The gas produced in the landfill is referred to as landfill gas (LFG). The landfill gas generated is collected and flared to reduce the potential for landfill gas to contaminate groundwater and to reduce VOC emissions to the atmosphere from the gas.

V. Equipment Listing

Pre-Project Equipment Description:

C-3074-8-7: 76.3 ACRE MUNICIPAL SOLID WASTE LANDFILL (10.45 MILLION CUBIC YARD) WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING VERTICAL AND HORIZONTAL COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 5,000 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY A 33 MMBTU/HR PERENNIAL ENERGY LOW NOX ENCLOSED GROUND FLARE AND A BACKUP 30 MMBTU/HR PERENNIAL ENERGY MODEL FL-108-26-E ENCLOSED GROUND FLARE

Proposed Modification:

Modify and clarify landfill monitoring conditions

C-3074-8-8: MODIFICATION OF 76.3 ACRE MUNICIPAL SOLID WASTE LANDFILL (10.45 MILLION CUBIC YARD) WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING VERTICAL AND HORIZONTAL COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 5,000 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY A 33 MMBTU/HR PERENNIAL ENERGY LOW NOX ENCLOSED GROUND FLARE AND A BACKUP 30 MMBTU/HR PERENNIAL ENERGY MODEL FL-108-26-E ENCLOSED GROUND FLARE: MODIFY AND CLARIFY LANDFILL MONITORING CONDITIONS

Post-Project Equipment Description:

C-3074-8-8: 76.3 ACRE MUNICIPAL SOLID WASTE LANDFILL (10.45 MILLION CUBIC YARD) WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING VERTICAL AND HORIZONTAL COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 5,000 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY A 33 MMBTU/HR PERENNIAL ENERGY LOW NOX ENCLOSED GROUND FLARE AND A BACKUP 30 MMBTU/HR PERENNIAL ENERGY MODEL FL-108-26-E ENCLOSED GROUND FLARE

VI. Emission Control Technology Evaluation

The landfill is equipped with a landfill gas collection and control system that collects the landfill gas and combusts it in enclosed ground flares. The landfill gas collection and control system is considered 75% efficient at collecting the landfill gas. The flares incinerate the landfill gas to control VOCs and non-methane organic compounds (NMOCs), and to any address safety issues associated with venting of a flammable gas. The complete combustion of VOCs will convert these compounds to CO_2 and water vapor. However, combustion of the digester gas in the flares will produce other pollutants, including NO_X, SO_X, PM_{10}, and CO. The flares are required to have minimum VOC control efficiency of at least 98% by weight or reduce the measured VOC concentration to no more than 20 ppmv as methane @ 3% O_2 and are also required to have a minimum methane destruction efficiency of 99% by weight.

The primary flare is a 33 MMBtu/hr low NO_X flare that has been designed and engineered to have low NO_X emissions while still maintaining adequate combustion of the landfill gas, which results in low CO and VOC emissions. NO_X emissions from the primary flare are limited to no more than 0.025 lb-NO_X/MMBtu. The 30 MMBtu/hr backup flare is not allowed to operate at the same time as the primary flare and is expected to mainly be used when the primary flare is down for maintenance or repairs. NO_X emissions from the backup flare are limited to 0.05 lb-NO_X/MMBtu. Compliance with the NO_X, CO, and VOC emission factors and VOC and methane destruction efficiency for flares is demonstrated through periodic source testing.

VII. General Calculations

A. Assumptions

- The landfill is permitted to operate 24 hr/day and 365 days/year (8,760 hr/year)
- Landfill first opened in 1957 and will close in 2066 (per applicant)
- The maximum daily soil cover used: 1,997 ton/day (ATC C-3074-8-7)
- VOC/NMOC emissions from the landfill were calculated under recent Project C-1222892 using the EPA Landfill Gas Emissions Model (LandGEM), Version 3.03 (2020), using the information provided by the applicant (see: https://www.epa.gov/catc/clean-airtechnology-center-products#software)
- Since the number of years the landfill will operate exceeds the 80 year limit of the LandGEM model, two model runs will be used to calculate emissions in accordance with the LandGEM User's Guide (2005)
- Waste received by the landfill will increase by 5.35% each year from 2022 until the landfill reaches capacity and is closed in 2066 (per applicant)
    - Because California Senate Bill (SB) 1383 requires the development and implementation of regulations to reduce the disposal of organic waste in landfills by 50% of 2014 levels by 2020 and 75% of 2014 levels by 2025, to reduce methane

emissions, the future amount of waste disposed in the landfill each year is probably overestimated. In addition, since degradable organic waste is the source of methane, non-methane organic compounds (NMOCs), and VOC emissions, the future emissions of these compounds are likely overestimated.

- Under Project C-1222892, a NMOC concentration of 250 ppmv was used in the LandGEM runs since this value is slightly higher than values from six years of source testing

- 99.7% of NMOC for landfills is VOC AP-42, (AP-42, Draft Section 2.4 (2008))

- 75% of the gas produced in the landfill is assumed to be captured by the landfill gas collection and control system with the remaining 25% emitted as fugitive emissions from the landfill. The 75% collection efficiency for the landfill gas collection and control system is recommended in AP-42, Draft Section 2.4 - Municipal Solid Waste Landfills (October 2008)

- Since landfills are not one of the specific source categories specified in 40 CFR 70.2, fugitive emissions from landfills are not considered for major source determination purposes

- The 33 MMBtu/hr low NO_X flare is the primary device used for disposal of the landfill gas. The 30 MMBtu/hr backup flare is expected to mainly operate when the primary flare is down for maintenance or repair. The backup flare will not operate at the same time as the primary flare (ATC C-3074-8-7)

- The flares only combust landfill gas with the exception of the flare pilot light, which is fueled with propane/liquefied petroleum gas (LPG) (ATC C-3074-8-7)

- Consistent with District practice for flares, the pilot light of the flares will be treated as a separate emission units that are considered to have insignificant emissions and will be exempt from District permitting requirements as a low-emitting units

- The primary low NO_X flare is permitted to operate 24 hours/day for 365 days/year

- For compliance with District Rule 4311, the backup flare is limited to a maximum flaring throughput of 90,000 MMBtu per calendar year for two consecutive years; however, because annual operation is not limited in any given individual year, PE calculations for the backup flare are based on maximum operation for 24 hour/day and 365 day/year

- Each flare has a minimum control efficiency for VOC of 98% by weight or reduces VOC concentrations to no more than 20 ppmv as methane @ 3% O_2 (ATC C-3074-8-7)

- The F Factor (ratio of combustion exhaust volume to higher heating value of gas) for the landfill gas given in the December 2022 source test report for the landfill gas flare was 9,589 dscf/MMBtu at 60 ˚F. The F Factor for the landfill gas given in the December 2021 source test report the landfill gas flare was 9,857 dscf/MMBtu at 60 ˚F. (See Appendix C) The average of these values, 9,723 dscf/MMBtu at 60 ˚F, will be considered representative of the landfill gas

- ATC C-3074-8-7 limits the total VOC emissions from the landfill and flares to no more than 21,316 lb-VOC/year. The applicant has not proposed any changes to this limit; therefore, this limit will be maintained for both pre-project and post-project VOC emissions from the landfill and flares

- The landfill gas flares are emissions control devices used to control non-methane organic compounds (NMOCs), VOCs, CH_4, and odors from the gas that is generated in the landfill

- $PM_{2.5}$ emissions from combustion are assumed to be equal to PM_{10} emissions (District practice)

B. Emission Factors

Pre-Project Emission Factors Emission Factors (EF1s)

<u>PM_{10} Emission Factor from Earthmoving Activities for Landfill Cover</u>

The pre-project and post-project emission factor for material handling for the landfill cover is 0.0023 lb-PM_{10}/ton of soil handled, as given in ATC C-3074-8-7. This emission factor was derived according to US EPA's AP-42, Section 13.2.4, equation (1) as shown below:

$$EF\ (lb-\ \mathrm{PM}_{10}/ton) = (1)(0.0032)\frac{\left(\frac{15}{5}\right)^{1.3}}{\left(\frac{15}{5}\right)^{1.4}} = 0.0023\ \ \frac{\mathrm{lb-PM_{10}}}{\mathrm{ton\ soil\ moved}}$$

Where:
k is equal to 1 (worst-case particle size),
U is equal to 15 mph (worst-case for SJV wind patterns), and
M is equal to 7% (driest the soil would be during summer months per applicant).

<u>VOC Emission Factor for Landfill</u>

Uncontrolled VOC emissions from the landfill are based on US EPA's LandGEM model, which calculates potential gas production based upon maximum waste receipts, operating life of the landfill, and other parameters. (See Project C-1222892)

<u>Pre-Project Emission Factors for the 33 MMBtu/hr Primary Flare</u>

The pre-project emission factors for NO_X (0.025 lb/MMBtu), SO_X (0.03 lb/MMBtu), PM_{10} (0.015 lb/MMBtu), CO (0.06 lb/MMBtu), and VOC (0.008 lb/MMBtu) from the primary flare are based on current ATC C-3074-8-7. The NO_X emission factor is required for compliance with District Rule 4311. The PM_{10} emission factor for the flare is based on the value given in AP-42, Draft Section 2.4 Municipal Solid Waste Landfills (October 2008). The NO_X and CO emission factors and the VOC control efficiency are guaranteed by the flare manufacturer. ATC C-3074-8-7 requires periodic testing to demonstrate compliance with the NO_X, CO, and VOC emission factors and the VOC control efficiency.

As explained above, ATC C-3074-8-7 requires the primary flare to have a minimum VOC control efficiency of 98% by weight or to reduce VOC concentrations to no more than 20 ppmv as methane @ 3% O_2. ATC C-3074-8-7 also requires that the VOC emission factor for the primary flare be no greater than 0.008 lb/MMBtu. The emission factor used to calculate VOC emissions from the primary flare is based on the maximum VOC emissions allowed for the flare based on the requirements in ATC C-3074-8-7.

Daily and Annual PE for VOC from the Flare based on 98% VOC Reduction by Weight

Based on the EPA LandGEM runs performed for Project C-1222892, which are discussed further below, the maximum uncontrolled PE for VOC from the landfill is given below.

Uncontrolled Annual PE_{VOC} = 78,957 lb-VOC/year
Uncontrolled Daily PE_{VOC} = 78,957 lb-VOC/year ÷ 365 day/year
= 216.3 lb-VOC/day

As stated above, the landfill gas collection system captures 75% of the VOC emissions from the landfill and routes them to the flares. Therefore, based on a minimum VOC control efficiency of 98%, the VOC emissions from the flare are calculated as follows:

Daily Flare PE_{VOC} (98% Control) = 216.3 lb-VOC/day x (0.75) x (1 - 0.98)
= 3.2 lb-VOC/day

Annual Flare PE_{VOC} (98% Control) = 78,957 lb-VOC/year x (0.75) x (1 - 0.98)
= 1,184 lb-VOC/year

Daily and Annual PE for VOC from Flare based on 30 ppmv VOC (as CH_4) @ 3% O_2

As explained above, ATC C-3074-8-7 allows the flares for the landfill to comply with a VOC emission concentration limit of 20 ppmv as methane @ 3% O_2 rather than complying with the requirement to reduce VOC emissions by 98% by weight. Using the F factor from the December 2021 source test report of 9,857 dscf/MMBtu at 60 °F for conservative emission factor calculations, the VOC emission factor for 20 ppmv as methane @ 3% O_2 is calculated as follows:

VOC (as CH_4) – 20 ppmvd @ 3% O_2 in exhaust

$$\frac{20\ \text{ppmv VOC @ 3\% O}_2}{10^6} \times \frac{16\ \text{lb} - \text{VOC}}{\text{lb} - \text{mole}} \times \frac{\text{lb} - \text{mole}}{379.5\ \text{ft}^3} \times \frac{9{,}857\ \text{ft}^3}{1\ \text{MMBtu}} \times \frac{20.9\%\ \text{O}_2}{(20.9 - 3)\%\ \text{O}_2} = 0.0097\ \frac{\text{lb} - \text{VOC}}{\text{MMBtu}}$$

The maximum PE for VOC from the 33 MMBtu/hr primary flare using this emission factor is calculated as follows:

Daily Flare PE_{VOC} (20 ppmvd @ 3% O_2) = 33 MMBtu/hr x 0.0097 lb-VOC/MMBtu x 24 hr/day
= 7.7 lb-VOC/day

Annual Flare PE_{VOC} (20 ppmvd @ 3% O_2) = 33 MMBtu/hr x 0.0097 lb-VOC/MMBtu x 24 hr/day x 365 day/yr
= 2,804 lb-VOC/day

As shown in the calculations above, the option to comply with the VOC concentration limit of 20 ppmv as methane @ 3% O_2 results in greater VOC emissions from the primary flare than compliance with the 98% VOC reduction requirement; therefore, the VOC emission factor of 0.0097 lb-VOC/MMBtu based on 20 ppmv as methane @ 3% O_2 is the maximum PE for VOC for these options.

VOC (as CH_4) – 0.008 lb-VOC/MMBtu

As explained above, ATC C-3074-8-7 requires that the VOC emissions primary flare shall be no greater than 0.008 lb-VOC/MMBtu. Because this emission factor is lower the VOC emission factor of 0.0097 lb-VOC/MMBtu calculated for compliance with a concentration limit of 20 ppmv as methane @ 3% O_2, an emission factor of 0.008 lb-VOC/MMBtu will be used to calculate the PE for VOC for the primary flare.

The emission factors that will be used to calculate the PE from the primary flare are shown in the table below.

Pre-Project Emission Factors for 33 MMBtu/hr Low NO_X Primary Flare		
Pollutant	**lb/MMBtu**	**Source**
NO_X	0.025	ATC C-3074-8-7/Rule 4311 Requirement
SO_X	0.03	ATC C-3074-8-7
PM_{10}	0.015	ATC C-3074-8-7/ AP-42 Draft Table 2.4.4 (October 2008)
CO	0.06	ATC C-3074-8-7/Flare manufacturer guarantee
VOC	0.008	ATC C-3074-8-7

Pre-Project Emission Factors for the 30 MMBtu/hr Backup Flare

The pre-project emission factors for NO_X (0.05 lb/MMBtu), SO_X (0.033 lb/MMBtu), CO (0.2 lb/MMBtu), and VOC (0.006 lb/MMBtu) from the backup flare are based on current ATC C-3074-8-7. Review of the documents for Project C-1054301 under which the flare was first permitted indicates that the PM_{10} emission factor in the current permit for the backup flare of 0.05 lb-PM_{10}/MMBtu is the result of a typographical error and that the PM_{10} emission factor for the flare was originally intended to be based on the value given in AP-42, Draft Section 2.4 Municipal Solid Waste Landfills (November 1998). Therefore, pursuant to District Policy APR 1110 - *Use of Revised Generally Accepted Emission Factors*, the PM_{10} emission factor for the backup flare will be updated to 0.015 lb-PM_{10}/MMBtu based on the value given in AP-42, Section 2.4 Municipal Solid Waste Landfills (October 2008) and this emission factor will be used to calculate both the pre-project and post-project PE for PM_{10} from the backup flare. The NO_X and CO emission factors and the VOC control efficiency were guaranteed by the flare manufacturer. Compliance with the NO_X, CO, and VOC emission factors and the VOC control efficiency has been demonstrated through previous source testing.

As explained above, ATC C-3074-8-7 requires the backup flare to have a minimum VOC control efficiency of 98% by weight or to reduce VOC concentrations to no more than 20 ppmv as methane @ 3% O_2. ATC C-3074-8-7 also requires that the VOC emission factor for the backup flare be no greater than 0.006 lb/MMBtu. The emission factor used to calculate VOC emissions from the backup flare is based on the maximum VOC emissions allowed for the flare based on the requirements in ATC C-3074-8-7.

Daily and Annual PE for VOC from the Flare based on 98% VOC Reduction by Weight

As discussed above, the VOC emissions from the flare based on 75% capture of the VOC emissions from the landfill and a minimum VOC control efficiency of 98% are calculated as follows:

Daily Flare PE_{VOC} (98% Control) = 216.3 lb-VOC/day x (0.75) x (1 - 0.98)
= 3.2 lb-VOC/day

Annual Flare PE_{VOC} (98% Control) = 78,957 lb-VOC/year x (0.75) x (1 - 0.98)
= 1,184 lb-VOC/year

Daily and Annual PE for VOC from Flare based on 20 ppmv VOC (as CH_4) @ 3% O_2

As explained above, ATC C-3074-8-7 allows the flares for the landfill to comply with a VOC emission concentration limit of 20 ppmv as methane @ 3% O_2 rather than complying with the requirement to reduce VOC emissions by 98% by weight. As calculated above, using the F factor from the December 2021 source test report of 9,857 dscf/MMBtu at 60 ˚F for conservative emission factor calculations, the VOC emission factor for 20 ppmv as methane @ 3% O_2 is equivalent to 0.0097 lb-VOC/MMBtu.

The maximum PE for VOC from the 30 MMBtu/hr backup flare using this emission factor is calculated as follows:

Daily Flare PE_{VOC} (20 ppmvd @ 3% O_2) = 30 MMBtu/hr x 0.0097 lb-VOC/MMBtu x 24 hr/day
= 7.0 lb-VOC/day

Annual Flare PE_{VOC} (20 ppmvd @ 3% O_2) = 30 MMBtu/hr x 0.0097 lb-VOC/MMBtu x 24 hr/day x 365 day/yr
= 2,549 lb-VOC/day

As shown in the calculations above, the option to comply with the VOC concentration limit of 20 ppmv as methane @ 3% O_2 results in greater VOC emissions from the backup flare than compliance with the 98% VOC reduction requirement; therefore, the VOC emission factor of 0.0097 lb-VOC/MMBtu based on 20 ppmv as methane @ 3% O_2 is the maximum PE for VOC for these options.

VOC (as CH_4) – 0.006 lb-VOC/MMBtu

As explained above, ATC C-3074-8-7 requires that the VOC emissions backup flare shall be no greater than 0.006 lb-VOC/MMBtu. Because this emission factor is lower the VOC emission factor of 0.0097 lb-VOC/MMBtu calculated for compliance with a concentration limit of 20 ppmv as methane @ 3% O_2, an emission factor of 0.006 lb-VOC/MMBtu will be used to calculate the PE for VOC for the primary flare.

The emission factors that will be used to calculate the PE from the primary flare are shown in the table below.

Pre-Project Emission Factors for 30 MMBtu/hr Backup Flare		
Pollutant	**lb/MMBtu**	**Source**
NO_X	0.05	ATC C-3074-8-7
SO_X	0.033	ATC C-3074-8-7
PM_{10}	0.015	AP-42 Draft Table 2.4.4 (October 2008)
CO	0.2	ATC C-3074-8-7
VOC	0.006	ATC C-3074-8-7

Post-Project Emission Factors Emission Factors (EF2s)

The post-project emission factors for all units and processes will be the same as the pre-project emission factors.

The post-project emission factors are shown below.

PM_{10} Emission Factor from Earthmoving Activities for Landfill Cover

The pre-project and post-project emission factor for material handling for the landfill cover is 0.0023 lb-PM_{10}/ton of soil handled.

VOC Emission Factor for Landfill

Uncontrolled VOC emissions from the landfill are based on US EPA's LandGEM model, which calculates potential gas production based upon maximum waste receipts, operating life of the landfill, and other parameters (see Project C-1222892).

Post-Project Emission Factors for the 33 MMBtu/hr Primary Flare

Post-Project Emission Factors for 33 MMBtu/hr Low NO_X Primary Flare		
Pollutant	**lb/MMBtu**	**Source**
NO_X	0.025	ATC C-3074-8-7/Rule 4311 Requirement
SO_X	0.03	ATC C-3074-8-7
PM_{10}	0.015	ATC C-3074-8-7/ AP-42 Draft Table 2.4.4 (October 2008)
CO	0.06	ATC C-3074-8-7/Flare manufacturer guarantee
VOC	0.008	ATC C-3074-8-7

Post-Project Emission Factors for the 30 MMBtu/hr Backup Flare

Post-Project Emission Factors for 30 MMBtu/hr Backup Flare		
Pollutant	**lb/MMBtu**	**Source**
NO_X	0.05	ATC C-3074-8-7
SO_X	0.033	ATC C-3074-8-7
PM_{10}	0.015	AP-42 Draft Table 2.4.4 (October 2008)
CO	0.2	ATC C-3074-8-7
VOC	0.006	ATC C-3074-8-7

C. Calculations

1. Pre-Project Potential to Emit (PE1)

PE1 for PM_{10} Emissions from Earthmoving Activities for Landfill Cover

1,997 tons/day x 0.0023 lb-PM_{10}/ton = 4.6 lb-PM_{10}/day

1,997 tons/day x 0.0023 lb-PM_{10}/ton x 365 days/year = 1,676 lb-PM_{10}/year

PE1 for Fugitive VOC Emissions from Landfill (based on EPA LandGEM)

VOC emissions from the landfill were calculated in Project C-1222892 using EPA's LandGEM model. In accordance with the LandGEM User's Guide (2005), two model runs were performed (one from 1957 to 2036, and one from 2037 to 2066). The results of these two runs is the total uncontrolled emissions from the landfill on a year to year basis. The potential emissions from the landfill were then determined by summing the emissions from the two model runs for each year. The maximum annual PE for VOC from the landfill was the year with the highest total landfill emissions (2066).

Uncontrolled Annual PE_{VOC} = 78,957 lb-VOC/year
Uncontrolled Daily PE_{VOC} = 78,957 lb-VOC/year ÷ 365 day/year
= 216.3 lb-VOC/day

As discussed above the landfill gas collection system will capture 75% of the VOC emissions from the landfill; therefore, the fugitive VOC emissions from the landfill are calculated as follows:

Fugitive Daily PE_{VOC} = Uncontrolled Annual PE_{VOC} x (1 – 0.75) ÷ 365 day/year
= (78,957 lb-VOC/year x (1 – 0.75)) ÷ 365 day/year
= 54.1 lb-VOC/day

Fugitive Annual PE_{VOC} = Uncontrolled Annual PE_{VOC} x (1 – 0.75)
= 78,957 lb-VOC/year x (1 – 0.75)
= 19,739 lb-VOC/year

PE1 for 33 MMBtu/hr Low NO_X Primary Flare, including Non-Fugitive Landfill Emissions

Daily PE1 for 33 MMBtu/hr Low NO_X Primary Flare							
Pollutant	Emission Factor (lb/MMBtu)	x	Max Heat Input of Gas Flared (MMBtu/hr)	x	Max Daily Hours (hr/day)	=	PE1 (lb/day)
NO_X	0.025	x	33	x	24	=	**19.8**
SO_X	0.03	x	33	x	24	=	**23.8**
PM_{10}	0.015	x	33	x	24	=	**11.9**
CO	0.06	x	33	x	24	=	**47.5**
VOC	0.008	x	33	x	24	=	**6.3**

Annual PE1 for 33 MMBtu/hr Low NO_X Primary Flare									
Pollutant	Emission Factor (lb/MMBtu)	x	Max Heat Input of Gas Flared (MMBtu/hr)	x	Max Daily Hours (hr/day)	x	Day/Year Operated (day/yr)	=	PE1 (lb/year)
NO_X	0.025	x	33	x	24	x	365	=	**7,227**
SO_X	0.03	x	33	x	24	x	365	=	**8,672**
PM_{10}	0.015	x	33	x	24	x	365	=	**4,336**
CO	0.06	x	33	x	24	x	365	=	**17,345**
VOC	0.008	x	33	x	24	x	365	=	**2,313**

PE1 for 30 MMBtu/hr Backup Flare, including Non-Fugitive Landfill Emissions

As discussed above, although the backup flare is limited to a flaring throughput of no more than 90,000 MMBtu/yr for two consecutive calendar years for compliance with Rule 4311, this throughput limit does not limit the maximum operation in any single year; therefore, the annual PE1 for the backup flare is calculated based on maximum permitted operation of the flare.

Daily PE1 for 30 MMBtu/hr Backup Flare							
Pollutant	Emission Factor (lb/MMBtu)	x	Max Heat Input of Gas Flared (MMBtu/hr)	x	Max Daily Hours (hr/day)	=	PE1 (lb/day)
NO_X	0.05	x	30	x	24	=	**36.0**
SO_X	0.033	x	30	x	24	=	**23.8**
PM_{10}	0.015	x	30	x	24	=	**10.8**
CO	0.2	x	30	x	24	=	**144.0**
VOC	0.006	x	30	x	24	=	**4.3**

Annual PE1 for 30 MMBtu/hr Backup Flare									
Pollutant	Emission Factor (lb/MMBtu)	x	Max Heat Input of Gas Flared (MMBtu/hr)	x	Max Daily Hours (hr/day)	x	Day/Year Operated (day/yr)	=	PE1 (lb/year)
NO_X	0.05	x	30	x	24	x	365	=	**13,140**
SO_X	0.033	x	30	x	24	x	365	=	**8,672**
PM_{10}	0.015	x	30	x	24	x	365	=	**3,942**
CO	0.2	x	30	x	24	x	365	=	**52,560**
VOC	0.006	x	30	x	24	x	365	=	**1,577**

Total PE1 for Landfill and Flares

Because the primary flare and backup flare are not permitted to operate at the same time, the total PE1 for the landfill will be calculated using the maximum PE from either the primary or backup flare. The total PE1 from the landfill and the flares is shown in the tables below.

Total Daily PE1 from Landfill and Flares					
Pollutant	Fugitive Emissions from Landfill Cover	Fugitive Emissions from Landfill Gas	33 MMBtu/hr Primary Flare	30 MMBtu/hr Backup Flare	PE1 (lb/day)
NO_X	**0**	**0**	19.8	**36.0**	**36.0**
SO_X	**0**	**0**	**23.8**	23.8	**23.8**
PM_{10}	**4.6**	**0**	**11.9**	10.8	**16.5**
CO	**0**	**0**	47.5	**144.0**	**144.0**
VOC	**0**	**54.1**	**6.3**	4.3	**60.4**

Total Annual PE1 from Landfill and Flares					
Pollutant	Fugitive Emissions from Landfill Cover	Fugitive Emissions from Landfill Gas	33 MMBtu/hr Primary Flare	30 MMBtu/hr Backup Flare	PE1 (lb/year)
NO_X	**0**	**0**	7,227	**13,140**	**13,140**
SO_X	**0**	**0**	**8,672**	8,672	**8,672**
PM_{10}	**1,676**	**0**	**4,336**	3,942	**6,012**
CO	**0**	**0**	17,345	**52,560**	**52,560**
VOC	**0**	19,739	2,313	1,577	**21,316***

* Total annual PE1 for VOC emissions from landfill and flares limited to 21,316 lb-VOC/year.

Post-Project Potential to Emit (PE2)

PE2 for PM_{10} Emissions from Earthmoving Activities for Landfill Cover

The PE2 for PM_{10} from earthmoving activities for landfill cover is the same as PE1 calculated above.

1,997 tons/day x 0.0023 lb-PM_{10}/ton = 4.6 lb-PM_{10}/day

1,997 tons/day x 0.0023 lb-PM_{10}/ton x 365 days/year = 1,676 lb-PM_{10}/year

PE2 for Fugitive VOC Emissions from Landfill (based on EPA LandGEM)

The PE2 for fugitive VOC emissions from the landfill is the same as PE1 calculated above.

Fugitive Daily PE_{VOC} = 54.1 lb-VOC/day

Fugitive Annual PE_{VOC} = 19,739 lb-VOC/year

PE2 for 33 MMBtu/hr Low NO_X Primary Flare, including Non-Fugitive Landfill Emissions

The daily and annual PE2 for the 33 MMBtu/hr low NOx primary flare are the same as PE1 calculated above and summarized in the table below.

PE2 for 33 MMBtu/hr Low NO_X Primary Flare		
Pollutant	**Daily PE2 (lb/day)**	**Annual PE2 (lb/year)**
NO_X	19.8	7,227
SO_X	23.8	8,672
PM_{10}	11.9	4,336
CO	47.5	17,345
VOC	6.3	2,313

PE2 for 30 MMBtu/hr Backup Flare, including Non-Fugitive Landfill Emissions

The daily and annual PE2 for the 30 MMBtu/hr backup flare are the same as PE1 calculated above and summarized in the table below.

PE2 for 30 MMBtu/hr Backup Flare		
Pollutant	**Daily PE2 (lb/day)**	**Annual PE2 (lb/year)**
NO_X	36.0	13,140
SO_X	23.8	8,672
PM_{10}	10.8	3,942
CO	144.0	52,560
VOC	4.3	1,577

Total PE2 for Landfill and Flares

As discussed above, the primary flare and backup flare are not permitted to operate at the same time. The total daily and annual PE2 for the landfill and flares are the same as PE1 calculated above and summarized in the table below.

Total PE2 from Landfill and Flares		
Pollutant	**Daily PE2 (lb/day)**	**Annual PE2 (lb/year)**
NO_X	36.0	13,140
SO_X	23.8	8,672
PM_{10}	16.5	6,012
CO	144.0	52,560
VOC	60.4	21,316*

* Total annual PE1 for VOC emissions from landfill and flares limited to 21,316 lb-VOC/year.

Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

SSPE1 (lb/year)					
Permit Unit	**NOx**	**SOx**	**PM_{10}**	**CO**	**VOC**
ATC C-3074-8-7 (Landfill and Flares)	13,140	8,672	6,012	52,560	21,316
SSPE1	**13,140**	**8,672**	**6,012**	**52,560**	**21,316**

Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/year)					
Permit Unit	**NOx**	**SOx**	**PM_{10}**	**CO**	**VOC**
ATC C-3074-8-8 (Landfill and Flares)	13,140	8,672	6,012	52,560	21,316
SSPE2	**13,140**	**8,672**	**6,012**	**52,560**	**21,316**

Major Source Determination

<u>Rule 2201 Major Source Determination:</u>

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

Since landfills are not one of the specific source categories specified in 40 CFR 70.2, fugitive emissions from landfills are not considered for major source determination purposes. The non-fugitive SSPE1 and SSPE2 from the landfill flares are shown in the table below.

Rule 2201 Major Source Determination (lb/year)						
	NOx	**SOx**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**VOC**
Non-Fugitive SSPE1	13,140	8,672	4,336	4,336	52,560	2,313
Non-Fugitive SSPE2	13,140	8,672	4,336	4,336	52,560	2,313
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	No

Note: $PM_{2.5}$ assumed to be equal to PM_{10}

As seen in the table above, the facility is not an existing Major Source and is not becoming a Major Source as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tons per year (tpy) for any regulated NSR pollutant and fugitive emissions are no considered when determining if the facility is a PSD major source.

PSD Major Source Determination (tons/year)						
	NO_2	VOC	SO_2	CO	PM*	PM_{10}
Estimated Facility PE before Project Increase	6.6	1.2	4.3	26.3	2.2	2.2
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	No	No	No	No	No	No

* PM assumed to be equal to PM_{10}.

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

Baseline Emissions (BE)

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

As shown in Section VII.C.5 above, the facility is not a Major Source for any pollutant.

Therefore BE = PE1.

ATC 3074-8-8:
As calculated in Section VII.C.1 above, PE1 is summarized in the following table:

BE (lb/year)						
	NOx	SOx	PM_{10}	$PM_{2.5}$	CO	VOC
ATC 3074-8-8	13,140	8,672	6,012	6,012	52,560	21,316

SB 288 Major Modification

An SB 288 Major Modification is a federal major modification under 40 CFR 51.165 as it existed on December 19, 2002. 40 CFR Part 51.165 (12/19/02) defines a Major Modification as any physical change in or change in the method of operation of *an existing major stationary source* that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.

Per section VII.C.5 above, this facility is not a Major Source for any of the pollutants addressed in this project. Thus, this project does not constitute an SB 288 major modification and no further discussion is required.

Federal Major Modification / New Major Source

Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act. The significant net emission increase threshold for each criteria pollutant is included in Rule 2201.

Per section VII.C.5 above, this facility is not a Major Source for any pollutants addressed in this project. Thus, this project does not constitute a Federal Major Modification and no further discussion is required.

New Major Source

Per section VII.C.5 above, this facility is not becoming a Major Source as a result of this project, therefore, this facility is not a New Major Source pursuant to Section 3.30 of District Rule 2201.

Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO_2 (as a primary pollutant)
- SO_2 (as a primary pollutant)
- CO
- PM

- PM_{10}

Additionally, when evaluating if a facility is a PSD major source all regulated NSR pollutants, including VOC, must be considered regardless of attainment status.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). The PSD Major Source threshold is 250 tons per year (tpy) for any regulated NSR pollutant and fugitive emissions are not considered when determining PSD applicability.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Total Non-Fugitive PE from New and Modified Units	6.6	1.2	4.3	26.3	2.2	2.2
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	No	No	No	No	No	No

As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis is required.

Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix D.

VIII. Compliance Determination

Rule 1070 Inspections

The purpose of Rule 1070 is to explain the District's authority in determining compliance with the requirements of District rules and regulations. This rule applies to any source operation, which emits or may emit air contaminants. This rule allows the District to perform inspections for the purpose of obtaining information necessary to determine whether air pollution sources are in compliance with applicable rules and regulations. The rule also allows the District to require record keeping, to make inspections, and to conduct tests of air pollution sources.

The following conditions, many of which were based on the requirements from current valid ATC C-3074-8-7, will be included on the new ATC permit.

- Non-resettable, totalizing mass or volumetric gas fuel flow meters or other District-approved alternatives shall be installed, utilized, and maintained to measure the amount of gas combusted in each flare. [District Rules 1070 and 4311]

- The site-wide uncontrolled VOC emissions from the landfill for each year shall be calculated using the most recent version of EPA's Landfill Gas Emissions Model (LandGEM) to calculate non-methane organic compound (NMOC) emissions using the highest landfill gas NMOC concentration from the previous year with VOC emissions assumed to be 99.7% of NMOC emissions. The operator may request to use an alternative VOC percentage of NMOC emissions from the landfill based on site-specific analyses of the landfill gas. The landfill gas NMOC concentration shall be determined from samples collected from the existing landfill and expansion areas taken from the LFG collection pipes, permanent LFG sampling wells, or per Tier 2 procedures as described in 40 CFR 60.754(a)(3). Records of the results of analyses of the landfill gas shall be maintained. [District Rules 1070 and 2201]

- The sulfur content (as H2S) of the landfill gas flared shall be monitored at least once every quarter that one of the flares operates using methods included in this permit, or other methods approved by the District. If the sulfur content of the landfill gas is found to exceed the limit of this permit, corrective actions shall be taken to reduce the sulfur content of the landfill gas and the sulfur content of the landfill gas shall be monitored again within 24 hours of completion of the corrective action. Records of the dates and results of monitoring of the sulfur content of the landfill gas flared and any corrective action required to reduce the sulfur content of the landfill gas shall be maintained. [District Rules 1070 and 2201]

- The operator shall measure and record the continuous volumetric flow rate of landfill gas sent to each flare in standard cubic feet per minute (scfm) and the total volume of the landfill gas entering each flare each day in standard cubic feet (scf). [District Rules 1070, 2201, and 4311]

- Permittee shall maintain records of the amount of soil cover in tons per day. [District Rules 1070 and 2201]

- Daily records shall be maintained and made available for District inspection of the weight of materials received in tons, including Class II/III waste material, Class II soil cover, and clean soil cover. [District Rules 1070 and 2201]

- Permittee shall maintain records of system monitoring including: date, time, and monitoring results. [District Rules 1070 and 2201]

- Permittee shall maintain records of the downtime of the gas collection system and/or control device(s) for required maintenance and repairs. [District Rules 1070 and 2201]

- Records shall be maintained of the continuous combustion temperature and continuous volumetric gas flow rate for each flare. [District Rules 1070 and 2201]

- Records shall be maintained of the amount of gas combusted in each flare, in standard cubic feet (scf), and the total heat input of the gas flared based on the higher heating value (HHV) for each day the flares are operated; the sulfur content of the gas flared in ppmv as H2S; and the calculated maximum permitted sulfur content of the gas flared in ppmv as H2S. [District Rules 1070 and 2201]

- Records shall be maintained of the calculated total VOC emissions from the landfill and flares for each calendar year. [District Rules 1070 and 2201]

- For the 30 MMBtu/hr backup flare, monthly records shall be maintained of the dates of operation of the backup flare, the purpose of operation, and number of hours of operation. [District Rules 1070 and 2201]

- All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201, 2520, 9.4.2, and 4311]

Rule 2201 New and Modified Stationary Source Review Rule

As discussed in Section I above, City of Clovis - Landfill has requested to modify their existing municipal solid waste landfill (Permit Unit C-3074-8) by correcting and clarifying specific conditions related to monitoring of the landfill collection devices in the expansion area and monitoring of surface emissions that are included in the current permit for the landfill. The corrections and clarifications are explained below.

<u>ATC C-3074-8-7, Condition 56 (PTO C-3074-8-6, Condition 45)</u>

Current Condition:
56. For initial monitoring of collection devices in the expansion area, prior to initial operation, the permittee shall monitor the collectors at least once per quarter for static pressure, percent methane, percent oxygen, and temperature utilizing a District-approved portable landfill gas analyzer. [District Rule 2201]

Requested Change:
Delete condition

Explanation:
Wellhead monitoring cannot be performed until the wellhead is installed with sampling ports. Placing sampling ports on well casings prior to the installation of a proper wellhead with the components needed to apply a vacuum to the well can compromise the integrity of the well casing over time. Wellhead installation is generally scheduled to occur immediately prior to activation. Monitoring of new wells is conducted simultaneously with activation to avoid gas buildup and releases. This condition implies the well activation should be delayed until after monitoring is completed, potentially delaying the control of emissions.

<u>ATC C-3074-8-7, Condition 57 (PTO C-3074-8-6, Condition 46)</u>

Current Condition:
57. For commissioning of collection devices in the expansion area, collectors shall be commissioned and continually operated if all of the following parameters are met: (1) methane percent 45% or greater; (2) oxygen percent 5% or less; (3) temperature 131 degrees F; and (4) static pressure 5.0 in H2O or greater. [District Rule 2201]

Requested Change:
Clarify condition. Remove the temperature requirement, which is ambiguous, since it does not specify if the temperature is a maximum or minimum. Remove the 5% oxygen limit since it no longer applies to the landfill (Landfill is now subject to the California Landfill Methane Rule (LMR) and 40 CFR Part 62 Subpart OOO rather than 40 CFR 60 Subpart WWW (see Project C-1222892).

Proposed Condition:

> For commissioning of collection devices in the expansion area, collectors shall be commissioned if methane at a concentration of 45% or more and positive static pressure of 5.0 inches or more of water column is detected in the well. Active wells shall be operated in accordance with the applicable requirements of the California Landfill Methane Rule and 40 CFR Part 62 Subpart OOO. [District Rule 2201]

Explanation: The quality of landfill gas can vary significantly based on age of waste, type of waste, moisture content, and rate of decomposition. These factors may also influence the amount of pressure within a well. Other factors, such as the presence of landfill gas at the landfill perimeter and concentration of emissions must also be considered. The condition is unclear and may imply that wells that do not meet these criteria should not be in operation. The temperature requirement is ambiguous since it does not specify if 131 °F is a maximum or minimum temperature. The 5% oxygen limit is no longer a requirement for this landfill, which is subject to the California Landfill Methane Rule (LMR) and 40 CFR Part 62 Subpart OOO rather than 40 CFR 60 Subpart WWW. The pressure limit seems is not clear if it is meant to be negative or positive.

<u>ATC C-3074-8-7, Condition 58 (PTO C-3074-8-6, Condition 47)</u>

Current Condition:

58. For operation of collection devices in the expansion area, once the collectors are commissioned, the permittee shall monitor the collectors weekly for the first six months of operation and may switch to monthly monitoring thereafter. [District Rule 2201]

Requested Change:
Reduce period of weekly monitoring from six months to six weeks.

Proposed Condition:

> For operation of collection devices in the expansion area, once the collectors are commissioned, the permittee shall monitor the collectors weekly for the first six weeks of operation and may switch to monthly monitoring thereafter. [District Rule 2201]

Explanation:
Once activated, all collectors installed in waste must be operated under vacuum. Gas extraction is generally optimized with three to four weeks of operation. Static conditions are generally achieved within one month of activation, requiring weekly monitoring for six months is not necessary.

ATC C-3074-8-7, Condition 60 (PTO C-3074-8-6, Condition 49)

Current Condition:
60. For surface emissions monitoring, surface monitoring for the landfill area shall be performed quarterly. If there are any exceedances during a quarterly event, monitoring will be required monthly until three consecutive months without exceedances, which would allow a return to quarterly monitoring. [District Rule 2201]

Requested Change:
Remove requirement for monthly monitoring after an exceedance since corrective actions are addressed by ATC C-3074-8-7 condition 61 (PTO C-3074-8-6 condition 50), as shown below:

61. For surface emissions monitoring, after an exceedance, the permittee shall initiate correction action within five days and conduct remonitoring within ten days from the initial exceedance. If compliance is shown, an additional remonitoring event is required within one month of the initial exceedance. If the ten day event shows an exceedance, the permittee shall initiate correction action within five days and conduct remonitoring within ten days from the second exceedance. If compliance is shown, an additional remonitoring is required within one month of the initial exceedance. If the second ten day event shows an exceedance, the permittee shall permit and install additional landfill gas wells to correct the problem within 120 days of the initial exceedance. The permittee may utilize an alternative corrective action with prior approval from the APCO. [District Rule 2201]

Proposed Condition:
For surface emissions monitoring, surface monitoring for the landfill area shall be performed at least quarterly. [District Rule 2201]

Explanation:
Condition is unnecessary since correction of exceedances is already addressed in condition 61.

The applicant also requested the deletion of duplicate condition from current PTO C-3074-8-6, which already was addressed in ATC C-3074-8-7 and has been determined to be no longer needed.

The proposed corrections and clarifications to the existing monitoring requirements for the landfill discussed above will not reduce the stringency of any emission limits, will not change the hours of operation or gas production rate from the landfill, and are not considered a change in the method of operation of the landfill. Therefore, this project could be considered non-New Source Review (NSR) modification; however, because there will be changes to conditions that reference Rule 2201 and to ensure that all potential Rule 2201 requirements have been addressed, the requirements of Rule 2201 will be fully discussed in this evaluation.

A. Best Available Control Technology (BACT)

1. BACT Applicability

Pursuant to District Rule 2201, Section 4.1, BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding two pounds per day, and/or
d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

The landfill operation controlled by the flares is an existing emissions unit. There are no new emissions units associated with this project. Therefore, BACT is not triggered for new emissions units with PE > 2 lb/day.

b. Relocation of emissions units – PE > 2 lb/day

There are no emissions units being relocated from one Stationary Source to another associated with this project. Therefore, BACT is not triggered for relocated emissions units with PE > 2 lb/day.

C. Modification of emissions units – AIPE > 2.0 lb/day

As stated above, the landfill operation controlled by the flares is an existing emissions unit. The flares are emissions control devices used to control the gas from the landfill. The District has determined that an emissions control device is not a source operation that is subject to BACT. Because of this, only direct emissions from the landfill may trigger District BACT requirements, not secondary emissions from the flares (i.e. NO_X, SO_X, PM_{10}, and CO). Therefore, BACT for modification of the landfill served by the flares may only be triggered for VOC emissions.

The AIPE for VOC emissions from the landfill served by the flares is calculated below.

AIPE = PE2 – HAPE

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)
PE2 = Post-Project Potential to Emit, (lb/day)
HAPE = Historically Adjusted Potential to Emit, (lb/day)

HAPE = PE1 x (EF2/EF1)

Where,

PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)
EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1
EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

AIPE = PE2 – (PE1 x (EF2 / EF1))

The total VOC emission factor for the landfill is calculated using the maximum daily VOC emissions for the landfill and the maximum daily heat input of the flare that produces the maximum VOC emissions as follows:

Total VOC emissions factor for landfill = 60.4 lb-VOC/day ÷ (33 MMBtu/hr x 24 hour/day)
= 0.0763 lb-VOC/MMBtu

The AIPE for VOC the landfill gas controlled by the flares is calculated in the table below.

AIPE for Landfill Controlled by Flares										
Pollutant	Daily PE2 (lb/day)	-	Daily PE1 (lb/day)	x (	EF2 (lb/MMBtu)	x	EF1 (lb/MMBtu)	) =	EF2/EF1	AIPE (lb/day)
VOC	60.4	-	60.4	x (	0.0763	x	0.0763	) =	1	**0.0**

As demonstrated above, the AIPE is not greater than 2.0 lb/day for VOC emissions from the landfill. Therefore BACT is not triggered for the landfill.

c. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification for any pollutant. Therefore BACT is not triggered for an SB 288 or Federal Major Modification.

B. Offsets

1. Offset Applicability

Pursuant to District Rule 2201, Section 4.5, District offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of District Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NOx	**SOx**	**PM_{10}**	**CO**	**VOC**
SSPE2	13,140	8,672	6,012	52,560	21,316
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	No	No	No	No	Yes

2. Quantity of District Offsets Required

As demonstrated above, the facility has an SSPE2 for VOC greater than the offset threshold. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for VOC is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = (Σ[PE2 – BE] + ICCE) x DOR, for all new or modified emissions units in the project,

Where,
PE2 = Post-Project Potential to Emit, (lb/year)
BE = Baseline Emissions, (lb/year)
ICCE = Increase in Cargo Carrier Emissions, (lb/year)
DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

otherwise,

BE = HAE

As calculated in Section VII.C.6 above, the BE from this unit is equal to the PE1 since the unit is located at a non-Major Source.

Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

Offsets Required (lb/year) = ([PE2 – BE] + ICCE) x DOR

PE2 (VOC) = 21,316 lb/year
BE (VOC) = 21,316 lb/year
ICCE = 0 lb/year

Offsets Required (lb/year) = ([21,316 – 21,316] + 0) x DOR
= 0 lb-VOC/year

As demonstrated in the calculation above, the amount of offsets required is zero.

As shown above, District offsets are triggered but not required for any criteria pollutant under NSR. In addition, as demonstrated above, this project does not trigger Federal Major Modification or New Major Source requirements and no federal offset are required for this project. In conclusion, offsets will not be required for this project and no further discussion is required.

C. Public Notification

1. Applicability

Pursuant to District Rule 2201, Section 5.4, public noticing is required for:

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
c. Any project which results in the offset thresholds being surpassed,
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant, and/or
e. Any project which results in a Title V significant permit modification

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

As shown in Section VII.C.5 above, this existing minor source facility is not becoming a Major Source as a result of this project. Therefore, this facility is not a New Major Source and this project does not constitute an SB 288 or a Federal Major Modification. Consequently, public noticing for this project for New Major Source, Federal Major Modification, or SB 288 Major Modification purposes is not required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Thresholds				
Pollutant	**SSPE1 (lb/year)**	**SSPE2 (lb/year)**	**Offset Threshold**	**Public Notice Required?**
NOx	13,140	13,140	20,000 lb/year	No
SOx	8,672	8,672	54,750 lb/year	No
PM10	6,012	6,012	29,200 lb/year	No
CO	52,560	52,560	200,000 lb/year	No
VOC	21,316	21,316	20,000 lb/year	No

As demonstrated above, there were no thresholds surpassed with this project; therefore public noticing is not required for surpassing an offset threshold.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1 and negative values are equated to zero. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds (lb/year)					
	NOx	**SOx**	**PM10**	**CO**	**VOC**
SSPE2	13,140	8,672	6,012	52,560	21,316
SSPE1	13,140	8,672	6,012	52,560	21,316
SSIPE	0	0	0	0	0
SSIPE Public Notice Threshold	20,000	20,000	20,000	20,000	20,000
Public Notice Required?	No	No	No	No	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project constitutes a Title V significant modification. Therefore, public noticing for Title V significant modifications is required for this project.

2. Public Notice Action

As discussed above, public noticing is required for this project for a Title V significant modification. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

For the landfill controlled by flares, the DEL for fugitive PM_{10} emissions from landfill cover activities is stated in the form of an emission factor (lb /ton of material handled) and the maximum daily soil cover usage rate, the daily fugitive VOC emissions are calculated based on the amount of waste received, and the DEL for non-fugitive landfill emissions from the flares are stated in the form of emission factors (lb/MMBtu) and the maximum heating value of the gas allowed to be flared each day.

Proposed Rule 2201 (DEL) Conditions:

The following conditions will be included on the ATC permits:

- All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]

- The primary flare and the backup flare associated with this landfill shall not operate at the same time. [District Rules 2201 and 4102]

- The enclosed flares shall be equipped with propane/LPG-fired pilots. There shall be a sufficient flow of propane/LPG to the burners to prevent unburned collected methane from being emitted to the atmosphere. [District Rule 2201 and 17 CCR 95464(b)(2)(A)]

- With the exception of the flare pilots, only landfill gas shall be combusted in the flares. [District Rule 2201]

- The gas collection system shall be operated in a manner that maximizes the amount of landfill gas extracted while preventing overdraw that can cause fires or damage the gas collection system. [District Rule 2201]

- The landfill gas collection system shall be equipped with an enclosed flare having VOC destruction efficiency of at least 98% by weight, or shall reduce the VOC concentration (measured as methane) to 20 ppmv @ 3% O2. [District Rule 2201]

- The minimum operating temperature for the combustion chamber of each flare shall be maintained at or above 1,400 degrees F. [District Rule 2201]

- The landfill gas vapor collection system shall not be operated unless the combustion chamber of the flare used to control emissions is at or above minimum operating temperature. The system shall automatically terminate operation if the temperature drops below the minimum operating temperature. [District Rule 2201]

- The flares shall operate whenever the collected gas is routed to them. [District Rule 2201]

- Excavated solid waste shall be covered using fresh soil, plastic sheeting, or vapor retarding foam as necessary to minimize the release of landfill gas and prevent odorous emissions. [District Rules 2201 and 4102]

- During any times in which the landfill gas collection system or incineration devices must be shut down for maintenance or repair, emissions of landfill gas shall be minimized. [District Rule and 2201]

- Emissions from the 33 MMBtu/hr primary flare shall not exceed any of the following limits: 0.025 lb-NOx/MMBtu; 0.03 lb-SOx/MMBtu; 0.015 lb-PM10/MMBtu; 0.06 lb-CO/MMBtu; or 0.008 lb-VOC/MMBtu. [District Rules 2201, 4311, and 4801]

- Emissions from the 30 MMBtu/hr backup flare shall not exceed any of the following limits: 0.05 lb-NOx/MMBtu; 0.033 lb-SOx/MMBtu; 0.015 lb-PM10/MMBtu; 0.2 lb-CO/MMBtu; or 0.006 lb-VOC/MMBtu. [District Rules 2201 and 4801]

- The total heat input of the gas combusted in the 30 MMBtu/hr backup flare shall not exceed 720 MMBtu/day based on the higher heating value (HHV) of the gas flared. [District Rule 2201]

- The total VOC emissions from the landfill gas vapor collection system served by the flares shall not exceed 6.3 pounds in any one day. [District Rule 2201]

- The permittee shall water the unpaved truck unloading and maneuvering areas as necessary to limit visible emissions from dust to a maximum of 20% opacity. [District Rule 2201]

- Total PM10 emissions from the handling of soil cover shall not exceed 0.0023 lb-PM10/ton of material handled. [District Rule 2201]

- The total soil cover usage rate shall not exceed 1,997 tons in any day. [District Rule 2201]

- The sulfur content (as H2S) of the landfill gas flared in the primary and backup flares shall not exceed the values calculated using the following equations: 1) Primary Flare: [Max Sulfur Content of Gas Flared (ppmv as H2S)] = [HHV of Gas Flared (Btu/scf)] x 0.1777; 2) Backup Flare: [Max Sulfur Content of Gas Flared (ppmv as H2S)] = [HHV of Gas Flared (Btu/scf)] x 0.1955. [District Rule 2201]

- For commissioning of collection devices in the expansion area, collectors shall be commissioned if methane at a concentration of 45% or more and positive static pressure of 5.0 inches or more of water column is detected in the well. Active wells shall be operated in accordance with the applicable requirements of the California Landfill Methane Rule and 40 CFR Part 62 Subpart OOO. [District Rule 2201]

In addition, the following conditions will be included on the permit to enforce compliance with the annual VOC limit of the permit:

- The total VOC emissions from this operation shall not exceed 21,316 lb-VOC in any calendar year, where total VOC emissions are calculated as follows: [Fugitive VOC Emissions From The Landfill] + [VOC Emissions From Primary Flare] + [VOC Emissions From Backup Flare]. [District Rule 2201]

- Annual VOC emissions from the primary flare shall be calculated as follows: [VOC emission factor measured in the most recent source test (lb-VOC/MMBtu)] x [annual volume of gas combusted in the primary flare (MMscf/year)] x [higher heating value (HHV) of landfill gas (MMBtu/MMscf)]; where the HHV of the landfill gas is the measured value during the most recent annual test. [District Rule 2201]

- Annual VOC emissions from the backup flare shall be calculated as follows: [VOC emission factor measured in the most recent source test (lb-VOC/MMBtu)] x [annual volume of gas combusted in the backup flare (MMscf/year)] x [higher heating value (HHV) of landfill gas (MMBtu/MMscf)]; where the HHV of the landfill gas is the measured value during the most recent annual test. [District Rule 2201]

- Fugitive VOC Emissions From The Landfill shall be calculated as: 0.25 x the site-wide uncontrolled VOC emissions from the landfill. [District Rule 2201]

- The site-wide uncontrolled VOC emissions from the landfill for each year shall be calculated using the most recent version of EPA's Landfill Gas Emissions Model

(LandGEM) to calculate non-methane organic compound (NMOC) emissions using the highest landfill gas NMOC concentration from the previous year with VOC emissions assumed to be 99.7% of NMOC emissions. The operator may request to use an alternative VOC percentage of NMOC emissions from the landfill based on site-specific analyses of the landfill gas. The landfill gas NMOC concentration shall be determined from samples collected from the existing landfill and expansion areas taken from the LFG collection pipes, permanent LFG sampling wells, or per Tier 2 procedures as described in 40 CFR 60.754(a)(3). Records of the results of analysis of the landfill gas shall be maintained. [District Rules 1070 and 2201]

E. Compliance Assurance

1. Source Testing

The flares are subject to District Rule 4311 – Flares, which requires annual source testing of NO_X and VOC emissions for enclosed flares. Source testing of the flares will also be required to demonstrate compliance with the CO emission limits and VOC concentration or destruction efficiency requirements. Source testing requirements, in accordance with District Rules 2201 and 4311 are summarized below and will be discussed further in the section of this evaluation about District Rule 4311.

- Source testing of the 33 MMBtu/hr primary flare to demonstrate compliance with the NOx, CO, and VOC emission limits; with the VOC destruction efficiency of 98% or concentration limit of 20 ppmvd @ 3% O2 referenced as methane; and with the methane destruction efficiency, as required by this permit, shall be conducted least once every 12 months. [District Rules 2201 and 4311, and 17 CCR 95464]

- Source testing of the 30 MMBtu/hr backup flare to demonstrate compliance with the NOx, CO, and VOC emission limits; with the VOC destruction efficiency of 98% or concentration limit of 20 ppmvd @ 3% O2 referenced as methane; and with the methane destruction efficiency; as required by this permit, shall be conducted in each calendar year in which the annual flaring throughput exceeds 6,000 MMBtu in that year. [District Rule 2201 and 17 CCR 95464]

- Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test and a source test plan must be submitted for approval at least 30 days prior to testing. [District Rules 1081 and 4311]

- The results of each source test shall be submitted to the District within 60 days after completion of the source test. [District Rules 1081 and 4311]

- Source testing of NOx emissions shall be conducted using EPA Method 19 on a heat input basis; EPA Method 3A, EPA Method 7E, or ARB 100 on a ppmv basis; or an equivalent method approved by the District and EPA. [District Rules 2201 and 4311]

- Source testing of VOC (ppmv) and NMOC (ppmv) emissions shall be conducted using the following methods: EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case Method 25a may be used in conjunction with EPA Method 18 or ARB Method 422 "Determination of Volatile Organic Compounds in Emission from Stationary Sources" for the measurement and subtraction of exempt compounds (e.g. methane, ethane, and exempt halogenated compounds); or an equivalent method approved by the District and EPA. [District Rules 2201 and 4311]

- Source testing for flare CO emissions shall be conducted using EPA Method 10, ARB Method 100, or an equivalent method approved by the District. [District Rule 2201]

- Oxygen (O2) concentration of flared gas shall be determined using EPA Method 3A, EPA Method 7E, or ARB 100. [District Rules 2201 and 4311]

- During source testing, the volumetric flow rate of the flare exhaust gases shall be determined using EPA Method 2, EPA Method 19, CARB Method 2, or an equivalent method approved by the District. [District Rule 2201]

- The operator shall determine the higher heating value (HHV) of the landfill gas flared, in Btu/scf, annually using ASTM D1826-88, ASTM 1945-81 in conjunction with ASTM D3588-89, or an alternative method approved by the EPA and the District. [District Rules 2201 and 4311]

- To determine the VOC and methane destruction efficiency of the flares, grab samples shall be taken at the inlet to the flares and in the exhaust of the flare during the source test. The VOC concentrations shall be referenced as methane. [District Rule 2201 and 17 CCR 95471]

- The VOC and methane destruction efficiency of the flares shall be calculated using the following equation or an alternative method approved by the District: VOC or Methane Destruction Efficiency = (1- ([calculated rate of mass of VOC or methane, as applicable, in the outlet of the flare] / [calculated rate mass of VOC or methane, as applicable, in the landfill gas at the inlet entering the flare]) x 100. [District Rule 2201 and 17 CCR 95471]

2. Monitoring

Monitoring of the landfill is required to ensure proper operation of the landfill gas collection system. Monitoring of the temperature in the combustion chambers of the flares will be required to ensure that the flares are operating properly. Monitoring of the amount of gas combusted in the flares will be required to enforce compliance with daily limits on the amount of gas that can be flared in each flare. In addition, monitoring the sulfur content of the landfill gas will be required to enforce compliance with the SO_X emission limits of the flares.

The following monitoring conditions will be included on the ATC permit.

- Sampling ports shall be installed on each wellhead. [District Rule 2201]

- Non-resettable, totalizing mass or volumetric gas fuel flow meters or other District-approved alternatives shall be installed, utilized, and maintained to measure the amount of gas combusted in each flare. [District Rules 1070 and 2201]

- Each flare shall be equipped with an operational temperature gauge to indicate the temperature of the combustion chamber. A continuously recording device shall be utilized to indicate the combustion chamber temperature during operation of each flare. [District Rule 2201]

- Sampling ports adequate for testing the sulfur content of the landfill gas shall be provided in the landfill gas manifold line to the flare. [District Rule 1081]

- The sulfur content (as H2S) of the landfill gas flared shall be monitored at least once every quarter that one of the flares operates using methods included in this permit, or other methods approved by the District. If the sulfur content of the landfill gas is found to exceed the limit of this permit, corrective actions shall be taken to reduce the sulfur content of the landfill gas and the sulfur content of the landfill gas shall be monitored again within 24 hours of completion of the corrective action. Records of the dates and results of monitoring of the sulfur content of the landfill gas flared and any corrective action required to reduce the sulfur content of the landfill gas shall be maintained. [District Rules 1070 and 2201]

- Sulfur content of the landfill gas combusted in the flare shall be determined using gas detection tubes calibrated for H2S; EPA Method 11 or EPA Method 15, as appropriate; ASTM Method D1072, D1945, D3246, D4084, D4468, D4810 or D5504; grab sample analysis by GC-FPD/TCD performed in the laboratory; a continuous analyzer employing gas chromatography; a continuous fuel gas monitor that meets the requirements specified in SCAQMD Rule 431.1, Attachment A; or an alternative method approved by the District. [District Rule 2201]

- For operation of collection devices in the expansion area, once the collectors are commissioned, the permittee shall monitor the collectors weekly for the first six weeks of operation and may switch to monthly monitoring thereafter. [District Rule 2201]

- For surface emissions monitoring, once an area has reached final grade or within 90 days when the LFG system in the area is commissioned, whichever comes first, surface emissions shall not exceed a methane concentration of 500 parts per million above background at the surface of the landfill. [District Rule 2201]

- For surface emissions monitoring, surface monitoring for the landfill area shall be performed at least quarterly. [District Rule 2201]

- For surface emissions monitoring, after an exceedance, the permittee shall initiate corrective action within five days and conduct re-monitoring within ten days of the initial exceedance. If compliance is shown during the re-monitoring event conducted within ten days of the initial exceedance, an additional re-monitoring event is required within one month of the initial exceedance. If the ten-day re-monitoring event shows an exceedance, the permittee shall initiate corrective action within five days and conduct re-monitoring within ten days from the second exceedance. If compliance is shown during the re-monitoring event after the second exceedance, an additional re-monitoring event is required within one month of the initial exceedance. If the second ten-day re-monitoring event shows an exceedance, the permittee shall obtain a permit for and install additional landfill gas wells to correct the problem within 120 days of the initial exceedance. The permittee may utilize an alternative corrective action with prior approval from the APCO. [District Rule 2201]

- For surface emissions monitoring, permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30-meter intervals (or a site-specific established spacing) and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. [District Rule 2201]

- For surface emissions monitoring, surface testing shall be performed using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.755(d). [District Rule 2201]

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following conditions will be included in the ATC permit:

- The operator shall measure and record the continuous volumetric flow rate of landfill gas sent to each flare in standard cubic feet per minute (scfm) and the total volume of the landfill gas entering each flare each day in standard cubic feet (scf). [District Rules 1070, 2201, and 4311]

- Permittee shall maintain records of the amount of soil cover in tons per day. [District Rules 1070 and 2201]

- Daily records shall be maintained and made available for District inspection of the weight of materials received in tons, including Class II/III waste material, Class II soil cover, and clean soil cover. [District Rules 1070 and 2201]

- Permittee shall maintain records of system monitoring including: date, time, and monitoring results. [District Rules 1070 and 2201]

- Permittee shall maintain records of the downtime of the gas collection system and/or control device(s) for required maintenance and repairs. [District Rules 1070 and 2201]

- Records shall be maintained of the continuous combustion temperature and continuous volumetric gas flow rate for each flare. [District Rules 1070 and 2201]

- Records shall be maintained of the results of source testing conducted of emission control device(s) for emissions of NOx, CO, and VOC in pounds per MMBtu heat input, and of the VOC destruction/control efficiency of the emission control device(s). [District Rules 2201 and 4311]

- Records shall be maintained and made available for District inspection of the amount of gas combusted in each flare, in standard cubic feet (scf), each day the flares are operated; the total heat input of the gas combusted in each flare based on the higher heating value (HHV) each day the flares are operated; the sulfur content of the gas flared each in ppmv as H2S as determined by quarterly measurements; and the calculated maximum permitted sulfur content of the gas flared in ppmv as H2S. [District Rules 1070 and 2201]

- Records shall be maintained of the calculated total VOC emissions from the landfill and flares for each calendar year. [District Rules 1070 and 2201]

- For the 30 MMBtu/hr backup flare, monthly records shall be maintained of the dates of operation of the backup flare, the purpose of operation, and number of hours of operation. [District Rules 1070 and 2201]

- All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201, 2520, 9.4.2, and 4311]

4. Reporting

The landfill will be required to submit calculations to the District each year demonstrating compliance with the annual VOC emission limit. District Rule 4311 also requires submission of annual reports for the backup flare. The following conditions will be included on the ATC permit:

- Calculations of the total VOC emissions from this operation and the calculation methodology shall be submitted to the District annually within 60 days of the end of each calendar year. [District Rule 2201]

- For the 30 MMBtu/hr backup flare, the operator shall submit an annual report, in an electronic report approved by the District, to the APCO within 30 days following the end of each 12-month period. The report shall include the following: 1) The total volumetric flow of vent gas in standard cubic feet (scf) for each day for the previous calendar year; 2) A flow verification report for the flare. The flow verification report shall include flow verification testing pursuant to Rule 4311, Section 6.3.5; and 3) the

annual throughput in MMBtu for the previous calendar year calculated using the measured HHV of the gas flared or by using the default flare gas heating value of 500 Btu/scf as specified in District Rule 4311, Table 4 (12/17/2020). [District Rule 4311]

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII.C.9 above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. A significant permit modification is defined as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

In accordance with Rule 2520, Minor Permit Modifications are permit modifications that:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
   a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
   b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements;
7. Do not grant or modify a permit shield.

As mentioned above, minor permit modifications do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions. The proposed modifications to the landfill monitoring conditions will reduce the frequency of some of the landfill monitoring requirements, which is considered a relaxation of the existing landfill monitoring conditions. As a result, the proposed project constitutes a Significant Modification to the Title V Permit.

Additionally, Section 11.4 requires a description of the proposed change, the emissions resulting from the change, any new applicable requirements that will apply if the change occurs, suggested draft permits, compliance certification and an EPA 45-day review period of the

proposed permit modification (or a shorter period if EPA has notified the District that EPA will not object to issuance of the permit modification, whichever is first).

As discussed above, the facility has applied for a Certificate of Conformity (COC) and the District will forward to EPA, for a 45-day review period, this application review which includes the proposed modified Title V permit [i.e. proposed ATC] and the compliance certification form which demonstrates compliance with the minor permit modification requirements in Section 11.4. Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment application.

The following conditions will be included on the ATC:

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]

- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

In addition, the following condition that requires all records to be maintained for five years will also be included on the ATC:

- All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 2201, 2520, 9.4.2, and 4311]

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60.

The following subparts of 40 CFR Part 60 are potentially applicable to the unit addressed in this project.

<u>40 CFR 60 Subpart Cc – Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills</u>

This subpart required states to adopt emission guidelines and compliance times for existing Municipal Solid Waste landfills for which construction, reconstruction, or modification was commenced before May 30, 1991 and the landfill has not been modified since that time. This landfill was later determined to be subject to the requirements of 40 CFR 60 Subpart WWW for landfills since it was modified after May 30, 1991; therefore, the requirements of 40 CFR 60 Subpart Cc are not applicable.

40 CFR 60 Subpart Cf – Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

Pursuant to 40 CFR 62.1100(b)(7) and 40 CFR 62.1115, for this landfill the applicable emission guidelines are the combination of the California Landfill Methane Rule (LMR) and the following sections of the EPA's Federal Plan (40 CFR Part 62 Subpart OOO): 40 CFR 62.16716(c), 62.16720(a)(4), 62.16722(a)(2) and (3), 62.16724(k), and 62.16726(e)(2) and (5).

The California LMR is evaluated later in this evaluation. The applicable sections of 40 CFR Part 62 Subpart OOO are evaluated below.

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

40 CFR Part 62.16716(c) requires the facility to 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 at a particular well. A higher operating temperature 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 in order to be approved.

The following condition that is included on ATC C-3074-8-7 will be included on the ATC:

- Each wellhead in the collection system shall be operated with a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit). The owner or operator may establish a higher operating temperature at a particular well. A higher operating temperature request must be submitted to the Administrator for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits decomposition by killing methanogens. The demonstration must satisfy both of these criteria in order to be approved. [40 CFR 62.16716(c)]

Section 62.16720(a)(4) requires that an owner or operator must monitor each well monthly for temperature as provided in Section 62.16716(c). If a well exceeds the operating parameter for temperature, action must initiated to correct the exceedance within five calendar days. Any attempted corrective measure must not cause exceedances of other operational or performance standards.

Sections 62.16720(a)(4)(i) – (iii) provide additional actions required if a landfill gas temperature of 55 degrees Celsius (131 degrees Fahrenheit), or less, cannot be achieved within 5 calendar days.

The following condition that is included on ATC C-3074-8-7 will be included on the ATC:

- The owner or operator shall monitor each well monthly for temperature. If a well exceeds 55 degrees Celsius (131 degrees Fahrenheit) action shall be initiated within 5 days to correct

the exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. If a landfill gas temperature less than or equal to 55 degrees Celsius (131 degrees Fahrenheit) cannot be achieved within 15 days of the initial exceedance, the owner or operator shall conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after the initial exceedance. If corrective actions cannot be completed within 60 days following the initial exceedance, the owner or operator shall also conduct a corrective action analysis and develop an implementation schedule to complete the necessary corrective action(s) as soon as practicable, but no more than 120 days following the initial exceedance. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator shall submit the root cause analysis, corrective action analysis and corresponding implementation schedule to the Administrator. [40 CFR 62.16720(a)(4)]

Section 62.16722(a)(2) requires the operator to:

1. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as follows:
    a. The nitrogen level must be determined using EPA Method 3C of appendix A-2 of 40 CFR Part 60, unless an alternative test method is established as allowed by 40 CFR Section 62.16724(d)(2).
    b. Unless an alternative test method is established as allowed by 40 CFR Section 62.16724(d)(2), the oxygen level must be determined by an oxygen meter using EPA Method 3A of appendix A-7 of 40 CFR part 60, Method 3C of appendix A-7 of 40 CFR Part 60, or ASTM D6522-11. Determinations of the oxygen level by an oxygen meter shall use one of the above three methods (If sample location is prior to combustion) except that:
        i. The span must be set between 10 and 12 percent oxygen;
        ii. A data recorder is not required;
        iii. Only two calibration gases are required, a zero and span;
        iv. A calibration error check is not required; and
        v. The allowable sample bias, zero drift, and calibration drift of ± 10 percent.

2. A portable gas composition analyzer may be used to monitor oxygen levels provided:
    a. The analyzer is calibrated; and
    b. The analyzer meets all quality assurance and quality control requirements for EPA Method 3A or ASTM D6522-11.

The following conditions that are included on ATC C-3074-8-7 will be included on the ATC:

- The owner or operator shall monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis. [40 CFR 62.16722(a)(2)]

- The nitrogen concentration in the landfill gas shall be determined using EPA Method 3C of appendix A-2 to 40 CFR Part 60, unless an alternative method is approved. Unless an alternative method is approved, oxygen concentration in the landfill gas shall be determined using a portable gas composition analyzer or an oxygen meter. When using a portable gas analyzer, the analyzer shall be calibrated and meet all quality assurance and quality control requirements for EPA Method 3A of appendix A-2 to 40 CFR Part 60 or ASTM D6522-11.

When using an oxygen meter, the meter shall use EPA Method 3A or 3C of appendix A-2 to 40 CFR Part 60 or ASTM D6522-11 except that: (1) The span shall be set between 10- and 12-percent oxygen, (2) A data recorder is not required, (3) Only two calibration gases are required, a zero and span, (4) A calibration error check is not required, and (5) The allowable sample bias, zero drift, and calibration drift are plus or minus 10 percent. [40 CFR 62.16722(a)(2)]

Section 62.16722(a)(3) requires the operator to monitor the temperature of the landfill gas on a monthly basis as provided in Section 62.16720(a)(4). The temperature measuring device must be calibrated annually using the procedure in 40 CFR part 60 Appendix A-1, EPA Method 2, section 10.3.

The following condition that is included on ATC C-3074-8-7 will be included on the ATC:

- For the temperature measuring device used to monitor landfill gas temperature, the owner or operator shall calibrate the temperature measuring device annually using the procedure in Section 10.3 of EPA Method 2 of appendix A-1 to 40 CFR Part 60. [40 CFR 62.16720(a)(4) and 62.16722(a)(3)]

Section 62.16724(k) requires the owner/operator to follow the corrective action and corresponding timeline requirements as follows:

1. For corrective action that is required according to Section 62.16720(a)(3)(iii) or 62.16720(a)(4)(iii) and is expected to take longer than 120 days after the initial exceedance to complete, the owner operator must submit a root cause analysis, and corresponding implementation timeline to the Administrator as soon as practicable but no later than 75 days of the first measurement of positive pressure or temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above. The Administrator must approve the plan for corrective action and the corresponding timeline.

2. For corrective action that is required according to Section 62.16720(a)(3)(iii) or Section 62.16720(a)(4)(iii) and is not completed within 60 days after the initial exceedance, the owner or operator must submit a notification to the Administrator as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance.

The following condition that is included on ATC C-3074-8-7 will be included on the ATC:

- The owner or operator shall submit a notification to the Administrator as soon as practicable, but no later than 75 days after the initial exceedance for corrective action(s), as required by this permit, that are not completed within 60 days of the initial exceedance. If corrective action(s) take longer than 120 days to complete after the initial exceedance, the owner or operator shall submit the root cause analysis, corrective action analysis and corresponding implementation schedule to the Administrator as soon as practicable but no later than 75 days after the initial exceedance. [40 CFR 62.16724(k)]

Section 62.16726(e)(2) requires the owner or operator to keep records of each wellhead temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above, each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent.

The following condition that is included on ATC C-3074-8-7 will be included on the ATC:

- The owner or operator shall keep records of each wellhead temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above, each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent. [40 CFR 62.16726(e)(2)]

Section 62.16726(e)(5) states that for any root cause analysis for which corrections are required, the operator shall keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the regulatory agency.

This landfill is not subject to the gas collection header gauge pressure monitoring requirements of Section 62.16720(a)(3); therefore, these requirements are not included in the following condition that is included on ATC C-3074-8-7 and will be included on the ATC:

- For any root cause analysis for which corrections are required, the operator shall keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the regulatory agency. [40 CFR 62.16726(e)(5)]

<u>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</u>

This unit was previously subject to Subpart WWW requirements; however, 40 CFR §60.750(d)(1) states that a landfill must continue to comply until it becomes subject to more stringent requirements in an approved and effective state or federal plan that implements 40 CFR 60 Subpart Cf. In conjunction with the State of California's partially approved plan that implements the requirements of 40 CFR 60 Subpart Cf and the Sections of 40 CFR Part 62 Subpart OOO listed above, the landfill is subject to more stringent requirements that implement 40 CFR 60 Subpart Cf; therefore, Subpart WWW requirements are no longer applicable to the landfill.

Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63.

The requirements of 40 CFR 63 Subpart AAAA – National Emission Standards for Hazardous Air Pollutants; Municipal Solid Waste Landfills are applicable to owners and operators of MSW landfills that have accepted waste since November 8, 1987, or has additional capacity for waste deposition and meets any one of the three criteria in paragraphs in 40 CFR Section 63.1935(a)(1) through (3), or has additional capacity for waste deposition, that includes a bioreactor and meets any one of the three criteria in paragraphs in 40 CFR Section 63.1935(b)(1) through (3). The applicability of 40 CFR 63 Subpart AAAA to the existing landfill is discussed below.

<u>40 CFR 63 Subpart AAAA – National Emission Standards for Hazardous Air Pollutants; Municipal Solid Waste Landfills</u>

Section 63.1930 - What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants for existing and new municipal solid waste (MSW) landfills.

(a) Before September 28, 2021, all landfills described in Section 63.1935 must meet the requirements of 40 CFR part 60, subpart WWW, or an approved state or federal plan that implements 40 CFR part 60, subpart Cc, and requires timely control of bioreactors and additional reporting requirements. Landfills must also meet the startup, shutdown, and malfunction (SSM) requirements of the general provisions as specified in Table 1 to subpart AAAA of this part and must demonstrate compliance with the operating conditions by parameter monitoring results that are within the specified ranges. Specifically, landfills must meet the following requirements of this subpart that apply before September 28, 2021, as set out in: Sections 63.1955(a), 63.1955(b), 63.1965(a), 63.1965(c), 63.1975, 63.1981(a), 63.1981(b), and 63.1982, and the definitions of “Controlled landfill” and “Deviation” in Section 63.1990.

(b) Beginning no later than September 27, 2021, all landfills described in Section 63.1935 must meet the requirements of this subpart. A landfill may choose to meet the requirements of this subpart rather than the requirements identified in Section 63.1930(a) at any time before September 27, 2021. The requirements of this subpart apply at all times, including during periods of SSM, and the SSM requirements of the General Provisions of this part do not apply.

Section 63.1935 Am I subject to this subpart?

This subpart is applicable to facilities that meet the criteria in paragraph (a) or (b) of this section.

(a) You are subject to this subpart if you own or operate an MSW landfill that has accepted waste since November 8, 1987, or has additional capacity for waste deposition and meets any one of the three criteria in paragraphs (a)(1) through (3) of this section:
(1) Your MSW landfill is a major source as defined in § 63.2 of subpart A.
(2) Your MSW landfill is collocated with a major source as defined in § 63.2 of subpart A.
(3) Your MSW landfill is an area source landfill that has a design capacity equal to or 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 § 63.1959.

(b) You are subject to this subpart if you own or operate an MSW landfill that has accepted waste since November 8, 1987, or has additional capacity for waste deposition, that includes a bioreactor, as defined in § 63.1990, and that meets any one of the criteria in paragraphs (b)(1) through (3) of this section:
(1) Your MSW landfill is a major source as defined in § 63.2 of subpart A.
(2) Your MSW landfill is collocated with a major source as defined in § 63.2 of subpart A.
(3) Your MSW landfill is an area source landfill that has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m3 and that is not permanently closed as of January 16, 2003.

The facility does not meet the criteria in Section 63.1935(a) since the landfill is not a major source as defined in 40 CFR 63.2, is not collocated with a major source as defined in 40 CFR 63.2, and the landfill does not have uncontrolled emissions greater than 50 Mg/yr; therefore, the municipal solid waste (MSW) landfill is not subject to 40 CFR 63 Subpart AAAA. Additionally, because the facility does not operate a bioreactor, Section 63.1935(b) does not apply. Therefore, the landfill is not subject to 40 CFR 63 Subpart AAAA.

Rule 4101 Visible Emissions

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). Provided that the equipment is properly maintained and operated, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity.

The following condition will be included on all of the proposed ATC permits to ensure compliance:

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

The following conditions will be included on the ATC permit:

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

- Excavated solid waste shall be covered using fresh soil, plastic sheeting, or vapor retarding foam as necessary to minimize the release of landfill gas and prevent odorous emissions. [District Rules 2201 and 4102]

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification of an existing source shall not result in an increase in cancer risk greater than the District's significance level (20 in a million) and shall not result in acute and/or chronic risk indices greater than 1.

As discussed above, there are no increases in emissions associated with this project; therefore, a health risk assessment is not necessary and no further risk analysis is required.

The following requirements from ATC C-3074-8-7 will be included on the proposed ATC permit to enforce continued compliance with the parameters used in previous health risk modeling:

- The exhaust stack of the 33 MMBtu/hr primary flare shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]

- The primary flare and the backup flare associated with this landfill shall not operate at the same time. [District Rules 2201 and 4102]

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

District Rule 1020 – Definitions defines Source Operation as follows:

Source Operation: the last operation preceding the emission of any air contaminant, which:
1) Results in the separation of the air contaminant from the process materials or in the conversion of the process materials into air contaminants, as in the case of combustion of fuels; and
2) Is not an air pollution abatement operation; and
3) Is any operation, article, machine, equipment or other contrivance.

The only point sources of PM emissions at the landfill are the landfill gas flares. The landfill gas flares are air pollution abatement operations; therefore, Rule 4201 does not apply.

Rule 4301 Fuel Burning Equipment

The purpose of this rule is to limit the emission of air contaminants from fuel burning equipment. This rule limits the concentration of combustion contaminants and specifies maximum emission rates for sulfur dioxide, nitrogen oxide, and combustion contaminant emissions.

The provisions of District Rule 4301 apply to any fuel burning equipment except air pollution control equipment which is exempted according to Section 4.0.

Section 3.1 provides the following definition of fuel burning equipment:

Fuel Burning Equipment: any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer.

The landfill gas flares are control devices used to control emissions from the landfill. The primary purpose of the flares is not the production of heat or power by indirect heat transfer. Therefore, they are not fuel burning equipment and Rule 4301 does not apply to the flares.

District Rule 4311 Flares

The purpose of this rule to limit the emissions of volatile organic compounds (VOC), oxides of nitrogen (NO_X), and sulfur oxides (SO_X) from the operation of flares.

The 33 MMBtu/hr low NO_X enclosed flare and the 30 MMBtu/hr enclosed backup flare that control the gas from the landfill are both subject to Rule 4311. The requirements of Rule 4311 that apply to the flares are discussed below.

<u>Section 5.0 - Requirements</u>

Pursuant to Section 5.1, flares that are permitted to operate only during an emergency are not subject to the requirements of Sections 5.6 and 5.7.

The 33 MMBtu/hr low NO_X enclosed flare and the 30 MMBtu/hr enclosed backup flare will be permitted to operate for non-emergency purposes. Therefore, this section does not apply to the flares.

Pursuant to Section 5.2, flares that are operated 200 hours or less per calendar year as specified in the Permit to Operate, or with an annual throughput limit equivalent to 200 hours per year at flare rating (MMBtu/hr) as specified in the Permit to Operate, are exempt from the requirements of Sections 5.9 and 5.10.

The 33 MMBtu/hr low NO_X enclosed flare and the 30 MMBtu/hr enclosed backup flare will not be limited to operating 200 hours or less per calendar year or to an equivalent annual throughput. Therefore, this section does not apply to the flares.

Section 5.3 requires that a flame always be present in the flares whenever combustible gases are present. The following condition will be included on the ATC permits for the flares:

- For each flare, a flame shall be present at all times in the flare whenever combustible gases are vented through the flare. [District Rule 4311]

Section 5.4 requires that the flares be equipped with either an automatic ignition system or operated with a continuous pilot.

The following condition will be included on the ATC permit for the flares:

- The outlet of each flare shall be equipped with an automatic ignition system, or shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311]

Section 5.5 requires that, except for flares equipped with a flow-sensing ignition system, flares must be equipped with a device to monitor and confirm operation of the pilot flame. The following condition will be included on the ATC permits:

- Unless the flare is equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device capable of continuously detecting that at least one pilot flame or the flare flame is present shall be installed and operated for each flare. The flame detection device shall be kept operational at all times except during flare maintenance when the flare is isolated from gas flow. [District Rule 4311]

Section 5.6 requires that flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot must use purge gas for purging. The following condition will be included on the ATC permits:

- Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311]

Section 5.7 requires open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig to be operated in such a manner that meets the provisions of 40 CFR 60.18.

The flares are not open flares; therefore, the requirements of Section 5.7 do not apply to the flares.

Section 5.8 requires that ground-level enclosed flares must comply with the VOC and NO_X emission limits in Table 1 of Rule 4311 listed below, except as specified in Section 5.9 and 5.10.

Rule 4311, Table 1 – Ground Level Enclosed Flare Emissions Limits		
Type of Flare and Heat Release Rate in MMBtu/hr	**VOC (lb/MMBtu)**	**NOx (lb/MMBtu)**
Without Steam-assist		
<10 MMBtu	0.0051	0.0952
10-100 MMBtu	0.0027	0.1330
>100 MMBtu	0.0013	0.5240
With Steam-assist		
All	0.14 as TOG	0.068

<u>30 MMBtu/hr Enclosed Backup Flare</u>

The existing 30 MMBtu/hr backup flare is an enclosed landfill gas flare that is subject to the annual flaring throughput limits in Section 5.9, Table 2. Landfill gas flares that are subject to Section 5.9 are not subject to Section 5.8. Therefore, this section does not apply to the 30 MMBtu/hr backup landfill gas flare.

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<u>33 MMBtu/hr Enclosed Low NO_X Flare</u>

The 33 MMBtu/hr enclosed low NO_X flare is subject to the emission limits in Section 5.9, Table 3. Therefore, this section does not apply to the 33 MMBtu/hr low NO_X flare.

Section 5.9 requires that, except for flares that meet the emission limits specified in Table 3, operators of flares located at operations specified in Table 2 shall complete one of the following options:

5.9.1 Submit an ATC application to limit flaring annual throughput through an enforceable Permit to Operate limit, to levels not to exceed those specified in Table 2 for two consecutive calendar years, per the compliance schedule in Section 7.2; or

5.9.2 Replace or modify the existing flare to meet Table 3 emission limits per the compliance schedule in Section 7.3.

Rule 4311, Table 2 – Flare Annual Throughput Thresholds (MMBtu/calendar year)	
Flare Category	**MMBtu/yr**
A. Flares used at Oil and Gas Operations, and Chemical Operations	25,000
B. Flares used at Landfill Operations	90,000
C. Flares used at Digester Operations	100,000
D. Flares used at Organic Liquid Loading Operations	25,000

Rule 4311, Table 3 – VOC and NOx Emissions Requirements for Flares		
Flare Category	**VOC (lb/MMBtu)**	**NOx (lb/MMBtu)**
A. Flares at Oil and Gas Operations or Chemical Operations	0.008	0.018
B. Flares at Landfill Operations	0.038	0.025
C. Flares at Digester Operations (Located at a Major Source)	0.038	0.025
D. Flares at Digester Operations (Not located at a Major Source)	N/A	0.060
E. Flares at Organic Liquid Loading Operations	**Pounds/1,000 gallons loaded**	
	N/A	0.034

30 MMBtu/hr Enclosed Backup Flare

The existing 30 MMBtu/hr backup flare will be limited to an annual flaring throughput of no more than 90,000 MMBtu/year in any two consecutive calendar years; therefore, the backup flare will comply with the requirements of Section 5.9, Table 2. The following condition will be included on the ATC permit:

- The annual flaring throughput for the 30 MMBtu/hr backup flare shall not exceed 90,000 MMBtu/year for two consecutive calendar years. [District Rule 4311]

33 MMBtu/hr Enclosed Low NO_X Flare

The 33 MMBtu/hr enclosed low NO_X flare is subject to the emission limits in Section 5.9, Table 3. The following condition will be included on the ATC permit:

- Emissions from the 33 MMBtu/hr primary flare shall not exceed any of the following limits: 0.025 lb-NOx/MMBtu; 0.03 lb-SOx/MMBtu; 0.015 lb-PM10/MMBtu; 0.06 lb-CO/MMBtu; or 0.008 lb-VOC/MMBtu. [District Rules 2201, 4311, and 4801]

Section 5.10 requires that for operators of flares that opt to comply with Section 5.9.1, any operator with a flare that exceeds the annual throughput thresholds specified in Table 2 for two consecutive calendar years shall notify the APCO in writing of the exceedance within 30 days following the end of the second calendar year and shall replace or modify the flare to meet Table 3 emission limits per the compliance schedule in Section 7.4.

30 MMBtu/hr Enclosed Backup Flare

As discussed above, the existing 30 MMBtu/hr backup flare will be limited to an annual flaring throughput of no more than 90,000 MMBtu/year in any two consecutive calendar years to comply with the requirements of Section 5.9, Table 2; therefore, the following condition will be included on the ATC permit to enforce compliance with Section 5.10:

- If the 30 MMBtu/hr backup flare exceeds 90,000 MMBtu/year heat input for two consecutive calendar years, the operator shall notify the District in writing of the exceedance within 30 days following the end of the second calendar year. By April 15 of the year after the end of the second consecutive calendar year in which an exceedance of the annual heat input rate occurred, the applicant shall submit an Authority to Construct (ATC) application to modify or replace the flare to comply with the emission limits, as noted in Table 3 of Rule 4311 (12/17/20). [District Rule 4311]

33 MMBtu/hr Enclosed Low NO_X Flare

The 33 MMBtu/hr low NO_X flare will comply with the emission limits in Section 5.9, Table 3. Therefore, this section does not apply to this flare.

Section 5.11 - Flare Minimization Plan prohibits flaring at petroleum refineries and major sources, except landfill operations, unless it is consistent with an approved flare minimization plan (FMP), pursuant to Section 6.5 or is caused by an emergency and is necessary to prevent an accident, hazard, or release of vent gas directly to the atmosphere.

The flares are located at a landfill. Therefore, the flare minimization plan (FMP) requirements are not applicable.

Section 5.12 - Petroleum Refinery SO_2 Performance Targets establishes SO_2 emission reduction standards for petroleum refinery flares.

The flares will not be located at a petroleum refinery. Therefore, this section does not apply.

Section 5.13 requires the operator of a flare at a petroleum refinery or major source, except landfill operations, subject to flare minimization requirements pursuant to Section 5.11 to monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified in the Permit to Operate and to maintain records pursuant to Section 6.1.7. Flares that the operator can verify, based on permit conditions, are not capable of producing reportable flare events pursuant to Section 6.2.2 shall not be required to monitor vent gas flow to the flare. Pursuant to Section 3.40, a Reportable Flaring Event is any flaring where more than 500,000 standard cubic feet (scf) of vent gas is flared per calendar day, or where sulfur oxide emissions are greater than 500 pounds per calendar day.

As discussed above, the flares are located at a landfill and are not subject to flare minimization requirements pursuant to Section 5.11. Therefore, the flares are not subject to the requirements of Section 5.13.

Section 5.14 requires that on and after January 1, 2024, the operator of a flare subject to the annual throughput thresholds in Table 2 shall monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified in the Permit to Operate. The operator shall determine the heating value (Btu per cubic foot) of the vent gas annually in accordance with Section 6.3.6. The operator shall maintain records pursuant to Section 6.1.7. Flares that the operator can verify, based on permit conditions, are not capable of exceeding the annual throughput thresholds in Table 2 shall not be required to monitor vent gas flow to the flare.

30 MMBtu/hr Enclosed Backup Flare

As discussed above, the existing 30 MMBtu/hr backup flare will be limited to an annual flaring throughput of no more than 90,000 MMBtu/year in any two consecutive calendar years to comply with the requirements of Section 5.9, Table 2; therefore, the following conditions will be included on the ATC permit to enforce compliance with Section 5.14:

- The operator shall determine the higher heating value (HHV) of the landfill gas flared, in Btu/scf, annually using ASTM D1826-88, ASTM 1945-81 in conjunction with ASTM D3588-89, or an alternative method approved by the EPA and the District. [District Rules 2201 and 4311]

- The operator shall measure and record the continuous volumetric flow rate of landfill gas sent to each flare in standard cubic feet per minute (scfm) and the total volume of the landfill gas entering each flare each day in standard cubic feet (scf). [District Rules 1070, 2201, and 4311]

33 MMBtu/hr Enclosed Low NO_X Flare

The 33 MMBtu/hr low NO_X flare will comply with the emission limits in Section 5.9, Table 3. Therefore, the flares are not subject to the throughput thresholds in Table 2 and this section does not apply to the low NO_X flare.

Section 5.15 requires the operator of a petroleum refinery or a flare at a major source, except landfill operations, with a flaring capacity equal to or greater than 50 MMBtu/hr to monitor the flare pursuant to Sections 6.6, 6.7, 6.8, 6.9, and 6.10 and requires that effective on and after January 1, 2024, the operator of any flare with a flaring capacity equal to or greater than 50 MMBtu per hour shall monitor the flare pursuant to Sections 6.6, 6.7, 6.8, 6.9, and 6.10.

The flares addressed in this project are located at landfill operations and are each rated less than 50 MMBtu/hr. Therefore, this section does not apply.

Section 6.0 - Administrative Requirements

Section 6.1 – Recordkeeping requires that the following records shall be maintained, retained on-site for a minimum of five years, and made available to the APCO, ARB, and EPA upon request:

6.1.1 Copy of the compliance determination conducted pursuant to Section 6.4.1

6.1.2 Copy of the source testing result conducted pursuant to Section 6.4.2
6.1.3 For flares used during an emergency, record of the duration of flare operation, amount of gas burned, and the nature of the emergency situation
6.1.4 Operators claiming an exemption pursuant to Section 5.2 shall record annual hours of operation or annual throughput necessary to demonstrate an exemption under that section
6.1.5 A copy of the approved flare minimization plan pursuant to Section 6.5
6.1.6 A copy of annual reports submitted to the APCO pursuant to Section 6.2
6.1.7 Monitoring data collected pursuant to Sections 5.13, 5.14, 6.6, 6.7, 6.8, 6.9, and 6.10

The following conditions will be included on the ATC permit:

- Records shall be maintained of the results of source testing conducted of emission control device(s) for emissions of NOx, CO, and VOC in pounds per MMBtu heat input, and of the VOC destruction/control efficiency of the emission control device(s). [District Rules 2201 and 4311]

- Records shall be maintained of the annual reports submitted to the APCO pursuant to Rule 4311, Section 6.2. [District Rule 4311]

- For the 30 MMBtu/hr backup flare, records shall be maintained of the annual vent gas flow to the flare, in MMscf/yr, the higher heating value (HHV) in Btu/scf of the vent gas flared, and the annual throughput of the flare in MMBtu. [District Rule 4311]

- All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201, 2520, 9.4.2, and 4311]

Section 6.2.1 – Unplanned Flaring Event requires the operator of a flare subject to flare minimization plans pursuant to Section 5.11 to notify the APCO of an unplanned flaring event within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever occurs first.

As discussed above, the landfill gas flares evaluated in this project are not subject to flare minimization plans pursuant to Section 5.11; therefore, this section is not applicable.

Section 6.2.2 – Reportable Flaring Event requires that effective on and after July 1, 2012, and annually thereafter, except for flares meeting the emission limits in Table 3, the operator of a flare subject to flare minimization plans pursuant to Section 5.11 shall submit an annual report to the APCO that summarizes all Reportable Flaring Events as defined Section 3.0 that occurred during the previous 12 month period. Beginning January 1, 2024, the report shall be submitted within 30 days following the end of the previous calendar year.

As discussed above, the landfill gas flares evaluated in this project are not subject to flare minimization plans pursuant to Section 5.11; therefore, this section is not applicable.

Section 6.2.3 requires that effective until January 1, 2024, the operator of a flare at a petroleum refinery or major source, except landfill operations, subject to flare monitoring requirements

pursuant to Sections 5.13, 5.14, 6.6, 6.7, 6.8, 6.9, and 6.10, as appropriate, shall submit an annual report to the APCO within 30 days following the end of each 12 month period. Effective on and after January 1, 2024, and annually thereafter, the operator of any flare subject to flare monitoring requirements pursuant to Sections 5.13, 5.14, 6.6, 6.7, 6.8, 6.9, and 6.10, as appropriate, shall submit an annual report in an electronic format approved by the District to the APCO within 30 days following the end of each calendar year for all required monitoring under those sections.

The following condition will be included on the ATC permit:

- For the 30 MMBtu/hr backup flare, the operator shall submit an annual report, in an electronic report approved by the District, to the APCO within 30 days following the end of each 12-month period. The report shall include the following: 1) The total volumetric flow of vent gas in standard cubic feet (scf) for each day for the previous calendar year; 2) A flow verification report for the flare. The flow verification report shall include flow verification testing pursuant to Rule 4311, Section 6.3.5; and 3) the annual throughput in MMBtu for the previous calendar year calculated using the measured HHV of the gas flared or by using the default flare gas heating value of 500 Btu/scf as specified in District Rule 4311, Table 4 (12/17/2020). [District Rule 4311]

Section 6.3 specifies that the test methods listed in the following tables must be used to demonstrate compliance with Rule 4311, unless alternate equivalent test methods have been approved by the APCO and EPA.

Rule 4311 Test Methods for NO_X, VOC, O_2, and Halogenated Compounds	
Compound or Parameter Measured	**Approved Test Methods**
VOC, measured and calculated as carbon	EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case Method 25a may be used
Halogenated exempt compounds	EPA Method 18 or ARB Method 422 “Determination of Volatile organic Compounds in Emission from Stationary Sources”
NO_X emissions in pounds per million BTU	EPA Method 19
NO_X and O_2 concentrations (ppmv)	EPA Method 3A, EPA Method 7E, or ARB 100

Rule 4311 Testing and Sampling Methods for Monitoring Flare Vent Gas Composition	
Compound or Parameter Measured	**Approved Test Methods**
Total hydrocarbon content and methane content of vent gas	ASTM Method D 1945-96, ASTM Method UOP 539-97, EPA Method 18, or EPA Method 25A or 25B
Hydrogen sulfide content of vent gas	ASTM Method D 1945-96, ASTM Method UOP 539-97, ASTM Method D 4084-94, or ASTM Method D 4810-88
Minimum sampling frequency for continuous analyzer employing gas chromatography	At least one sample every 30 minutes

Rule 4311 Testing and Sampling Methods for Monitoring Flare Vent Gas Composition	
Compound or Parameter Measured	**Approved Test Methods**
Total reduced sulfur content of vent gas monitored using continuous analyzers not employing gas chromatography	EPA Method D4468-85

Rule 4311 Flare Vent Gas Flow Verification Test Methods	
Parameter Measured	**Approved Test Methods**
Flare vent gas flow rate	EPA Methods 1 and 2; verification method recommended by the manufacturer of the flow monitoring equipment; tracer gas dilution or velocity; or other flow monitors or process monitors that can provide comparison data on a vent stream that is being directed past the ultrasonic flow meter

Rule 4311 Flare Gas Heating Value Test Methods	
Parameter Measured	**Approved Test Methods**
Heating value of flare gas	ASTM D 1826-88 or ASTM D 1945-81 in conjunction with ASTM D 3588-89; alternately, an operator may elect to use a default heating value from Rule 4311, Table 4

Rule 4311, Table 4 – Default Flare Gas Heating Values	
Flare Category	**Heating Value (Btu/scf)**
Flares at Oil and Gas Operations or Chemical Operations	1,000
Flares at Landfill Operations	500
Flares at Digester Operations	600

The following conditions will be included on the ATC permit to require that any source testing of the flares will use the approved test methods from Section 6.3 of District Rule 4311.

- Source testing of NOx emissions shall be conducted using EPA Method 19 on a heat input basis; EPA Method 3A, EPA Method 7E, or ARB 100 on a ppmv basis; or an equivalent method approved by the District and EPA. [District Rules 2201 and 4311]

- Source testing of VOC (ppmv) and NMOC (ppmv) emissions shall be conducted using the following methods: EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case Method 25a may be used in conjunction with EPA Method 18 or ARB Method 422 "Determination of Volatile Organic Compounds in Emission from Stationary Sources" for the measurement and subtraction of exempt compounds (e.g. methane, ethane, and exempt halogenated compounds); or an equivalent method approved by the District and EPA. [District Rules 2201 and 4311]

- Oxygen (O2) concentration of flared gas shall be determined using EPA Method 3A, EPA Method 7E, or ARB 100. [District Rules 2201 and 4311]

- For purposes of the flow verification report required by Rule 4311, vent gas flow shall be determined using one or more of the following methods, or by any alternative method approved by the APCO, ARB, and EPA: 1) EPA Methods 1 and 2; 2) A verification method recommended by the manufacturer of the flow monitoring equipment installed; 3) Tracer gas dilution or velocity; or 4) Other flow monitors or process monitors that can provide comparison data on a vent stream that is being directed past the ultrasonic flow meter. [District Rule 4311]

- The operator shall determine the higher heating value (HHV) of the landfill gas flared, in Btu/scf, annually using ASTM D1826-88, ASTM 1945-81 in conjunction with ASTM D3588-89, or an alternative method approved by the EPA and the District. [District Rules 2201 and 4311]

Section 6.4.1 requires the operator of flares that are subject to Section 5.7 to make available to the APCO upon request the compliance determination records that demonstrate compliance with the provisions of 40 CFR 60.18, (c)(3) through (c)(5).

As discussed above, the enclosed flares addressed in this project are not open flares; therefore, they are not subject to Section 5.7 and this section does not apply.

Section 6.4.2 requires the operator of flares subject to emission limits in Table 1 and Table 3, Categories A, B, and C shall conduct source testing at least once every 12 months to demonstrate compliance with Section 5.8. The operator shall submit a copy of the testing protocol to the APCO at least 30 days in advance of the scheduled testing. The operator shall submit the source test results not later than 60 days after completion of the source testing

The following conditions will be included on the ATC permit:

- Source testing of the 33 MMBtu/hr primary flare to demonstrate compliance with the NOx, CO, and VOC emission limits; with the VOC destruction efficiency of 98% or concentration limit of 20 ppmvd @ 3% O2 referenced as methane; and with the methane destruction efficiency, as required by this permit, shall be conducted least once every 12 months. [District Rules 2201 and 4311, and 17 CCR 95464]

- Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test and a source test plan must be submitted for approval at least 30 days prior to testing. [District Rules 1081 and 4311]

- The results of each source test shall be submitted to the District within 60 days after completion of the source test. [District Rules 1081 and 4311]

Section 6.5 - Flare Minimization Plan requires the operator of a petroleum refinery flare or any flare at a major source, except landfill operations, that has a flaring capacity of greater than or

equal to 5.0 MMBtu per hour shall submit a flare minimization plan (FMP) to the APCO for approval and specifies requirements for operators of flares that are subject to the flare minimization plan provisions of District Rule 4311.

As discussed above, the landfill gas flares evaluated in this project are not subject to flare minimization plans pursuant to Section 5.11; therefore, this section is not applicable.

Section 6.6 - Vent Gas Composition Monitoring requires that, effective on and after July 1, 2011, the operator of a petroleum refinery flare or any flare at a major source, except landfill operations, that has a flaring capacity equal to or greater than 50 MMBtu per hour shall monitor vent gas composition using one of the five methods pursuant to Section 6.6.1 through Section 6.6.5, as appropriate, and requires that, effective on and after January 1, 2024, the operator of any flare with a flaring capacity equal to or greater than 50 MMBtu per hour, except landfill operations, shall monitor vent gas composition using one of the five methods pursuant to Section 6.6.1 through Section 6.6.5, as appropriate.

The flares addressed in this project are located at landfill operations and are each rated less than 50 MMBtu/hr. Therefore, this section does not apply.

Section 6.7 - Pilot and Purge Gas Monitoring requires that, effective on and after July 1, 2011, the operator of a petroleum refinery flare or any flare at a major source, except landfill operations, that has a flaring capacity equal to or greater than 50 MMBtu per hour shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored, and requires that, effective on and after January 1, 2024, the operator of any flare that has a flaring capacity equal to or greater than 50 MMBtu per hour shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored.

The flares addressed in this project are located at landfill operations and are each rated less than 50 MMBtu/hr. Therefore, this section does not apply.

Section 6.8 - Water Seal Monitoring requires that, effective on and after July 1, 2011, the operator of a petroleum refinery flare or any flare at a major source, except landfill operations, that has a flaring capacity equal to or greater than 50 MMBtu per hour with a water seal shall monitor and record the water level and pressure of the water seal that services each flare daily or as specified on the Permit to Operate, and requires that, effective on and after January 1, 2024, the operator of any flare that has a flaring capacity equal to or greater than 50 MMBtu per hour with a water seal shall monitor and record the water level and pressure of the water seal that services each flare daily or as specified on the Permit to Operate.

The flares addressed in this project are each rated less than 50 MMBtu/hr and do not have water seals. Therefore, this section does not apply.

Section 6.9 - General Monitoring specifies additional monitoring for petroleum refinery flares or any flares at major sources, except landfill operations, that have a flaring capacity equal to or greater than 50 MMBtu per hour, effective on and after July 1, 2011, and additional monitoring for any flares at major sources, except landfill operations, that have a flaring capacity equal to or greater than 50 MMBtu per hour, effective on and after January 1, 2024.

The flares addressed in this project are located at landfill operations and are each rated less than 50 MMBtu/hr. Therefore, this section does not apply.

Section 6.10 - Video Monitoring requires the operator of a petroleum refinery flare to install and maintain equipment that records a real-time digital image of the flare and flame at a frame rate of no less than one frame per minute. The recorded image of the flare shall be of sufficient size, contrast, and resolution to be readily apparent in the overall image or frame. The image shall include an embedded date and time stamp. The equipment shall archive the images for each 24-hour period. In lieu of video monitoring the operator may use an alternative monitoring method that provides data to verify date, time, vent gas flow, and duration of flaring events.

The flares included in this project are not petroleum refinery flares. Therefore, this section does not apply.

Section 7.0 - Compliance Schedule specifies the timeframes and dates for compliance with Rule 4311 after loss of exemption, submittal of ATC applications to limit flaring throughput, submittal of ATC applications to modify or replace flares to comply with the emission limits of Rule 4311, and demonstration of compliance with emission limits.

The requirements of this rule will be incorporated into the conditions of the ATC permit. Therefore, compliance with the requirements of District Rule 4311 is expected.

Rule 4642 Solid Waste Disposal Sites

The purpose of this rule is to limit the emissions of volatile organic compounds (VOC) from solid waste disposal sites. Per section 2.0, this rule applies to any facility which has a gas collection system and/or control device in operation, or undergoing maintenance or repair.

Section 4.1 states that the requirements of this rule shall not apply to any solid waste disposal site which is subject to the requirements of 40 CFR 60 Subpart WWW, or Subpart Cc. As discussed previously, this operation is subject to 40 CFR 60 Subpart WWW; therefore, the landfill is exempt from the requirements of this rule.

Rule 4801 Sulfur Compounds

The purpose of District Rule 4801 is to limit the emissions of sulfur compounds. A maximum concentration and test method are specified. The provisions of this rule shall apply to any discharge to the atmosphere of sulfur compounds, which would exist as a liquid or a gas at standard conditions.

Section 3.1 states that a person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: two-tenths (0.2) percent by volume calculated as sulfur dioxide (SO_2), on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

$$\text{Volume } SO_2 = \frac{n\ RT}{P}$$

Where:

N = moles SO_2
T (Standard Temperature) = 60°F = 520°R
P (Standard Pressure) = 14.7 psi

$$R \text{ (Universal Gas Constant)} = \frac{10.73\,\text{psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot {}^\circ\text{R}}$$

To demonstrate compliance with the sulfur compound emission limit of Rule 4801, the maximum sulfur compound emissions from the flares will be calculated based on the maximum SO_X emissions allowed from the flares: 0.03 lb-SO_X/MMBtu for the 33 MMBtu/hr primary flare and 0.033 lb-SO_X/MMBtu for the 30 MMBtu/hr bcakup flare. For the purposes of calculating the SO_X emissions concentration from the flares, an F Factor of 9,723 dscf/MMBtu at 60 ˚F will be used, which is the average of the F Factors given for the landfill gas in the December 2021 and December 2022 source test reports for the flare.

<u>33 MMBtu/hr Low NO_X Primary Flare</u>

$$\frac{0.03\ lb-SOx}{MMBtu} \times \frac{1\ MMBtu}{9{,}857\ dscf} \times \frac{1\ lb \cdot mol}{64\ lb-SOx} \times \frac{10.73\ psi \cdot ft^3}{lb \cdot mol \cdot {}^\circ R} \times \frac{520\ {}^\circ R}{14.7\ psi} \times \frac{1{,}000{,}000\ parts}{million} = 18.1 \frac{parts}{million}$$

Because 18.1 ppmv is ≤ 2000 ppmv, the primary flare is expected to comply with Rule 4801.

<u>30 MMBtu/hr Backup Flare</u>

$$\frac{0.033\ lb-SOx}{MMBtu} \times \frac{1\ MMBtu}{9{,}857\ dscf} \times \frac{1\ lb \cdot mol}{64\ lb-SOx} \times \frac{10.73\ psi \cdot ft^3}{lb \cdot mol \cdot {}^\circ R} \times \frac{520\ {}^\circ R}{14.7\ psi} \times \frac{1{,}000{,}000\ parts}{million} = 19.9 \frac{parts}{million}$$

Because 19.9 ppmv is ≤ 2000 ppmv, the backup flare is expected to comply with Rule 4801.

The following conditions will be included on the ATC permit:

- Emissions from the 33 MMBtu/hr primary flare shall not exceed any of the following limits: 0.025 lb-NOx/MMBtu; 0.03 lb-SOx/MMBtu; 0.015 lb-PM10/MMBtu; 0.06 lb-CO/MMBtu; or 0.008 lb-VOC/MMBtu. [District Rules 2201, 4311, and 4801]

- Emissions from the 30 MMBtu/hr backup flare shall not exceed any of the following limits: 0.05 lb-NOx/MMBtu; 0.033 lb-SOx/MMBtu; 0.015 lb-PM10/MMBtu; 0.2 lb-CO/MMBtu; or 0.006 lb-VOC/MMBtu. [District Rules 2201 and 4801]

Rule 8011 General Requirements

The purpose of Regulation VIII (Fugitive PM_{10} Prohibitions) is to reduce ambient concentrations of fine particulate matter (PM_{10}) by requiring actions to prevent, reduce or mitigate anthropogenic fugitive dust emissions.

The provisions of this rule are applicable to specified outdoor fugitive dust sources. The definitions, exemptions, requirements, administrative requirements, recordkeeping requirements, and test methods set forth in this rule are applicable to all Rules under Regulation VIII (Fugitive PM_{10} Prohibitions) of the Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District.

Rule 8011 contains general requirements pertaining to all Regulation VIII prohibitions. Applicable sections of Rule 8011 are referenced from the specific prohibitory rules. Therefore, compliance with Rules 8031, 8041, and 8071, as evaluated below, will meet the requirements of Rule 8011.

Rule 8031 Bulk Materials

The purpose of this rule is to limit fugitive dust emissions from the outdoor handling, storage, and transport of bulk materials. This rule applies to the outdoor handling, storage, and transport of any bulk material.

This rule limits Visible Dust Emissions (VDE) from bulk material handling operations to a maximum 20% opacity. Section 5, Table 8031-1, prescribes the required control measures.

Pursuant to Section 4.2, the “spreading of landfill cover” is exempt from the requirements of this rule.

Section 5.0, Table 8031-1 specifies the following requirements for handling, storage, and transport of bulk materials:

Rule 8031, Table 8031-1 – Control Measures for Bulk Materials
A. HANDLING OF BULK MATERIALS: A1 When handling bulk materials, apply water or chemical/organic stabilizers/suppressants sufficient to limit VDE to 20% opacity or; A2 Construct and maintain wind barriers sufficient to limit VDE to 20% opacity and with less than 50% porosity. If utilizing fences or wind barriers, control measure A1 shall also be implemented
B. STORAGE OF BULK MATERIALS: B1 When storing bulk materials, comply with the conditions for a stabilized surface as defined in Rule 8011; or B2 Cover bulk materials stored outdoors with tarps, plastic, or other suitable material and anchor in such a manner that prevents the cover from being removed by wind action; or

Rule 8031, Table 8031-1 – Control Measures for Bulk Materials		
	B3	Construct and maintain wind barriers sufficient to limit VDE to 20% opacity and with less than 50% porosity. If utilizing fences or wind barriers, apply water or chemical/organic stabilizers/suppressants to limit VDE to 20% opacity or;
	B4	Utilize a 3-sided structure with a height at least equal to the height of the storage pile and with less than 50% porosity.
C.	ON-SITE TRANSPORTING OF BULK MATERIALS:	
	C1	Limit vehicular speed while traveling on the work site sufficient to limit VDE to 20% opacity; or
	C2	Load all haul trucks such that the freeboard is not less than six (6) inches when material is transported across any paved public access road sufficient to limit VDE to 20% opacity, or
	C3	Apply water to the top of the load sufficient to limit VDE to 20% opacity, or
	C4	Cover haul trucks with a tarp or other suitable cover.
D.	OFF-SITE TRANSPORTING OF BULK MATERIALS:	
	D1	Clean the interior of the cargo compartment or cover the cargo compartment before the empty truck leaves the site; and
	D2	Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate; and
	D3	Load all haul trucks such that the freeboard is not less than six (6) inches when material is transported on any paved public access road, and apply water to the top of the load sufficient to limit VDE to 20% opacity; or cover haul trucks with a tarp or other suitable cover.
E.	OUTDOOR TRANSPORT OF BULK MATERIALS WITH A CHUTE OR CONVEYOR:	
	E1	Fully enclose the chute or conveyor; or
	E2	Operate water spray equipment that sufficiently wets materials to limit VDE to 20% opacity; or
	E3	Wash separated or screened materials to remove conveyed materials having an aerodynamic diameter of 10 microns or less sufficient to limit VDE to 20% opacity.

The following condition, which is included on facility-wide permit C-3074-0-2, requires compliance with this rule:

- {4391} Outdoor handling, storage and transport of any bulk material which emits dust shall comply with the requirements of District Rule 8031, unless specifically exempted under Section 4.0 of Rule 8031 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8031]

In addition, the conditions listed below will be included on the permit to ensure compliance with these requirements:

- Except for the spreading of landfill cover, when handling bulk materials outside an enclosed structure or building, water or chemical/organic stabilizers/suppressants shall be applied as required to limit Visible Dust Emissions to a maximum of 20% opacity. When necessary to achieve this opacity limitation, wind barriers with less than 50% opacity shall also be used. [District Rules 8011 and 8031]

- When storing bulk materials outside an enclosed structure or building, water or chemical/organic stabilizers/suppressants shall be applied as required to limit Visible Dust

Emissions to a maximum of 20% opacity. When necessary to achieve this opacity limitation, all bulk material piles shall also be either maintained with a stabilized surface as defined in Section 3.58 of District Rule 8011, or shall be protected with suitable covers or barriers as prescribed in Table 8031-1, Section B, of District Rule 8031. [District Rules 8011 and 8031]

- When transporting bulk materials outside an enclosed structure or building, all bulk material transport vehicles shall limit Visible Dust Emissions to 20% opacity by either limiting vehicular speed, maintaining sufficient freeboard on the load, applying water to the top of the load, or covering the load with a tarp or other suitable cover. [District Rules 8011 and 8031]

- All outdoor chutes and conveyors shall be controlled by any of the following options: 1) full enclosure, 2) operation with material sufficiently wetted such that Visible Dust Emissions (VDE) is limited to 20% opacity, or 3) the concentration of particles having an aerodynamic diameter of 10 microns or less in the conveyed material shall be sufficiently small to limit VDE to 20% opacity. [District Rules 8011 and 8031]

Section 6.0 of Rule 8031 requires the facility to maintain records in accordance with the requirements of Rule 8011. The following condition will be placed on the permit:

- Records and other supporting documentation shall be maintained as required to demonstrate compliance with the requirements of the rules under Regulation VIII only for those days that a control measure was implemented. Such records shall include the type of control measure(s) used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressant, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. Records shall be kept for one year following project completion that results in the termination of all dust generating activities. [District Rules 8011, 8031, and 8071]

Based on the proposed control measures, compliance with Rule 8031 is expected.

Rule 8041 Carryout and Trackout

The purpose of this rule is to prevent or limit fugitive dust emissions from carryout and trackout. This rule applies to all sites that are subject to any of the following rules where carryout or trackout has occurred or may occur on paved public roads or the paved shoulders of a paved public road: Rules 8021 (Construction, Demolition, Excavation, Extraction, and other Earthmoving Activities), 8031 (Bulk Materials), 8061 (Paved and Unpaved Roads), and 8071 (Unpaved Vehicle and Equipment Traffic Areas).

This rule requires an owner/operator to sufficiently prevent or cleanup carryout and trackout as specified in sections 5.1 through 5.9. In addition to the specific requirements of this rule, the facility shall comply with all other applicable requirements of Regulation VIII.

The following condition, which is included on facility-wide permit C-3074-0-2, requires compliance with this rule:

- {4392} An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8041]

Rule 8071 Unpaved Vehicle/Equipment Traffic Areas

The purpose of this rule is to limit fugitive dust emissions from unpaved vehicle and equipment traffic areas. This rule applies to any unpaved vehicle/equipment traffic area.

Section 5.1 of this rule requires implementation of at least one specific control measure for Visible Dust Emissions whenever the Average Annual Daily Trips (AADT) will exceed 50, Vehicle Daily Trips (VDT) will exceed 150, VDT with 3 or more axles will exceed 25, or when 1000 or more vehicles will park or travel in the area in a given day. Specified control measures are:

- *Implement an APCO-approved Fugitive PM10 Management Plan as specified in Rule 8011 (General Requirements);*
- *Watering;*
- *Uniform layer of washed gravel;*
- *Chemical/organic dust stabilizers/suppressants in accordance with the manufacturer's specifications;*
- *Vegetative materials;*
- *Paving;*
- *Roadmix;*
- *Any other method(s) that can be demonstrated to the satisfaction of the APCO that effectively limits VDE to 20% opacity and meets the conditions of a stabilized unpaved road.*

Section 5.2 requires that one or more specific control measures be implemented on each day that 50 or more VDT, or 25 or more VDT with 3 or more axles, originates from within and remains exclusively within an unpaved vehicle/equipment traffic area.

The following condition, which is included on facility-wide permit C-3074-0-2, requires compliance with this rule:

- {4395} Any unpaved vehicle/equipment area that anticipates more than 50 Average annual daily Trips (AADT) shall comply with the requirements of Section 5.1.1 of District Rule 8071. Any unpaved vehicle/equipment area that anticipates more than 150 vehicle trips per day (VDT) shall comply with the requirements of Section 5.1.2 of District Rule 8071. On each day that 25 or more VDT with 3 or more axles will occur on an unpaved vehicle/equipment traffic area, the owner/operator shall comply with the requirements of Section 5.1.3 of District Rule 8071. On each day when a special event will result in 1,000 or more vehicles that will travel/park on an unpaved area, the owner/operator shall comply with the requirements of Section 5.1.4 of District Rule 8071. All sources shall comply with the requirements of Section

5.0 of District Rule 8071 unless specifically exempted under Section 4.0 of Rule 8071 (9/16/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8071]

In addition, the conditions listed below will be included on the permit to ensure compliance:

- One or more of the following control measures shall be implemented on each day that 50 or more VDT (Vehicle Daily Trips), or 25 or more VDT with 3 or more axles, originates from within and remains exclusively within an unpaved vehicle/equipment traffic area: water, gravel, roadmix, or chemical/organic dust stabilizers/suppressants, vegetative materials, or other District-approved control measure shall be applied to unpaved vehicle travel areas as required to limit Visible Dust Emissions to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in District Rule 8011. [District Rule 8071 and 8011]

- On each day that 50 or more VDT (Vehicle Daily Trips), or 25 or more VDT with 3 or more axles, originates from within and remains exclusively within an unpaved vehicle/equipment traffic area, dusting materials accumulated on paved surfaces shall be removed daily or water and/or chemical/organic dust stabilizers/suppressants shall be applied to the paved surface as required to maintain continuous compliance with the requirements for a stabilized unpaved road as defined in District Rule 8011 and limit Visible Dust Emissions (VDE) to 20% opacity. [District Rules 8011 and 8071]

Section 5.3 requires an owner/operator to restrict access and periodically stabilize a disturbed surface area whenever a site becomes inactive to comply with the conditions for a stabilized surface as defined in Rule 8011. Therefore, the following condition will be placed on the permit:

- Whenever any portion of the site becomes inactive, Permittee shall restrict access and periodically stabilize any disturbed surface to comply with the conditions for a stabilized surface as defined in Section 3.58 of District Rule 8011. [District Rules 8011 and 8071]

Section 6.0 of this rule requires the owner/operator to comply with the recordkeeping requirements specified in Rule 8011. Therefore, the following condition (previously proposed in this evaluation) will be placed on the permit:

- Records and other supporting documentation shall be maintained as required to demonstrate compliance with the requirements of the rules under Regulation VIII only for those days that a control measure was implemented. Such records shall include the type of control measure(s) used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressant, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. Records shall be kept for one year following project completion that results in the termination of all dust generating activities. [District Rules 8011, 8031, and 8071]

California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 10, Article 4, Subarticular 6, Sections 95460 through 95476, Methane Emissions from Municipal Solid Waste Landfills

The purpose of this regulation 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.). On January 9, 2020, the EPA approved the California Landfill Methane Rule (LMR) as part of the State's partially approved plan for meeting 40 CFR Subpart Cc; therefore, the LMR meets the definition of an applicable requirement under the Title V program and is federally enforceable.

Section 95464 establishes the gas collection and control system requirements. The District incorporated the requirements of this regulation into the permit for the landfill under District Project C-1123591. The following requirements from the current permit will be included on the ATC permit as a mechanism to enforce compliance with this regulation:

- The landfill gas collection system shall be equipped with an enclosed flare having a methane destruction efficiency of at least 99% by weight. [17 CCR 95464]

- Source testing of the 33 MMBtu/hr primary flare to demonstrate compliance with the NOx, CO, and VOC emission limits; with the VOC destruction efficiency of 98% or concentration limit of 20 ppmvd @ 3% O2 referenced as methane; and with the methane destruction efficiency, as required by this permit, shall be conducted least once every 12 months. [District Rules 2201 and 4311, and 17 CCR 95464]

- Source testing of the 30 MMBtu/hr backup flare to demonstrate compliance with the NOx, CO, and VOC emission limits; with the VOC destruction efficiency of 98% or concentration limit of 20 ppmvd @ 3% O2 referenced as methane; and with the methane destruction efficiency; as required by this permit, shall be conducted in each calendar year in which the annual flaring throughput exceeds 6,000 MMBtu in that year. [District Rule 2201 and 17 CCR 95464]

- Landfill collection and control system (GCCS) may be operated intermittently provided the methane emission from the landfill do not exceed instantaneous or integrated limit requirements. [17 CCR 95464]

- Landfill gas collection system components downstream of blower have a leak limit of 500 ppmv as methane. Components must be checked quarterly. [17 CCR 95464]

- The flares must have automatic dampers, automatic shutdown devices, flame arresters, and continuous recording temperature sensors. [17 CCR 95464]

- The flares must operate within the parameter ranges established during most recent source test. [17 CCR 95464]

- Landfill surface methane emissions shall not exceed instantaneous surface emission limit of 500 ppmv as methane or integrated surface emission limit of 25 ppmv as methane. [17 CCR 95464]

Section 95468 establishes alternatives to the compliance measures, monitoring requirements, test methods and procedures of sections 95464, 95469, and 95471. The following requirements from the current permit will be included on the permit as a mechanism to enforce compliance:

- Permittee shall keep records of delays encountered during repair of leaks or repair of positive wellhead readings. Documentation of delays shall be submitted with the annual report. [17 CCR 95468]

- Permittee shall identify areas which are dangerous and unable to be inspected. Areas shall be clearly identified on a map of the facility. A copy of the map shall be kept onsite as well as submitted with the annual report. [17 CCR 95468]

- Permittee shall conduct monitoring of the landfill surface within 3 inches of the surface. The facility may monitor surface emissions with the probe tip at the height of the vegetation if there is vegetation and it is impractical to monitor at 3 inches from the landfill surface. [17 CCR 95468]

- Permittee shall terminate surface emission testing when the measured average wind speed is over 10 mph or the instantaneous wind speed is over 20 mph. [17 CCR 95468 and 17 CCR 95471]

- Permittee shall only conduct surface emission testing when precipitation has met the following requirements. It has been 24 hours since measured precipitation of 0.01 to 0.15 inches. It has been 48 hours since measured precipitation of 0.16 to 0.24 inches. It has been 72 hours since measured precipitation of 0.25 or more inches. [17 CCR 95468]

- Landfill gas collection system wellheads must be operated under vacuum. Monthly monitoring of wellheads is required. Landfill gas collection system wellheads may be operated under neutral or positive pressure when there is a fire, while the landfill gas collection and control system (GCCS) is offline during intermittent operation as allowed in this permit, or during other times as allowed in sections 95464 (c), 95464(d), and 95464(e). [17 CCR 95464 and 17 CCR 95468]

- Permittee may comply with the CARB regulation for landfill methane control measures by using approved alternative compliance options. Documentation of approved alternative compliance options shall be available for inspection upon request. [17 CCR 95468]

Section 95469 establishes monitoring requirements. The following condition from the current permit is included as a mechanism to enforce compliance:

- Instantaneous and integrated landfill surface emissions measurements shall be performed quarterly. The landfill may monitor annually provided they comply with requirements of 17 CCR 95469 (a)(1). [17 CCR 95469]

Section 95470 establishes recordkeeping and reporting requirements. The following requirements from the current permit will be included on the ATC as a mechanism to enforce compliance:

- Permittee shall keep records of all gas collection system downtime exceeding five days, including individual well shutdown and disconnection times and the reason for downtime. [17 CCR 95470]

- Permittee shall keep records of all gas control system downtime in excess of one hour, the reason for the downtime and the length of time the gas control system was shut down. [17 CCR 95470]

- Permittee shall keep records of the expected gas generation flow rate calculated pursuant to section 95471(e). [17 CCR 95470]

- Permittee shall keep records of all instantaneous surface readings of 200 ppmv or greater; all exceedances of the limits in sections 95464(b)(1)(B) or 95465, including the location of the leak (or affected grid), leak concentration in ppmv, date and time of measurement, the action taken to repair the leak, date of repair, any required re-monitoring and the re-monitored concentration in ppmv, and wind speed during surface sampling; and the installation date and location of each well installed as part of a gas collection system expansion. [17 CCR 95470]

- Permittee shall keep records of any positive wellhead gauge pressure measurements, the date of the measurements, the well identification number, and the corrective action taken. [17 CCR 95470]

- Permittee shall keep records of the annual solid waste acceptance rate and the current amount of waste-in-place. [17 CCR 95470]

- Permittee shall keep records of the nature, location, amount, and date of deposition of non-degradable waste for any landfill areas excluded from the collection system. [17 CCR 95470]

- Permittee shall keep records of any source tests conducted pursuant to section 95464(b)(4). [17 CCR 95470]

- Permittee shall keep records describing the mitigation measures taken to prevent the release of methane or other emissions into the atmosphere during the following activities: 1. When solid waste was brought to the surface during the installation or preparation of wells, piping,

or other equipment; 2. During repairs or the temporary shutdown of gas collection system components; or, 3. When solid waste was excavated and moved. [17 CCR 95470]

- Permittee shall keep records of any construction activities pursuant to section 95466. The records must contain the following information: 1. A description of the actions being taken, the areas of the MSW landfill that will be affected by these actions, the reason the actions are required, and any landfill gas collection system components that will be affected by these actions. 2. Construction start and finish dates, projected equipment installation dates, and projected shut down times for individual gas collection system components. 3. A description of the mitigation measures taken to minimize methane emissions and other potential air quality impacts. [17 CCR 95470]

- Permittee shall keep records of the equipment operating parameters specified to be monitored under section 95469(b)(1) as well as records for periods of operation during which the parameter boundaries established during the most recent source test are exceeded. The records must include the following information: 1. For enclosed flares, all 3-hour periods of operation during which the average temperature difference was more than 28 degrees Celsius (or 50 degrees Fahrenheit) below the average combustion temperature during the most recent source test at which compliance with section 95464(b)(2) was determined and a gas flow rate device which must record the flow to the control device at least every 15 minutes. [17 CCR 95470]

- Permittee shall submit the following reports as required in section 95470(b): Closure notification, Equipment removal report and Annual report. All reports must be accompanied by a certification of truth, accuracy, and completeness signed by a responsible official. [17 CCR 95470]

Section 95471 lists approved test methods and procedures to demonstrate compliance with this regulation. The following conditions will be included on the ATC as a mechanism to enforce compliance:

- To determine the VOC and methane destruction efficiency of the flares, grab samples shall be taken at the inlet to the flares and in the exhaust of the flare during the source test. The VOC concentrations shall be referenced as methane. [District Rule 2201 and 17 CCR 95471]

- The VOC and methane destruction efficiency of the flares shall be calculated using the following equation or an alternative method approved by the District: VOC or Methane Destruction Efficiency = (1- ([calculated rate of mass of VOC or methane, as applicable, in the outlet of the flare] / [calculated rate mass of VOC or methane, as applicable, in the landfill gas at the inlet entering the flare]) x 100. [District Rule 2201 and 17 CCR 95471]

Continued compliance with this regulation is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. In addition, there are no increases in emissions associated with the project. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project. The purpose of this project is to modify and correct landfill monitoring conditions included in the permit and the addition of a limit required by District rules. The project will not result in changes in operation of the landfill that would result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that for each emissions unit affected by the project, there is no potential project emission increase for any pollutant. Therefore, the potential project emission increase is considerably below all annual criteria emissions CEQA significant thresholds. The activity will occur at an existing facility and involves negligible expansion of the existing or former use. Furthermore, the District determined that the activity will not have a significant effect on the environment. Therefore, the District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (Existing Facilities), and finds that the project is exempt per the common sense exemption that CEQA applies only

to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

The criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation. Therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful public notice and EPA review period, issue ATC C-3074-8-8 subject to the permit conditions on the attached draft ATC in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	**Fee Schedule**	**Fee Description**	**Annual Fee**
C-3074-8-8	3020-12-P	76.3 acres	$2,428

Appendixes

A: Draft ATC C-3074-8-8
B: Current PTO C-3074-8-6 and ATC C-3074-8-7
C: Measured F Factors for the Landfill Gas from the December 2021 and December 2022 Source Test Reports
D: Quarterly Net Emissions Change (QNEC)
E: Compliance Certification

APPENDIX A
Draft ATC C-3074-8-8

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-3074-8-8 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CITY OF CLOVIS - LANDFILL
MAILING ADDRESS: 155 N SUNNYSIDE
CLOVIS, CA 93611

LOCATION: 15679 AUBERRY RD
CLOVIS, CA 93612

EQUIPMENT DESCRIPTION:
MODIFICATION OF 76.3 ACRE MUNICIPAL SOLID WASTE LANDFILL (10.45 MILLION CUBIC YARD) WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING VERTICAL AND HORIZONTAL COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 5,000 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY A 33 MMBTU/HR PERENNIAL ENERGY LOW NOX ENCLOSED GROUND FLARE AND A BACKUP 30 MMBTU/HR PERENNIAL ENERGY MODEL FL-108-26-E ENCLOSED GROUND FLARE: MODIFY AND CLARIFY LANDFILL MONITORING CONDITIONS

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) C-3074-8-7 will be implemented prior to or concurrently with the modification authorized by this ATC [District Rule 2201] Federally Enforceable Through Title V Permit
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services
C-3074-8-8 : Jan 9 2024 12:55PM -- NORMANR : Joint Inspection NOT Required

6. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

7. The exhaust stack of the 33 MMBtu/hr primary flare shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]

8. The primary flare and the backup flare associated with this landfill shall not operate at the same time. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit

9. The enclosed flares shall be equipped with propane/LPG-fired pilots. There shall be a sufficient flow of propane/LPG to the burners to prevent unburned collected methane from being emitted to the atmosphere. [District Rule 2201 and 17 CCR 95464(b)(2)(A)] Federally Enforceable Through Title V Permit

10. With the exception of the flare pilots, only landfill gas shall be combusted in the flares. [District Rule 2201] Federally Enforceable Through Title V Permit

11. Sampling ports shall be installed on each wellhead. [District Rule 2201] Federally Enforceable Through Title V Permit

12. The gas collection system shall be operated in a manner that maximizes the amount of landfill gas extracted while preventing overdraw that can cause fires or damage the gas collection system. [District Rule 2201] Federally Enforceable Through Title V Permit

13. Non-resettable, totalizing mass or volumetric gas fuel flow meters or other District-approved alternatives shall be installed, utilized, and maintained to measure the amount of gas combusted in each flare. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

14. The landfill gas collection system shall be equipped with an enclosed flare having a methane destruction efficiency of at least 99% by weight. [17 CCR 95464(b)(2)(A)] Federally Enforceable Through Title V Permit

15. The landfill gas collection system shall be equipped with an enclosed flare having VOC destruction efficiency of at least 98% by weight, or shall reduce the VOC concentration (measured as methane) to 20 ppmv @ 3% O2. [District Rule 2201] Federally Enforceable Through Title V Permit

16. The minimum operating temperature for the combustion chamber of each flare shall be maintained at or above 1,400 degrees F. [District Rule 2201] Federally Enforceable Through Title V Permit

17. Each flare shall be equipped with an operational temperature gauge to indicate the temperature of the combustion chamber. A continuously recording device shall be utilized to indicate the combustion chamber temperature during operation of each flare. [District Rule 2201] Federally Enforceable Through Title V Permit

18. The landfill gas vapor collection system shall not be operated unless the combustion chamber of the flare used to control emissions is at or above minimum operating temperature. The system shall automatically terminate operation if the temperature drops below the minimum operating temperature. [District Rule 2201] Federally Enforceable Through Title V Permit

19. The flares shall operate whenever the collected gas is routed to them. [District Rule 2201] Federally Enforceable Through Title V Permit

20. For each flare, a flame shall be present at all times in the flare whenever combustible gases are vented through the flare. [District Rule 4311] Federally Enforceable Through Title V Permit

21. The outlet of each flare shall be equipped with an automatic ignition system, or shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311] Federally Enforceable Through Title V Permit

22. Unless the flare is equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device capable of continuously detecting that at least one pilot flame or the flare flame is present shall be installed and operated for each flare. The flame detection device shall be kept operational at all times except during flare maintenance when the flare is isolated from gas flow. [District Rule 4311] Federally Enforceable Through Title V Permit

23. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

24. Excavated solid waste shall be covered using fresh soil, plastic sheeting, or vapor retarding foam as necessary to minimize the release of landfill gas and prevent odorous emissions. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit

25. During any times in which the landfill gas collection system or incineration devices must be shut down for maintenance or repair, emissions of landfill gas shall be minimized. [District Rules 2020 and 2201] Federally Enforceable Through Title V Permit

26. Emissions from the 33 MMBtu/hr primary flare shall not exceed any of the following limits: 0.025 lb-NOx/MMBtu; 0.03 lb-SOx/MMBtu; 0.015 lb-PM10/MMBtu; 0.06 lb-CO/MMBtu; or 0.008 lb-VOC/MMBtu. [District Rules 2201, 4311, and 4801] Federally Enforceable Through Title V Permit

27. Emissions from the 30 MMBtu/hr backup flare shall not exceed any of the following limits: 0.05 lb-NOx/MMBtu; 0.033 lb-SOx/MMBtu; 0.015 lb-PM10/MMBtu; 0.2 lb-CO/MMBtu; and 0.006 lb-VOC/MMBtu. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit

28. The total heat input of the gas combusted in the 30 MMBtu/hr backup flare shall not exceed 720 MMBtu/day based on the higher heating value (HHV) of the gas flared [District Rule 2201] Federally Enforceable Through Title V Permit

29. The total VOC emissions from the landfill gas vapor collection system served by the flares shall not exceed 6.3 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit

30. The total VOC emissions from this operation shall not exceed 21,316 lb-VOC in any calendar year, where total VOC emissions are calculated as follows: [Fugitive VOC Emissions From The Landfill] + [VOC Emissions From Primary Flare] + [VOC Emissions From Backup Flare]. [District Rule 2201] Federally Enforceable Through Title V Permit

31. Annual VOC emissions from the primary flare shall be calculated as follows: [VOC emission factor measured in the most recent source test (lb-VOC/MMBtu)] x [annual volume of gas combusted in the primary flare (MMscf/year)] x [higher heating value (HHV) of landfill gas (MMBtu/MMscf)]; where the HHV of the landfill gas is the measured value during the most recent annual test. [District Rule 2201] Federally Enforceable Through Title V Permit

32. Annual VOC emissions from the backup flare shall be calculated as follows: [VOC emission factor measured in the most recent source test (lb-VOC/MMBtu)] x [annual volume of gas combusted in the backup flare (MMscf/year)] x [higher heating value (HHV) of landfill gas (MMBtu/MMscf)]; where the HHV of the landfill gas is the measured value during the most recent annual test. [District Rule 2201] Federally Enforceable Through Title V Permit

33. Fugitive VOC Emissions From The Landfill shall be calculated as: 0.25 x the site-wide uncontrolled VOC emissions from the landfill. [District Rule 2201] Federally Enforceable Through Title V Permit

34. The site-wide uncontrolled VOC emissions from the landfill for each year shall be calculated using the most recent version of EPA's Landfill Gas Emissions Model (LandGEM) to calculate non-methane organic compound (NMOC) emissions using the highest landfill gas NMOC concentration from the previous year with VOC emissions assumed to be 99.7% of NMOC emissions. The operator may request to use an alternative VOC percentage of NMOC emissions from the landfill based on site-specific analyses of the landfill gas. The landfill gas NMOC concentration shall be determined from samples collected from the existing landfill and expansion areas taken from the LFG collection pipes, permanent LFG sampling wells, or per Tier 2 procedures as described in 40 CFR 60.754(a)(3). Records of the results of analyses of the landfill gas shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

35. Calculations of the total VOC emissions from this operation and the calculation methodology shall be submitted to the District annually within 60 days of the end of each calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit

36. The annual flaring throughput for the 30 MMBtu/hr backup flare shall not exceed 90,000 MMBtu/year for two consecutive calendar years. [District Rule 4311] Federally Enforceable Through Title V Permit

37. If the 30 MMBtu/hr backup flare exceeds 90,000 MMBtu/year heat input for two consecutive calendar years, the operator shall notify the District in writing of the exceedance within 30 days following the end of the second calendar year. By April 15 of the year after the end of the second consecutive calendar year in which an exceedance of the annual heat input rate occurred, the applicant shall submit an Authority to Construct (ATC) application to modify or replace the flare to comply with the emission limits, as noted in Table 3 of Rule 4311 (12/17/20). [District Rule 4311] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

38. The permittee shall water the unpaved truck unloading and maneuvering areas as necessary to limit visible emissions from dust to a maximum of 20% opacity. [District Rule 2201] Federally Enforceable Through Title V Permit

39. Total PM10 emissions from the handling of soil cover shall not exceed 0.0023 lb-PM10/ton of material handled. [District Rule 2201] Federally Enforceable Through Title V Permit

40. The total soil cover usage rate shall not exceed 1,997 tons in any day. [District Rule 2201] Federally Enforceable Through Title V Permit

41. Source testing of the 33 MMBtu/hr primary flare to demonstrate compliance with the NOx, CO, and VOC emission limits; with the VOC destruction efficiency of 98% or concentration limit of 20 ppmvd @ 3% O2 referenced as methane; and with the methane destruction efficiency, as required by this permit, shall be conducted least once every 12 months. [District Rules 2201 and 4311, and 17 CCR 95464] Federally Enforceable Through Title V Permit

42. Source testing of the 30 MMBtu/hr backup flare to demonstrate compliance with the NOx, CO, and VOC emission limits; with the VOC destruction efficiency of 98% or concentration limit of 20 ppmvd @ 3% O2 referenced as methane; and with the methane destruction efficiency; as required by this permit, shall be conducted in each calendar year in which the annual flaring throughput exceeds 6,000 MMBtu in that year. [District Rule 2201 and 17 CCR 95464] Federally Enforceable Through Title V Permit

43. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test and a source test plan must be submitted for approval at least 30 days prior to testing. [District Rules 1081 and 4311] Federally Enforceable Through Title V Permit

44. The results of each source test shall be submitted to the District within 60 days after completion of the source test. [District Rules 1081 and 4311] Federally Enforceable Through Title V Permit

45. Source testing of NOx emissions shall be conducted using EPA Method 19 on a heat input basis; EPA Method 3A, EPA Method 7E, or ARB 100 on a ppmv basis; or an equivalent method approved by the District and EPA. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit

46. Source testing of VOC (ppmv) and NMOC (ppmv) emissions shall be conducted using the following methods: EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case Method 25a may be used in conjunction with EPA Method 18 or ARB Method 422 "Determination of Volatile Organic Compounds in Emission from Stationary Sources" for the measurement and subtraction of exempt compounds (e.g. methane, ethane, and exempt halogenated compounds); or an equivalent method approved by the District and EPA. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit

47. Source testing for flare CO emissions shall be conducted using EPA Method 10, ARB Method 100, or an equivalent method approved by the District. [District Rule 2201] Federally Enforceable Through Title V Permit

48. Oxygen (O2) concentration of flared gas shall be determined using EPA Method 3A, EPA Method 7E, or ARB 100. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit

49. During source testing, the volumetric flow rate of the flare exhaust gases shall be determined using EPA Method 2, EPA Method 19, CARB Method 2, or an equivalent method approved by the District. [District Rule 2201] Federally Enforceable Through Title V Permit

50. The operator shall determine the higher heating value (HHV) of the landfill gas flared, in Btu/scf, annually using ASTM D1826-88, ASTM 1945-81 in conjunction with ASTM D3588-89, or an alternative method approved by the EPA and the District. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit

51. To determine the VOC and methane destruction efficiency of the flares, grab samples shall be taken at the inlet to the flares and in the exhaust of the flare during the source test. The VOC concentrations shall be referenced as methane. [District Rule 2201 and 17 CCR 95471] Federally Enforceable Through Title V Permit

52. The VOC and methane destruction efficiency of the flares shall be calculated using the following equation or an alternative method approved by the District: VOC or Methane Destruction Efficiency = (1- ([calculated rate of mass of VOC or methane, as applicable, in the outlet of the flare] / [calculated rate mass of VOC or methane, as applicable, in the landfill gas at the inlet entering the flare]) x 100. [District Rule 2201 and 17 CCR 95471] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

53. Sampling ports adequate for testing the sulfur content of the landfill gas shall be provided in the landfill gas manifold line to the flare. [District Rule 1081] Federally Enforceable Through Title V Permit

54. The sulfur content (as H2S) of the landfill gas flared in the primary and backup flares shall not exceed the values calculated using the following equations: 1) Primary Flare: [Max Sulfur Content of Gas Flared (ppmv as H2S)] = [HHV of Gas Flared (Btu/scf)] x 0.1777; 2) Backup Flare: [Max Sulfur Content of Gas Flared (ppmv as H2S)] = [HHV of Gas Flared (Btu/scf)] x 0.1955. [District Rule 2201] Federally Enforceable Through Title V Permit

55. The sulfur content (as H2S) of the landfill gas flared shall be monitored at least once every quarter that one of the flares operates using methods included in this permit, or other methods approved by the District. If the sulfur content of the landfill gas is found to exceed the limit of this permit, corrective actions shall be taken to reduce the sulfur content of the landfill gas and the sulfur content of the landfill gas shall be monitored again within 24 hours of completion of the corrective action. Records of the dates and results of monitoring of the sulfur content of the landfill gas flared and any corrective action required to reduce the sulfur content of the landfill gas shall be maintained. [District Rules 1070 and 1081] Federally Enforceable Through Title V Permit

56. Sulfur content of the landfill gas combusted in the flare shall be determined using gas detection tubes calibrated for H2S; EPA Method 11 or EPA Method 15, as appropriate; ASTM Method D1072, D1945, D3246, D4084, D4468, D4810 or D5504; grab sample analysis by GC-FPD/TCD performed in the laboratory; a continuous analyzer employing gas chromatography; a continuous fuel gas monitor that meets the requirements specified in SCAQMD Rule 431.1, Attachment A; or an alternative method approved by the District. [District Rule 2201] Federally Enforceable Through Title V Permit

57. The operator shall measure and record the continuous volumetric flow rate of landfill gas sent to each flare in standard cubic feet per minute (scfm) and the total volume of the landfill gas entering each flare each day in standard cubic feet (scf). [District Rules 1070, 2201, and 4311] Federally Enforceable Through Title V Permit

58. For purposes of the flow verification report required by Rule 4311, vent gas flow shall be determined using one or more of the following methods, or by any alternative method approved by the APCO, ARB, and EPA: 1) EPA Methods 1 and 2; 2) A verification method recommended by the manufacturer of the flow monitoring equipment installed; 3) Tracer gas dilution or velocity; or 4) Other flow monitors or process monitors that can provide comparison data on a vent stream that is being directed past the ultrasonic flow meter. [District Rule 4311] Federally Enforceable Through Title V Permit

59. For demonstration of compliance with the Flare Annual Throughput Thresholds (MMBtu/calendar year) of Rule 4311 (12/17/2020), Table 3, the annual throughput of the backup flare, in MMBtu/year, shall be determined as follows: annual volume of gas combusted (MMscf/year) x heating value of landfill gas (MMBtu/MMscf); where the heating of value of landfill gas is the measured value during the previous annual test or, alternatively, a default value of 500 Btu/scf may be used. [District Rule 4311] Federally Enforceable Through Title V Permit

60. For commissioning of collection devices in the expansion area, collectors shall be commissioned if methane at a concentration of 45% or more and positive static pressure of 5.0 inches or more of water column is detected in the well. Active wells shall be operated in accordance with the applicable requirements of the California Landfill Methane Rule and 40 CFR Part 62 Subpart OOO. [District Rule 2201] Federally Enforceable Through Title V Permit

61. For operation of collection devices in the expansion area, once the collectors are commissioned, the permittee shall monitor the collectors weekly for the first six weeks of operation and may switch to monthly monitoring thereafter. [District Rule 2201] Federally Enforceable Through Title V Permit

62. For surface emissions monitoring, once an area has reached final grade or within 90 days when the LFG system in the area is commissioned, whichever comes first, surface emissions shall not exceed a methane concentration of 500 parts per million above background at the surface of the landfill. [District Rule 2201] Federally Enforceable Through Title V Permit

63. For surface emissions monitoring, surface monitoring for the landfill area shall be performed at least quarterly. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

64. For surface emissions monitoring, after an exceedance, the permittee shall initiate corrective action within five days and conduct re-monitoring within ten days of the initial exceedance. If compliance is shown during the re-monitoring event conducted within ten days of the initial exceedance, an additional re-monitoring event is required within one month of the initial exceedance. If the ten-day re-monitoring event shows an exceedance, the permittee shall initiate corrective action within five days and conduct re-monitoring within ten days from the second exceedance. If compliance is shown during the re-monitoring event after the second exceedance, an additional re-monitoring event is required within one month of the initial exceedance. If the second ten-day re-monitoring event shows an exceedance, the permittee shall obtain a permit for and install additional landfill gas wells to correct the problem within 120 days of the initial exceedance. The permittee may utilize an alternative corrective action with prior approval from the APCO. [District Rule 2201] Federally Enforceable Through Title V Permit

65. For surface emissions monitoring, permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30-meter intervals (or a site-specific established spacing) and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. [District Rule 2201] Federally Enforceable Through Title V Permit

66. For surface emissions monitoring, surface testing shall be performed using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.755(d). [District Rule 2201] Federally Enforceable Through Title V Permit

67. Except for the spreading of landfill cover, when handling bulk materials outside an enclosed structure or building, water or chemical/organic stabilizers/suppressants shall be applied as required to limit Visible Dust Emissions to a maximum of 20% opacity. When necessary to achieve this opacity limitation, wind barriers with less than 50% opacity shall also be used. [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit

68. When storing bulk materials outside an enclosed structure or building, water or chemical/organic stabilizers/suppressants shall be applied as required to limit Visible Dust Emissions to a maximum of 20% opacity. When necessary to achieve this opacity limitation, all bulk material piles shall also be either maintained with a stabilized surface as defined in Section 3.58 of District Rule 8011, or shall be protected with suitable covers or barriers as prescribed in Table 8031-1, Section B, of District Rule 8031. [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit

69. When transporting bulk materials outside an enclosed structure or building, all bulk material transport vehicles shall limit Visible Dust Emissions to 20% opacity by either limiting vehicular speed, maintaining sufficient freeboard on the load, applying water to the top of the load, or covering the load with a tarp or other suitable cover. [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit

70. All outdoor chutes and conveyors shall be controlled by any of the following options: 1) full enclosure, 2) operation with material sufficiently wetted such that Visible Dust Emissions (VDE) is limited to 20% opacity, or 3) the concentration of particles having an aerodynamic diameter of 10 microns or less in the conveyed material shall be sufficiently small to limit VDE to 20% opacity. [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit

71. One or more of the following control measures shall be implemented on each day that 50 or more VDT (Vehicle Daily Trips), or 25 or more VDT with 3 or more axles, originates from within and remains exclusively within an unpaved vehicle/equipment traffic area: water, gravel, roadmix, or chemical/organic dust stabilizers/suppressants, vegetative materials, or other District-approved control measure shall be applied to unpaved vehicle travel areas as required to limit Visible Dust Emissions to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in District Rule 8011. [District Rules 8011 and 8071] Federally Enforceable Through Title V Permit

72. On each day that 50 or more VDT (Vehicle Daily Trips), or 25 or more VDT with 3 or more axles, originates from within and remains exclusively within an unpaved vehicle/equipment traffic area, dusting materials accumulated on paved surfaces shall be removed daily or water and/or chemical/organic dust stabilizers/suppressants shall be applied to the paved surface as required to maintain continuous compliance with the requirements for a stabilized unpaved road as defined in District Rule 8011 and limit Visible Dust Emissions (VDE) to 20% opacity. [District Rules 8011 and 8071] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

73. Whenever any portion of the site becomes inactive, Permittee shall restrict access and periodically stabilize any disturbed surface to comply with the conditions for a stabilized surface as defined in Section 3.58 of District Rule 8011. [District Rules 8011 and 8071] Federally Enforceable Through Title V Permit

74. Records and other supporting documentation shall be maintained as required to demonstrate compliance with the requirements of the rules under Regulation VIII only for those days that a control measure was implemented. Such records shall include the type of control measure(s) used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressant, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. Records shall be kept for one year following project completion that results in the termination of all dust generating activities. [District Rules 8011, 8031, and 8071] Federally Enforceable Through Title V Permit

75. Permittee shall keep records of delays encountered during repair of leaks or repair of positive wellhead readings. Documentation of delays shall be submitted with the annual report. [17 CCR 95468] Federally Enforceable Through Title V Permit

76. Permittee shall identify areas which are dangerous and unable to be inspected. Areas shall be clearly identified on a map of the facility. A copy of the map shall be kept onsite as well as submitted with the annual report. [17 CCR 95468] Federally Enforceable Through Title V Permit

77. Permittee shall conduct monitoring of the landfill surface within 3 inches of the surface. The facility may monitor surface emissions with the probe tip at the height of the vegetation if there is vegetation and it is impractical to monitor at 3 inches from the landfill surface. [17 CCR 95468] Federally Enforceable Through Title V Permit

78. Permittee shall terminate surface emission testing when the measured average wind speed is over 10 mph or the instantaneous wind speed is over 20 mph. [17 CCR 95468 and 17 CCR 95471] Federally Enforceable Through Title V Permit

79. Permittee shall only conduct surface emission testing when precipitation has met the following requirements. It has been 24 hours since measured precipitation of 0.01 to 0.15 inches. It has been 48 hours since measured precipitation of 0.16 to 0.24 inches. It has been 72 hours since measured precipitation of 0.25 or more inches. [17 CCR 95468] Federally Enforceable Through Title V Permit

80. Landfill collection and control system (GCCS) may be operated intermittently provided the methane emission from the landfill do not exceed instantaneous or integrated limit requirements. [17 CCR 95464] Federally Enforceable Through Title V Permit

81. Landfill gas collection system wellheads must be operated under vacuum. Monthly monitoring of wellheads is required. Landfill gas collection system wellheads may be operated under neutral or positive pressure when there is a fire, while the landfill gas collection and control system (GCCS) is offline during intermittent operation as allowed in this permit, or during other times as allowed in sections 95464 (c), 95464(d), and 95464(e). [17 CCR 95464 and 17 CCR 95468] Federally Enforceable Through Title V Permit

82. Landfill gas collection system components downstream of blower have a leak limit of 500 ppmv as methane. Components must be checked quarterly. [17 CCR 95464] Federally Enforceable Through Title V Permit

83. The flares must have automatic dampers, automatic shutdown devices, flame arresters, and continuous recording temperature sensors. [17 CCR 95464] Federally Enforceable Through Title V Permit

84. The flares must operate within the parameter ranges established during most recent source test. [17 CCR 95464] Federally Enforceable Through Title V Permit

85. Landfill surface methane emissions shall not exceed instantaneous surface emission limit of 500 ppmv as methane or integrated surface emission limit of 25 ppmv as methane. [17 CCR 95464] Federally Enforceable Through Title V Permit

86. Instantaneous and integrated landfill surface emissions measurements shall be performed quarterly. The landfill may monitor annually provided they comply with requirements of 17 CCR 95469 (a)(1). [17 CCR 95469] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

87. Permittee shall keep records of all gas collection system downtime exceeding five days, including individual well shutdown and disconnection times and the reason for downtime. [17 CCR 95470] Federally Enforceable Through Title V Permit

88. Permittee shall keep records of all gas control system downtime in excess of one hour, the reason for the downtime and the length of time the gas control system was shut down. [17 CCR 95470] Federally Enforceable Through Title V Permit

89. Permittee shall keep records of the expected gas generation flow rate calculated pursuant to section 95471(e). [17 CCR 95470] Federally Enforceable Through Title V Permit

90. Permittee shall keep records of all instantaneous surface readings of 200 ppmv or greater; all exceedances of the limits in sections 95464(b)(1)(B) or 95465, including the location of the leak (or affected grid), leak concentration in ppmv, date and time of measurement, the action taken to repair the leak, date of repair, any required re-monitoring and the re-monitored concentration in ppmv, and wind speed during surface sampling; and the installation date and location of each well installed as part of a gas collection system expansion. [17 CCR 95470] Federally Enforceable Through Title V Permit

91. Permittee shall keep records of any positive wellhead gauge pressure measurements, the date of the measurements, the well identification number, and the corrective action taken. [17 CCR 95470] Federally Enforceable Through Title V Permit

92. Permittee shall keep records of the annual solid waste acceptance rate and the current amount of waste-in-place. [17 CCR 95470] Federally Enforceable Through Title V Permit

93. Permittee shall keep records of the nature, location, amount, and date of deposition of non-degradable waste for any landfill areas excluded from the collection system. [17 CCR 95470] Federally Enforceable Through Title V Permit

94. Permittee shall keep records of any source tests conducted pursuant to section 95464(b)(4). [17 CCR 95470] Federally Enforceable Through Title V Permit

95. Permittee shall keep records describing the mitigation measures taken to prevent the release of methane or other emissions into the atmosphere during the following activities: 1. When solid waste was brought to the surface during the installation or preparation of wells, piping, or other equipment; 2. During repairs or the temporary shutdown of gas collection system components; or, 3. When solid waste was excavated and moved. [17 CCR 95470] Federally Enforceable Through Title V Permit

96. Permittee shall keep records of any construction activities pursuant to section 95466. The records must contain the following information: 1. A description of the actions being taken, the areas of the MSW landfill that will be affected by these actions, the reason the actions are required, and any landfill gas collection system components that will be affected by these actions. 2. Construction start and finish dates, projected equipment installation dates, and projected shut down times for individual gas collection system components. 3. A description of the mitigation measures taken to minimize methane emissions and other potential air quality impacts. [17 CCR 95470] Federally Enforceable Through Title V Permit

97. Permittee shall keep records of the equipment operating parameters specified to be monitored under section 95469(b)(1) as well as records for periods of operation during which the parameter boundaries established during the most recent source test are exceeded. The records must include the following information: 1. For enclosed flares, all 3-hour periods of operation during which the average temperature difference was more than 28 degrees Celsius (or 50 degrees Fahrenheit) below the average combustion temperature during the most recent source test at which compliance with section 95464(b)(2) was determined and a gas flow rate device which must record the flow to the control device at least every 15 minutes. [17 CCR 95470] Federally Enforceable Through Title V Permit

98. Permittee shall submit the following reports as required in section 95470(b): Closure notification, Equipment removal report and Annual report. All reports must be accompanied by a certification of truth, accuracy, and completeness signed by a responsible official. [17 CCR 95470] Federally Enforceable Through Title V Permit

99. Permittee may comply with the CARB regulation for landfill methane control measures by using approved alternative compliance options. Documentation of approved alternative compliance options shall be available for inspection upon request. [17 CCR 95468] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

100. Each wellhead in the collection system shall be operated with a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit). The owner or operator may establish a higher operating temperature at a particular well. A higher operating temperature request must be submitted to the Administrator for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits decomposition by killing methanogens. The demonstration must satisfy both of these criteria in order to be approved. [40 CFR 62.16716(c)] Federally Enforceable Through Title V Permit

101. The owner or operator shall monitor each well monthly for temperature. If a well exceeds 55 degrees Celsius (131 degrees Fahrenheit) action shall be initiated within 5 days to correct the exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. If a landfill gas temperature less than or equal to 55 degrees Celsius (131 degrees Fahrenheit) cannot be achieved within 15 days of the initial exceedance, the owner or operator shall conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after the initial exceedance. If corrective actions cannot be completed within 60 days following the initial exceedance, the owner or operator shall also conduct a corrective action analysis and develop an implementation schedule to complete the necessary corrective action(s) as soon as practicable, but no more than 120 days following the initial exceedance. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator shall submit the root cause analysis, corrective action analysis and corresponding implementation schedule to the Administrator. [40 CFR 62.16720(a)(4)] Federally Enforceable Through Title V Permit

102. The owner or operator shall monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis. [40 CFR 62.16722(a)(2)] Federally Enforceable Through Title V Permit

103. The nitrogen concentration in the landfill gas shall be determined using EPA Method 3C of appendix A-2 to 40 CFR Part 60, unless an alternative method is approved. Unless an alternative method is approved, oxygen concentration in the landfill gas shall be determined using a portable gas composition analyzer or an oxygen meter. When using a portable gas analyzer, the analyzer shall be calibrated and meet all quality assurance and quality control requirements for EPA Method 3A of appendix A-2 to 40 CFR Part 60 or ASTM D6522-11. When using an oxygen meter, the meter shall use EPA Method 3A or 3C of appendix A-2 to 40 CFR Part 60 or ASTM D6522-11 except that: (1) The span shall be set between 10- and 12-percent oxygen, (2) A data recorder is not required, (3) Only two calibration gases are required, a zero and span, (4) A calibration error check is not required, and (5) The allowable sample bias, zero drift, and calibration drift are plus or minus 10 percent. [40 CFR 62.16722(a)(2)] Federally Enforceable Through Title V Permit

104. For the temperature measuring device used to monitor landfill gas temperature, the owner or operator shall calibrate the temperature measuring device annually using the procedure in Section 10.3 of EPA Method 2 of appendix A-1 to 40 CFR Part 60. [40 CFR 62.16720(a)(4) and 62.16722(a)(3)] Federally Enforceable Through Title V Permit

105. The owner or operator shall submit a notification to the Administrator as soon as practicable, but no later than 75 days after the initial exceedance for corrective action(s), as required by this permit, that are not completed within 60 days of the initial exceedance. If corrective action(s) take longer than 120 days to complete after the initial exceedance, the owner or operator shall submit the root cause analysis, corrective action analysis and corresponding implementation schedule to the Administrator as soon as practicable but no later than 75 days after the initial exceedance. [40 CFR 62.16724(k)] Federally Enforceable Through Title V Permit

106. The owner or operator shall keep records of each wellhead temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above, each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent. [40 CFR 62.16726(e)(2)] Federally Enforceable Through Title V Permit

107. For any root cause analysis for which corrections are required, the operator shall keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the regulatory agency. [40 CFR 62.16726(e)(5)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

108. For the 30 MMBtu/hr backup flare, the operator shall submit an annual report, in an electronic report approved by the District, to the APCO within 30 days following the end of each 12-month period. The report shall include the following: 1) The total volumetric flow of vent gas in standard cubic feet (scf) for each day for the previous calendar year; 2) A flow verification report for the flare. The flow verification report shall include flow verification testing pursuant to Rule 4311, Section 6.3.5; and 3) the annual throughput in MMBtu for the previous calendar year calculated using the measured HHV of the gas flared or by using the default flare gas heating value of 500 Btu/scf as specified in District Rule 4311, Table 4 (12/17/2020). [District Rule 4311] Federally Enforceable Through Title V Permit

109. Permittee shall maintain records of the amount of soil cover in tons per day. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

110. Daily records shall be maintained and made available for District inspection of the weight of materials received in tons, including Class II/III waste material, Class II soil cover, and clean soil cover. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

111. Permittee shall maintain records of system monitoring including: date, time, and monitoring results. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

112. Permittee shall maintain records of the downtime of the gas collection system and/or control device(s) for required maintenance and repairs. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

113. Records shall be maintained of the continuous combustion temperature and continuous volumetric gas flow rate for each flare. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

114. Records shall be maintained of the results of source testing conducted of emission control device(s) for emissions of NOx, CO, and VOC in pounds per MMBtu heat input, and of the VOC destruction/control efficiency of the emission control device(s). [District Rule 4311] Federally Enforceable Through Title V Permit

115. Records shall be maintained and made available for District inspection of the amount of gas combusted in each flare, in standard cubic feet (scf), each day the flares are operated; the total heat input of the gas combusted in each flare based on the higher heating value (HHV) each day the flares are operated; the sulfur content of the gas flared each in ppmv as H2S as determined by quarterly measurements; and the calculated maximum permitted sulfur content of the gas flared in ppmv as H2S. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

116. Records shall be maintained of the calculated total VOC emissions from the landfill and flares for each calendar year. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

117. Records shall be maintained of the annual reports submitted to the APCO pursuant to Rule 4311, Section 6.2. [District Rule 4311] Federally Enforceable Through Title V Permit

118. For the 30 MMBtu/hr backup flare, records shall be maintained of the annual vent gas flow to the flare, in MMscf/yr, the higher heating value (HHV) in Btu/scf of the vent gas flared, and the annual throughput of the flare in MMBtu. [District Rule 4311] Federally Enforceable Through Title V Permit

119. For the 30 MMBtu/hr backup flare, monthly records shall be maintained of the dates of operation of the backup flare, the purpose of operation, and number of hours of operation. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

120. All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2201, 2520, 9.4.2, and 4311] Federally Enforceable Through Title V Permit

APPENDIX B
Current PTO C-3074-8-6 and ATC C-3074-8-7

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-3074-8-6 **EXPIRATION DATE:** 10/31/2023

EQUIPMENT DESCRIPTION:
76.3 ACRE MUNICIPAL SOLID WASTE LANDFILL (10.45 MILLION CUBIC YARD) WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING VERTICAL AND HORIZONTAL COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 5,000 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY AN ENCLOSED GROUND FLARE (30 MMBTU/HR MAXIMUM)

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Only landfill gas shall be used as auxiliary fuels for the combustion of VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
3. LPG/propane shall be used as a pilot fuel to start the flare. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Sampling ports shall be installed on each well head. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Gas collection system shall be operated in a manner which maximizes the amount of landfill gas extracted while preventing overdraw that can cause fires or damage the gas collection system. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Landfill gas line from collection header shall be equipped with a gas flow rate measurement device. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Landfill gas collection system shall be equipped with an enclosed flare having a methane destruction efficiency of at least 99% by weight. [17 CCR 95464]
8. Landfill gas collection system shall be equipped with an enclosed flare having VOC destruction efficiency of at least 98% by weight, or reduce the VOC concentration (measured as methane) to 20 ppmv @ 3% O2. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The minimum operating temperature for the combustion chamber of the flare shall be maintained at or above 1,400 degrees F. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The flare shall be equipped with an operational temperature gauge to indicate the temperature of the combustion chamber. A continuously recording device shall be utilized to indicate the combustion chamber temperature during operation. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The landfill gas vapor collection system shall not be operated unless the combustion chamber is at or above minimum operating temperature. The system shall automatically terminate operation if the temperature drops below the minimum operating temperature. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Excavated solid waste shall be covered using fresh soil, plastic sheeting, or vapor retarding foam as necessary to prevent odorous emissions and to minimize the release of landfill gas. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

13. Maintenance is defined as any work performed on the gas collection system and/or control device in order to ensure continued compliance with District rules, regulations, and/or Permits to Operate, and to prevent its failure or malfunction. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The permittee shall notify the APCO by telephone at least 24 hours before performing any maintenance work that requires the system to be shutdown. The notification shall include a description of work, the date work will be performed and the amount of time needed to complete the maintenance work. [District Rule 2201] Federally Enforceable Through Title V Permit
15. During maintenance of the landfill gas collection system or incineration device, emissions of landfill gas shall be minimized during shutdown. [District Rules 2020 and 2201] Federally Enforceable Through Title V Permit
16. Emission rates from the flare shall not exceed any of the following limits: 0.05 lb-NOx/MMBtu; 0.006 lb-VOC/MMBtu; 0.2 lb-CO/MMBtu; 0.05 lb-PM10/MMBtu; or 0.033 lb-SOx/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. The total VOC emissions from the landfill gas vapor collection system served by the flare shall not exceed 4.32 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The permittee shall water the unpaved truck unloading and maneuvering area. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Total PM10 emissions from the handling of soil cover shall not exceed 0.0023 lb-PM10/ton of material handled. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Total soil cover usage rate shall not exceed 1,997 tons per day. [District Rule 2201] Federally Enforceable Through Title V Permit
21. The influent gas flowrate into the control device shall not exceed 1,667 scfm. [District Rule 2201] Federally Enforceable Through Title V Permit
22. The flare shall be tested for compliance with the VOC emissions limit at least once every 12 months. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Source testing on the flare shall be performed to demonstrate compliance with the flare NOx and CO limits, and the NMOC/VOC destruction efficiency of 98%, or 20 ppmvd @ 3% O2 as hexane, as required by this permit; and shall be conducted annually. [District Rules 1081, 2201, and 17 CCR 95464] Federally Enforceable Through Title V Permit
24. The operator shall measure daily, in actual cubic feet, the volumetric flow rate of the collected landfill gas entering the flare. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Simultaneous grab samples shall be taken at the inlet to the flare and in the exhaust of the control device. The VOC concentrations shall be referenced as methane. [District Rule 2201] Federally Enforceable Through Title V Permit
26. The destruction efficiency of the flare shall be calculated using the following equation: Destruction Efficiency = [1 - ((a x b) / (c x d))] x 100%, where a = measured concentration of VOC in the flare exhaust, b = exhaust flow of flare, c = measured concentration of VOC in the landfill gas entering the flare, and d = inlet flow of flare. [District Rule 2201] Federally Enforceable Through Title V Permit
27. The following test methods shall be used for VOC (ppmv) and NMOC (ppmv) - EPA Method 18, EPA Method 25A, 25B, 25C, or ARB Method 100. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Sulfur content of the landfill gas being combusted in the flare shall be determined using ATSM D1072, D3031, D4084, D3246 or double GC for H2S and mercaptans, or draeger tubes for H2S, or an equivalent method approved by the District. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Source testing for flare NOx emissions shall be conducted using EPA Method 7E or ARB Method 100. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Source testing for flare CO emissions shall be conducted using EPA Method 10 or ARB Method 100. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

31. Operator shall determine landfill gas fuel higher heating value annually by ASTM D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2201] Federally Enforceable Through Title V Permit
32. During annual source testing, the volumetric flow rate of the flare effluent gases shall be measured using CARB Method 2 or EPA Method 19. [District Rule 2201] Federally Enforceable Through Title V Permit
33. The heating value of the process gas shall be determined by using the latest revision of test method ASTM D1826 or ASTM D3588. [District Rule 2201] Federally Enforceable Through Title V Permit
34. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days after testing. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
35. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Permittee shall operate the flare at all times when the collected gas is routed to it. [District Rule 2201] Federally Enforceable Through Title V Permit
37. During maintenance of the gas collection system or incineration device, emissions of landfill gas shall be minimized during shutdown. [District Rule 2201] Federally Enforceable Through Title V Permit
38. A non-resettable, totalizing mass or volumetric landfill gas fuel flow meter, or other APCO approved alternative, to measure the amount of gas combusted in the enclosed flare shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Permittee shall keep records of delays encountered during repair of leaks or repair of positive wellhead readings. Documentation of delays shall be submitted with the annual report. [17 CCR 95468]
40. Permittee shall identify areas which are dangerous and unable to be inspected. Areas shall be clearly identified on a map of the facility. A copy of the map shall be kept onsite as well as submitted with the annual report. [17 CCR 95468]
41. Permittee shall conduct monitoring of the landfill surface within 3 inches of the surface. The facility may monitor surface emissions with the probe tip at the height of the vegetation if there is vegetation and it is impractical to monitor at 3 inches from the landfill surface. [17 CCR 95468]
42. Permittee shall terminate surface emission testing when the measured average wind speed is over 10 mph or the instantaneous wind speed is over 20 mph. [17 CCR 95468 and 17 CCR 95471]
43. Permittee shall only conduct surface emission testing when precipitation has met the following requirements. It has been 24 hours since measured precipitation of 0.01 to 0.15 inches. It has been 48 hours since measured precipitation of 0.16 to 0.24 inches. It has been 72 hours since measured precipitation of 0.25 or more inches. [17 CCR 95468]
44. Sampling ports adequate for sulfur testing shall be provided in the landfill gas manifold line to the flare. [District Rule 1081] Federally Enforceable Through Title V Permit
45. For initial monitoring of collection devices in the expansion area, prior to initial operation, the permittee shall monitor the collectors at least once per quarter for static pressure, percent methane, percent oxygen, and temperature utilizing a District-approved portable landfill gas analyzer. [District Rule 2201] Federally Enforceable Through Title V Permit
46. For commissioning of collection devices in the expansion area, collectors shall be commissioned and continually operated if all of the following parameters are met: (1) methane percent 45% or greater; (2) oxygen percent 5% or less; (3) temperature 131 degrees F; and (4) static pressure 5.0 in H2O or greater. [District Rule 2201] Federally Enforceable Through Title V Permit
47. For operation of collection devices in the expansion area, once the collectors are commissioned, the permittee shall monitor the collectors weekly for the first six months of operation and may switch to monthly monitoring thereafter. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

48. For surface emissions monitoring, once an area has reached final grade or within 90 days when the LFG system in the area is commissioned, whichever comes first, surface emissions shall not exceed a methane concentration of 500 parts per million above background at the surface of the landfill. [District Rule 2201] Federally Enforceable Through Title V Permit

49. For surface emissions monitoring, surface monitoring for the landfill area shall be performed quarterly. If there are any exceedances during a quarterly event, monitoring will be required monthly until three consecutive months without exceedances, which would allow a return to quarterly monitoring. [District Rule 2201] Federally Enforceable Through Title V Permit

50. For surface emissions monitoring, after an exceedance, the permittee shall initiate correction action within five days and conduct remonitoring within ten days from the initial exceedance. If compliance is shown, an additional remonitoring event is required within one month of the initial exceedance. If the ten day event shows an exceedance, the permittee shall initiate correction action within five days and conduct remonitoring within ten days from the second exceedance. If compliance is shown, an additional remonitoring is required within one month of the initial exceedance. If the second ten day event shows an exceedance, the permittee shall permit and install additional landfill gas wells to correct the problem within 120 days of the initial exceedance. The permittee may utilize an alternative corrective action with prior approval from the APCO. [District Rule 2201] Federally Enforceable Through Title V Permit

51. For surface emissions monitoring, permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30-meter intervals (or a site-specific established spacing) and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. [District Rule 2201] Federally Enforceable Through Title V Permit

52. For surface emissions monitoring, surface testing shall be performed using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.755(d). [District Rule 2201] Federally Enforceable Through Title V Permit

53. An amended landfill design capacity report shall be submitted to the District and to US EPA providing notification of an increase in the design capacity of the landfill, within 90 days of an increase in the maximum design capacity of the landfill to or above 2.5 million megagrams and 2.5 million cubic meters. This increase in design capacity may result from an increase in the permitted volume of the landfill or an increase in the density as documented in the annual recalculation required in Section 60.758(f) of 40 CFR 60 Subpart WWW. [District Rule 2201 and 40 CFR 60.757(a)(3)] Federally Enforceable Through Title V Permit

54. Maintenance is defined as work performed on a gas collection system and/or control device in order to ensure continued compliance with District rules, regulations, and/or Permits to Operate, and to prevent its failure or malfunction. [District Rule 2201] Federally Enforceable Through Title V Permit

55. Landfill owners or operators who convert design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of "design capacity", shall keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable. [40 CFR 60.758(f)] Federally Enforceable Through Title V Permit

56. Permittee shall maintain average monthly records of landfill gas flow rate to any control device(s) as well as the hours of operation of the control device(s) to show compliance with the daily influent flowrate limit. [District Rule 2201] Federally Enforceable Through Title V Permit

57. Landfill collection and control system may be operated intermittently provided the methane emission from the landfill do not exceed instantaneous or integrated limit requirements. [17 CCR 95464]

58. Landfill gas collection system wellheads must be operated under vacuum. Monthly monitoring of wellheads is required. Landfill gas collection system wellheads may be operated under neutral or positive pressure when there is a fire, while GCCS is offline during intermittent operation as allowed in this permit, or during other times as allowed in sections 95464 (c), 95464(d), and 95464(e). [17 CCR 95464, 17 CCR 95468]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

59. Landfill gas collection system components downstream of blower have a leak limit of 500 ppmv as methane. Components must be checked quarterly. [17 CCR 95464]

60. The flare must have automatic dampers, an automatic shutdown device, a flame arrester, and continuous recording temperature sensors. [17 CCR 95464]

61. The flare must operate within the parameter ranges established during most recent source test. [17 CCR 95464]

62. Landfill surface methane emissions shall not exceed instantaneous surface emission limit of 500 ppmv as methane or integrated surface emission limit of 25 ppmv as methane. [17 CCR 95464]

63. Instantaneous and integrated landfill surface emissions measurements shall be done quarterly. The landfill may monitor annually provided they comply with requirements of 17 CCR 95469 (a)(1). [17 CCR 95469]

64. Permittee shall keep records of all gas collection system downtime exceeding five days, including individual well shutdown and disconnection times and the reason for downtime. [17 CCR 95470]

65. Permittee shall keep records of all gas control system downtime in excess of one hour, the reason for the downtime and the length of time the gas control system was shutdown. [17 CCR 95470]

66. Permittee shall keep records of the expected gas generation flow rate calculated pursuant to section 95471(e). [17 CCR 95470]

67. Permittee shall keep records of all instantaneous surface readings of 200 ppmv or greater; all exceedances of the limits in sections 95464(b)(1)(B) or 95465, including the location of the leak (or affected grid), leak concentration in ppmv, date and time of measurement, the action taken to repair the leak, date of repair, any required re-monitoring and the re-monitored concentration in ppmv, and wind speed during surface sampling; and the installation date and location of each well installed as part of a gas collection system expansion. [17 CCR 95470]

68. Permittee shall keep records of any positive wellhead gauge pressure measurements, the date of the measurements, the well identification number, and the corrective action taken. [17 CCR 95470]

69. Permittee shall keep records of the annual solid waste acceptance rate and the current amount of waste-in-place. [17 CCR 95470]

70. Permittee shall keep records of the nature, location, amount , and date of deposition of non-degradable waste for any landfill areas excluded from the collection system. [17 CCR 95470]

71. Permittee shall keep records of any source tests conducted pursuant to section 95464(b)(4). [17 CCR 95470]

72. Permittee shall keep records describing the mitigation measures taken to prevent the release of methane or other emissions into the atmosphere during the following activities: 1. When solid waste was brought to the surface during the installation or preparation of wells, piping, or other equipment; 2. During repairs or the temporary shutdown of gas collection system components; or, 3. When solid waste was excavated and moved. [17 CCR 95470]

73. Permittee shall keep records of any construction activities pursuant to section 95466. The records must contain the following information: 1. A description of the actions being taken, the areas of the MSW landfill that will be affected by these actions, the reason the actions are required, and any landfill gas collection system components that will be affected by these actions. 2. Construction start and finish dates, projected equipment installation dates, and projected shut down times for individual gas collection system components. 3. A description of the mitigation measures taken to minimize methane emissions and other potential air quality impacts. [17 CCR 95470]

74. Permittee shall keep records of the equipment operating parameters specified to be monitored under section 95469(b)(1) as well as records for periods of operation during which the parameter boundaries established during the most recent source test are exceeded. The records must include the following information: 1. For enclosed flares, all 3-hour periods of operation during which the average temperature difference was more than 28 degrees Celsius (or 50 degrees Fahrenheit) below the average combustion temperature during the most recent source test at which compliance with section 95464(b)(2) was determined and a gas flow rate device which must record the flow to the control device at least every 15 minutes. [17 CCR 95470]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

75. Permittee shall submit the following reports as required in section 95470(b): Closure notification, Equipment removal report and Annual report. All reports must be accompanied by a certification of truth, accuracy, and completeness signed by a responsible official. [17 CCR 95470]

76. Permittee may comply with the CARB regulation for landfill methane control measures by using approved alternative compliance options. Documentation of approved alternative compliance options shall be available for inspection upon request. [17 CCR 95468]

77. Permittee shall maintain records of system inspections including: date, time and inspection results. [District Rule 2201] Federally Enforceable Through Title V Permit

78. Permittee shall maintain records of maintenance related or other collection system and control device downtime, including individual well shutdown. [District Rule 2201] Federally Enforceable Through Title V Permit

79. Permittee shall maintain records of the amount of soil cover in tons/day. [District Rule 2201] Federally Enforceable Through Title V Permit

80. The operator shall record emission control device source tests (emissions of CO, NOx, and VOC) in pounds per MMBtu heat input. Operator shall also record VOC destruction/treatment efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit

81. Daily records of the weight of materials received (tons) - including Class II/III waste material, Class II soil cover, and clean soil cover shall be maintained, kept on site for a period of five years, and made available to District staff upon request. [District Rule 2201] Federally Enforceable Through Title V Permit

82. A record of continuous flare combustion temperature, continuous volumetric gas flow rate, net heating value of landfill gas being combusted, daily landfill gas fuel consumption, and hourly heat input shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

83. Records of calculated landfill and flare VOC emissions shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

84. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

85. Except for the spreading of landfill cover, when handling bulk materials outside an enclosed structure or building, water or chemical/organic stabilizers/suppressants shall be applied as required to limit Visible Dust Emissions to a maximum of 20% opacity. When necessary to achieve this opacity limitation, wind barriers with less than 50% opacity shall also be used. [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit

86. When storing bulk materials outside an enclosed structure or building, water or chemical/organic stabilizers/suppressants shall be applied as required to limit Visible Dust Emissions to a maximum of 20% opacity. When necessary to achieve this opacity limitation, all bulk material piles shall also be either maintained with a stabilized surface as defined in Section 3.58 of District Rule 8011, or shall be protected with suitable covers or barriers as prescribed in Table 8031-1, Section B, of District Rule 8031. [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit

87. When transporting bulk materials outside an enclosed structure or building, all bulk material transport vehicles shall limit Visible Dust Emissions to 20% opacity by either limiting vehicular speed, maintaining sufficient freeboard on the load, applying water to the top of the load, or covering the load with a tarp or other suitable cover. [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit

88. All outdoor chutes and conveyors shall be controlled by any of the following options: 1) full enclosure, 2) operation with material sufficiently wetted such that VDE is limited to 20% opacity, or 3) the concentration of particles having an aerodynamic diameter of 10 microns or less in the conveyed material shall be sufficiently small to limit VDE to 20% opacity. [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

89. One or more of the following control measures shall be implemented on each day that 50 or more VDT (Vehicle Daily Trips), or 25 or more VDT with 3 or more axles, originates from within and remains exclusively within an unpaved vehicle/equipment traffic area: water, gravel, roadmix, or chemical/organic dust stabilizers/suppressants, vegetative materials, or other District-approved control measure shall be applied to unpaved vehicle travel areas as required to limit Visible Dust Emissions to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in District Rule 8011. [District Rules 8071 and 8011] Federally Enforceable Through Title V Permit

90. On each day that 50 or more VDT (Vehicle Daily Trips), or 25 or more VDT with 3 or more axles, originates from within and remains exclusively within an unpaved vehicle/equipment traffic area, dusting materials accumulated on paved surfaces shall be removed daily or water and/or chemical/organic dust stabilizers/suppressants shall be applied to the paved surface as required to maintain continuous compliance with the requirements for a stabilized unpaved road as defined in District Rule 8011 and limit Visible Dust Emissions (VDE) to 20% opacity. [District Rules 8011 and 8071] Federally Enforceable Through Title V Permit

91. Whenever any portion of the site becomes inactive, Permittee shall restrict access and periodically stabilize any disturbed surface to comply with the conditions for a stabilized surface as defined in Section 3.58 of District Rule 8011. [District Rules 8071 and 8011] Federally Enforceable Through Title V Permit

92. Records and other supporting documentation shall be maintained as required to demonstrate compliance with the requirements of the rules under Regulation VIII only for those days that a control measure was implemented. Such records shall include the type of control measure(s) used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressant, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. Records shall be kept for one year following project completion that results in the termination of all dust generating activities. [District Rules 8031, 8071, and 8011] Federally Enforceable Through Title V Permit

93. The NMOC emission rate shall be calculated using the equation in 40CFR60.754(a)(1)(i), if the actual year-to-year solid waste acceptance rate is known or the equation in 40CFR60.754(a)(1)(ii), if the actual year-to-year solid waste acceptance rate is unknown. The values for k, Lo, and CNMOC for both equations shall be taken from 40CFR60.754(a)(1), as appropriate. Both equations may be used if the actual year-to-year acceptance rate is known for a part of the landfill life, but unknown for another part of the landfill life. The mass of nondegradable solid waste may be subtracted from the average annual acceptance rate when calculating R, if documentation of the nature and amount of such wastes is maintained (Tier 1 specifications). [40 CFR 60.754(a)(1) and 60.34c] Federally Enforceable Through Title V Permit

94. If the calculated NMOC emission rate is equal to or greater than 50 megagrams/year, then the landfill owner or operator shall either comply with the requirements of this permit to submit a collection and control design plan and install the system, or determine a site-specific NMOC concentration and recalculate the NMOC emission rate using Tier 2 specifications. [40 CFR 60.754(a)(2)(ii) and 60.34c] Federally Enforceable Through Title V Permit

95. Tier 2 specifications to determine the site-specific NMOC concentration shall include the following: 1) For sampling, at least 2 sample probes shall be installed per hectare of landfill surface that has retained waste for at least 2 years, up to a maximum of 50 required probes. One sample of landfill gas shall be collected from each probe to determine the NMOC concentration, using EPA Method 25C or 18. If EPA Method 18 is used, the minimum list of compounds to be tested shall be those published in the most recent Compilation of AP-42. If composite sampling is used, equal sample volumes are required. All samples taken shall be used in the analysis. The NMOC concentration from Method 25C shall be divided by 6 to convert from C-NMOC, as carbon to as hexane. [40 CFR 60.754(a)(3) and 60.34c] Federally Enforceable Through Title V Permit

96. Tier 2 specifications to determine the site-specific NMOC concentration shall include the following: 1) The NMOC mass emission rate shall be recalculated using the average site-specific concentration, instead of the default value, 2) If the resulting calculated mass emission rate is equal to or greater than 50 megagrams/year, the landfill owner or operator shall either comply with 60.752(b)(2), or determine a site-specific methane generation rate constant and recalculate the NMOC emission rate using Tier 3 specifications. [40 CFR 60.754(a)(3)(i)&(ii) and 60.34c] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

97. If the calculated NMOC mass emission rate, using the site-specific NMOC concentration, is less than 50 megagrams/year, then a periodic estimate of the emission rate report, pursuant to 60.757(b)(1) shall be submitted to the Administrator. The site-specific NMOC concentration shall be retested every 5 years, using Tier 2 specifications. [40 CFR 60.754(a)(3)(iii) and 60.34c] Federally Enforceable Through Title V Permit

98. Tier 3 specifications to determine the site-specific methane generation rate constant shall include the following: 1) EPA Method 2E shall be used, 2) The NMOC mass emission rate shall be recalculated using the average site-specific NMOC concentration and the site-specific methane generation rate constant k, instead of the default values in 40 CFR 60(a)(1), and 3) If the resulting calculated NMOC mass emission rate is equal to or greater than 50 megagrams/year, the landfill owner or operator shall comply with 60.752(b)(2). [40 CFR 60.754(a)(4) and (i) and 60.34c] Federally Enforceable Through Title V Permit

99. If Tier 3 specifications are used to determine the site-specific methane generation rate and the calculated NMOC mass emission rate is less than 50 megagrams/year, then a periodic emission rate report shall be submitted to the Administrator, pursuant to 60.757(b)(1) and the NMOC concentration shall be recalculated annually, pursuant to 60.757(b)(1), using the site-specific methane generation rate constant and the NMOC concentration obtained using Tier 2 specifications. Determination of the site-specific methane generation rate constant is performed once and used in all subsequent annual NMOC emission rate calculations. [40 CFR 60.754(a)(4)(ii) and 60.34c] Federally Enforceable Through Title V Permit

100. For PSD purposes, the NMOC emission rate shall be estimated and compared to the PSD major source and significance levels in 40 CFR 51.166 or 52.21, using AP-42 or EPA-approved procedures. [40 CFR 60.754(c) and 60.34c] Federally Enforceable Through Title V Permit

101. The NMOC emission rate shall be recalculated and reported to the APCO annually, except as otherwise provided in this permit, until such time as the calculated NMOC emission rate is equal to or greater than 50 megagrams/year and a collection and control system is installed or until the landfill is closed. [40 CFR 60.752(b)(1), 60.754(a), 60.757(b), 60.34c and 60.35c] Federally Enforceable Through Title V Permit

102. If the NMOC emission rate, as reported in the annual report is less than 50 megagrams/year in each of the next 5 consecutive years, the owner or operator may elect to submit an estimate of the NMOC emission rate for the next 5-year period in lieu of the annual reports for those 5 years. This estimate shall include the current amount of solid waste-in-place and the estimated waste acceptance rate for each year of the 5 years. All data and calculations upon which this estimate is based shall be provided to the APCO. This estimate shall be revised at least once every 5 years. [40 CFR 60.757(b)(1)(ii) and 60.35c] Federally Enforceable Through Title V Permit

103. If the actual waste acceptance rate exceeds the estimated rate used in any year reported in a 5-year estimate of the NMOC emission rate, then a revised 5-year estimate shall be submitted to the APCO. The revised estimate shall cover the 5-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated acceptance rate. [40 CFR 60.757(b)(1)(ii) and 60.35c] Federally Enforceable Through Title V Permit

104. The NMOC emission rate report shall include all the data, calculations, sample reports and measurements used to estimate the annual or 5-year emissions. [40 CFR 60.757(b)(2) and 60.35c] Federally Enforceable Through Title V Permit

105. If the owner or operator elects to recalculate the NMOC emission rate using Tier 2 specifications and the resulting NMOC emission rate is less than 50 megagrams/year, annual periodic reporting shall resume. The revised NMOC emission rate report, with the recalculated NMOC emission rate using Tier 2 specifications, shall be submitted within 180 days of the first Tier 1 calculated exceedance of 50 megagrams/year. [40 CFR 60.757(c)(1) and 60.35c] Federally Enforceable Through Title V Permit

106. If the owner or operator elects to recalculate the NMOC emission rate using Tier 3 specifications and the resulting NMOC emission rate is less than 50 megagrams/year, annual periodic reporting shall resume. The revised NMOC emission rate report, with the recalculated NMOC emission rate using Tier 3 specifications, shall be submitted within 1 year of the first Tier 1 calculated exceedance of 50 megagrams/year. [40 CFR 60.757(c)(2) and 60.35c] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

107. Each owner or operator shall keep for at least 5 years up-to-date, readily accessible, on-site records of the maximum design capacity, the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. [40 CFR 60.758(a), 60.35c and District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit

108. This operating permit may be cancelled with APCO approval when the landfill 1) is closed, pursuant to the requirements of this permit, 2) never needed control, and 3) is not otherwise subject to the requirements of part 40 CFR 70. [40 CFR 60.32c(d) and 60.752(b)] Federally Enforceable Through Title V Permit

109. If the landfill is permanently closed, a closure notification shall be submitted to the APCO within 30 days of waste disposal cessation. A permanent closure must take place in accordance with 40 CFR 258.60. If a closure report has been submitted, no additional waste may be placed in the landfill without filing a notification of modification to the APCO, pursuant to 40 CFR 60.7(a)(4). [40 CFR 60.752(b)(1)(ii)(B), 60.757(d) and 60.35c] Federally Enforceable Through Title V Permit

110. If the calculated NMOC is equal to or greater than 50 megagrams/year, the owner or operator shall submit a collection and control system design plan, pursuant to 40 CFR 60.752(b)(2)(i) and prepared by a professional engineer, to the APCO within 1 year of that determination. [40 CFR 60.752(b)(2)(i) and 60.36c(b)] Federally Enforceable Through Title V Permit

111. If the calculated NMOC is equal to or greater than 50 megagrams/year, the owner or operator shall install a collection and control system, that effectively captures the gas generated within the landfill, within 30 months of that determination. This operating permit must be modified accordingly to show compliance with 40 CFR 60, Subpart Cc requirements applicable to a MSWL with a collection and control system. [40 CFR 60.752(b)(2)(ii), 60.753, 60.755, 60.756, 60.34c and 60.36c(b)] Federally Enforceable Through Title V Permit

112. If a gas collection and control system is installed, it shall comply with the operational standards of 40 CFR 60.753, the compliance provisions of 40 CFR 60.755, the monitoring provisions of 40 CFR 60.756, the reporting and recordkeeping requirements of 40 CFR 60.757 and 60.758, and the requirements of 40 CFR 60.759 (for active collection systems). [40 CFR 60.34c; 40 CFR 60.752(b)(2)(ii), 60.753, 60.755, 60.756, 60.757, 60.758, and 60.759] Federally Enforceable Through Title V Permit

113. Compliance with permit conditions in the Title V permit shall be deemed compliance with EPA-approved State Plan for implementing 40 CFR 60, Subpart Cc. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: C-3074-8-7 **ISSUANCE DATE:** 05/04/2023

LEGAL OWNER OR OPERATOR: CITY OF CLOVIS - LANDFILL
MAILING ADDRESS: 155 N SUNNYSIDE
CLOVIS, CA 93611

LOCATION: 15679 AUBERRY RD
CLOVIS, CA 93612

EQUIPMENT DESCRIPTION:
MODIFICATION OF 76.3 ACRE MUNICIPAL SOLID WASTE LANDFILL (10.45 MILLION CUBIC YARD) WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING VERTICAL AND HORIZONTAL COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 5,000 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY AN ENCLOSED GROUND FLARE (30 MMBTU/HR MAXIMUM): INSTALL A NEW 33 MMBTU/HR PERENNIAL ENERGY LOW NOX ENCLOSED GROUND FLARE TO BE THE PRIMARY FLARE TO CONTROL GAS FROM THE LANDFILL TO COMPLY WITH RULE 4311, AND RETAIN THE EXISTING 30 MMBTU/HR ENCLOSED FLARE AS A BACKUP AND LIMIT THE BACKUP FLARE TO AN ANNUAL THROUGHPUT OF 90,000 MMBTU IN ANY TWO CONSECUTIVE YEARS TO COMPLY WITH RULE 4311

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
5. The exhaust stack of the 33 MMBtu/hr primary flare shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
6. Both flares associated with this unit shall not operate at the same time. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services
C-3074-8-7 : May 4 2023 2:56PM -- GARCIAJ : Joint Inspection NOT Required

7. Only landfill gas shall be used as an auxiliary fuel for the combustion of VOC. [District Rule 2201] Federally Enforceable Through Title V Permit

8. The enclosed flares shall be equipped with an LPG/propane fired pilot. There shall be a sufficient flow of LPG/propane to the burners to prevent unburned collected methane from being emitted to the atmosphere. [District Rule 2201 and 17 CCR 95464(b)(2)(A)] Federally Enforceable Through Title V Permit

9. Sampling ports shall be installed on each wellhead. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Gas collection system shall be operated in a manner which maximizes the amount of landfill gas extracted while preventing overdraw that can cause fires or damage the gas collection system. [District Rule 2201] Federally Enforceable Through Title V Permit

11. A non-resettable, totalizing mass or volumetric landfill gas fuel flow meter, or other APCO approved alternative, to measure the amount of gas combusted in the backup flare shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

12. Landfill gas collection system shall be equipped with an enclosed flare having a methane destruction efficiency of at least 99% by weight. [17 CCR 95464(b)(2)(A)] Federally Enforceable Through Title V Permit

13. Landfill gas collection system shall be equipped with an enclosed flare having VOC destruction efficiency of at least 98% by weight, or reduce the VOC concentration (measured as methane) to 20 ppmv @ 3% O2. [District Rule 2201] Federally Enforceable Through Title V Permit

14. The minimum operating temperature for the combustion chamber of the backup flare shall be maintained at or above 1,400 degrees F. [District Rule 2201] Federally Enforceable Through Title V Permit

15. Each flare shall be equipped with an operational temperature gauge to indicate the temperature of the combustion chamber. A continuously recording device shall be utilized to indicate the combustion chamber temperature during operation of each flare. [District Rule 2201] Federally Enforceable Through Title V Permit

16. The landfill gas vapor collection system shall not be operated unless the combustion chamber of the flare used to control emissions is at or above minimum operating temperature. The system shall automatically terminate operation if the temperature drops below the minimum operating temperature. [District Rule 2201] Federally Enforceable Through Title V Permit

17. Excavated solid waste shall be covered using fresh soil, plastic sheeting, or vapor retarding foam as necessary to prevent odorous emissions and to minimize the release of landfill gas. [District Rule 2201] Federally Enforceable Through Title V Permit

18. Maintenance is defined as any work performed on the gas collection system and/or control device in order to ensure continued compliance with District rules, regulations, and/or Permits to Operate, and to prevent its failure or malfunction. [District Rule 2201] Federally Enforceable Through Title V Permit

19. The permittee shall notify the APCO by telephone at least 24 hours before performing any maintenance work that requires the system to be shutdown. The notification shall include a description of work, the date work will be performed and the amount of time needed to complete the maintenance work. [District Rule 2201] Federally Enforceable Through Title V Permit

20. During maintenance of the landfill gas collection system or incineration device, emissions of landfill gas shall be minimized during shutdown. [District Rules 2020 and 2201] Federally Enforceable Through Title V Permit

21. Emission rates from the 30 MMBtu/hr backup flare shall not exceed any of the following limits: 0.05 lb-NOx/MMBtu; 0.006 lb-VOC/MMBtu; 0.2 lb-CO/MMBtu; 0.05 lb-PM10/MMBtu; or 0.033 lb-SOx/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

22. Emission rates from the 33 MMBtu/hr primary flare shall not exceed any of the following limits: 0.025 lb-NOx/MMBtu; 0.008 lb-VOC/MMBtu; 0.06 lb-CO/MMBtu; 0.015 lb-PM10/MMBtu; or 0.03 lb-SOx/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

23. Sulfur content of the landfill gas being combusted in the flares shall not exceed 49.16 ppmv as H2S. [District Rule 2201] Federally Enforceable Through Title V Permit

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24. The total VOC emissions from the landfill gas vapor collection system served by the flare shall not exceed 6.3 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit

25. The total VOC emissions from this operation shall not exceed 21,316 pounds per year where total VOC emissions are calculated as follows: Fugitive VOC Emissions From The Landfill + VOC Emissions From Backup Flare + VOC Emissions From Primary Flare. [District Rule 2201] Federally Enforceable Through Title V Permit

26. Annual VOC emissions from the backup flare shall be calculated as follows: 0.006 x annual volume of gas combusted in the backup flare (MMscf/year) x higher heating value of landfill gas (MMBtu/MMscf); where the heating of value of landfill gas is the measured value during the previous annual test or, alternatively, a default value of 500 MMBtu/MMscf may be used. [District Rule 2201] Federally Enforceable Through Title V Permit

27. Annual VOC emissions from the primary flare shall be calculated as follows: 0.008 x annual volume of gas combusted in the primary flare (MMscf/year) x higher heating value of landfill gas (MMBtu/MMscf); where the heating of value of landfill gas is the measured value during the previous annual test or, alternatively, a default value of 500 MMBtu/MMscf may be used. [District Rule 2201] Federally Enforceable Through Title V Permit

28. Fugitive VOC Emissions From The Landfill shall be calculated as: 0.25 x the site-wide uncontrolled VOC emissions results. [District Rule 2201] Federally Enforceable Through Title V Permit

29. The site-wide uncontrolled VOC emissions shall be calculated using EPA's Landfill Gas Emissions Model (LandGEM) projected VOC emissions for the following year and the highest landfill gas NMOC concentration from the previous year (using an assumption of 39% of NMOC is VOC). The landfill gas NMOC concentration shall be determined from samples collected from the existing landfill and expansion areas taken from the LFG collection pipes, permanent LFG sampling wells, or per Tier 2 procedures as described in 40 CFR 60.754(a)(3). [District Rule 2201] Federally Enforceable Through Title V Permit

30. Calculations to demonstrate compliance with the total VOC emissions from this operation and calculation methodology shall be submitted to the District annually. [District Rule 2201] Federally Enforceable Through Title V Permit

31. On and after January 1, 2024, the annual flaring throughput for the 30 MMBtu/hr backup flare shall not exceed 90,000 MMBtu/year for two consecutive calendar years. [District Rule 4311] Federally Enforceable Through Title V Permit

32. On and after January 1, 2024, if the 30 MMBtu/hr backup flare exceeds 90,000 MMBtu/year heat input for two consecutive calendar years, the operator shall notify the District in writing of the exceedance within 30 days following the end of the second calendar year. By April 15 of the year after the end of the second consecutive calendar year in which an exceedance of the annual heat input rate occurred, the applicant shall submit an Authority to Construct application to modify or replace the flare to comply with the emission limits, as noted in Table 3 of Rule 4311 (12/17/20). [District Rule 4311] Federally Enforceable Through Title V Permit

33. The permittee shall water the unpaved truck unloading and maneuvering area. [District Rule 2201] Federally Enforceable Through Title V Permit

34. Total PM10 emissions from the handling of soil cover shall not exceed 0.0023 lb-PM10/ton of material handled. [District Rule 2201] Federally Enforceable Through Title V Permit

35. Total soil cover usage rate shall not exceed 1,997 tons per day. [District Rule 2201] Federally Enforceable Through Title V Permit

36. The influent gas flowrate into the backup flare shall not exceed 1,667 scfm. [District Rule 2201] Federally Enforceable Through Title V Permit

37. Source testing of the 33 MMBtu/hr primary flare to demonstrate compliance with the NOx, CO, and VOC emission limits and with the NMOC/VOC destruction efficiency of 98%, or 20 ppmvd @ 3% O2 referenced as methane, as required by this permit, shall be conducted within 60 days of startup and at least once every 12 months thereafter. [District Rules 2201 and 4311 and 17 CCR 95464] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

38. Source testing of the backup flare to demonstrate compliance with the NOx, CO, and VOC emission limits and with the NMOC/VOC destruction efficiency of 98%, or no more than 20 ppmvd @ 3% O2 referenced as methane as required by this permit, shall only be conducted on years in which the 30 MMBtu/hr backup flare operates more than 6,000 MMBtu per calendar year. [District Rule 2201 and and 17 CCR 95464] Federally Enforceable Through Title V Permit

39. Sampling ports adequate for sulfur testing shall be provided in the landfill gas manifold line to the flare. [District Rule 1081] Federally Enforceable Through Title V Permit

40. Gas combusted in the flares shall be tested for sulfur content on a quarterly basis. If compliance is shown for eight consecutive quarters, the testing frequency may be changed to annual testing. Quarterly testing shall resume if any annual test shows noncompliance. [District Rule 1081] Federally Enforceable Through Title V Permit

41. The annual throughput of the backup flare shall be determined as follows: annual volume of gas combusted (scf/year) x heating value of landfill gas (Btu/scf); where the heating of value of landfill gas is the measured value during the previous annual test or, alternatively, a default value of 500 Btu/scf may be used. [District Rule 2201] Federally Enforceable Through Title V Permit

42. The operator shall measure daily, in actual cubic feet, the volumetric flow rate of the collected landfill gas entering the flare. [District Rule 2201] Federally Enforceable Through Title V Permit

43. To determine destruction efficiency, simultaneous grab samples shall be taken at the inlet to the flare and in the exhaust of the control device. The VOC concentrations shall be referenced as methane. [District Rule 2201] Federally Enforceable Through Title V Permit

44. The destruction efficiency of the flare shall be calculated using the following equation: Destruction Efficiency = [1 - ((a x b) / (c x d))] x 100%, where a = measured concentration of VOC in the flare exhaust, b = exhaust flow of flare, c = measured concentration of VOC in the landfill gas entering the flare, and d = inlet flow of flare. [District Rule 2201] Federally Enforceable Through Title V Permit

45. The following test methods shall be used for VOC (ppmv) and NMOC (ppmv) - EPA Method 18, EPA Method 25A, 25B, 25C, or ARB Method 100, or an equivalent method approved by the District. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit

46. Sulfur content of the landfill gas being combusted in the flare shall be determined using ASTM D1072, D3031, D4084, D3246 or double GC for H2S and mercaptans, or draeger tubes for H2S, or an equivalent method approved by the District. [District Rule 2201] Federally Enforceable Through Title V Permit

47. Source testing for flare NOx emissions shall be conducted using EPA Method 7E or ARB Method 100, or an equivalent method approved by the District. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit

48. Source testing for flare CO emissions shall be conducted using EPA Method 10 or ARB Method 100, or an equivalent method approved by the District. [District Rule 2201] Federally Enforceable Through Title V Permit

49. Operator shall determine landfill gas fuel higher heating value annually by ASTM D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels, or an equivalent method approved by the District. [District Rule 2201] Federally Enforceable Through Title V Permit

50. During annual source testing, the volumetric flow rate of the flare effluent gases shall be measured using CARB Method 2 or EPA Method 19, or an equivalent method approved by the District. [District Rule 2201] Federally Enforceable Through Title V Permit

51. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days after testing. [District Rules 1081, 2201, and 4311] Federally Enforceable Through Title V Permit

52. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

53. Permittee shall operate the flares at all times when the collected gas is routed to it. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

54. During maintenance of the gas collection system or incineration device, emissions of landfill gas shall be minimized during shutdown. [District Rule 2201] Federally Enforceable Through Title V Permit

55. Sampling ports adequate for sulfur testing shall be provided in the landfill gas manifold line to the flares. [District Rule 1081] Federally Enforceable Through Title V Permit

56. For initial monitoring of collection devices in the expansion area, prior to initial operation, the permittee shall monitor the collectors at least once per quarter for static pressure, percent methane, percent oxygen, and temperature utilizing a District-approved portable landfill gas analyzer. [District Rule 2201] Federally Enforceable Through Title V Permit

57. For commissioning of collection devices in the expansion area, collectors shall be commissioned and continually operated if all of the following parameters are met: (1) methane percent 45% or greater; (2) oxygen percent 5% or less; (3) temperature 131 degrees F; and (4) static pressure 5.0 in H2O or greater. [District Rule 2201] Federally Enforceable Through Title V Permit

58. For operation of collection devices in the expansion area, once the collectors are commissioned, the permittee shall monitor the collectors weekly for the first six months of operation and may switch to monthly monitoring thereafter. [District Rule 2201] Federally Enforceable Through Title V Permit

59. For surface emissions monitoring, once an area has reached final grade or within 90 days when the LFG system in the area is commissioned, whichever comes first, surface emissions shall not exceed a methane concentration of 500 parts per million above background at the surface of the landfill. [District Rule 2201] Federally Enforceable Through Title V Permit

60. For surface emissions monitoring, surface monitoring for the landfill area shall be performed quarterly. If there are any exceedances during a quarterly event, monitoring will be required monthly until three consecutive months without exceedances, which would allow a return to quarterly monitoring. [District Rule 2201] Federally Enforceable Through Title V Permit

61. For surface emissions monitoring, after an exceedance, the permittee shall initiate correction action within five days and conduct remonitoring within ten days from the initial exceedance. If compliance is shown, an additional remonitoring event is required within one month of the initial exceedance. If the ten day event shows an exceedance, the permittee shall initiate correction action within five days and conduct remonitoring within ten days from the second exceedance. If compliance is shown, an additional remonitoring is required within one month of the initial exceedance. If the second ten day event shows an exceedance, the permittee shall permit and install additional landfill gas wells to correct the problem within 120 days of the initial exceedance. The permittee may utilize an alternative corrective action with prior approval from the APCO. [District Rule 2201] Federally Enforceable Through Title V Permit

62. For surface emissions monitoring, permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30-meter intervals (or a site-specific established spacing) and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. [District Rule 2201] Federally Enforceable Through Title V Permit

63. For surface emissions monitoring, surface testing shall be performed using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.755(d). [District Rule 2201] Federally Enforceable Through Title V Permit

64. For the backup flare, the permittee shall maintain average monthly records of landfill gas flow rate to any control device(s) as well as the hours of operation of the control device(s) to show compliance with the daily influent flowrate limit. [District Rule 2201] Federally Enforceable Through Title V Permit

65. Permittee shall maintain records of system inspections including: date, time and inspection results. [District Rule 2201] Federally Enforceable Through Title V Permit

66. Permittee shall maintain records of maintenance related or other collection system and control device downtime, including individual well shutdown. [District Rule 2201] Federally Enforceable Through Title V Permit

67. Permittee shall maintain records of the amount of soil cover in tons/day. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

68. The operator shall record emission control device source tests (emissions of CO, NOx, and VOC) in pounds per MMBtu heat input. Operator shall also record VOC destruction/treatment efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit

69. Daily records of the weight of materials received (tons) - including Class II/III waste material, Class II soil cover, and clean soil cover shall be maintained, kept on site for a period of five years, and made available to District staff upon request. [District Rule 2201] Federally Enforceable Through Title V Permit

70. A record of continuous flare combustion temperature, continuous volumetric gas flow rate, net heating value of landfill gas being combusted, daily landfill gas fuel consumption, and hourly heat input shall be maintained for each flare. [District Rule 2201] Federally Enforceable Through Title V Permit

71. Records of calculated landfill and flare VOC emissions shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

72. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

73. Except for the spreading of landfill cover, when handling bulk materials outside an enclosed structure or building, water or chemical/organic stabilizers/suppressants shall be applied as required to limit Visible Dust Emissions to a maximum of 20% opacity. When necessary to achieve this opacity limitation, wind barriers with less than 50% opacity shall also be used. [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit

74. When storing bulk materials outside an enclosed structure or building, water or chemical/organic stabilizers/suppressants shall be applied as required to limit Visible Dust Emissions to a maximum of 20% opacity. When necessary to achieve this opacity limitation, all bulk material piles shall also be either maintained with a stabilized surface as defined in Section 3.58 of District Rule 8011, or shall be protected with suitable covers or barriers as prescribed in Table 8031-1, Section B, of District Rule 8031. [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit

75. When transporting bulk materials outside an enclosed structure or building, all bulk material transport vehicles shall limit Visible Dust Emissions to 20% opacity by either limiting vehicular speed, maintaining sufficient freeboard on the load, applying water to the top of the load, or covering the load with a tarp or other suitable cover. [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit

76. All outdoor chutes and conveyors shall be controlled by any of the following options: 1) full enclosure, 2) operation with material sufficiently wetted such that VDE is limited to 20% opacity, or 3) the concentration of particles having an aerodynamic diameter of 10 microns or less in the conveyed material shall be sufficiently small to limit VDE to 20% opacity. [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit

77. One or more of the following control measures shall be implemented on each day that 50 or more VDT (Vehicle Daily Trips), or 25 or more VDT with 3 or more axles, originates from within and remains exclusively within an unpaved vehicle/equipment traffic area: water, gravel, roadmix, or chemical/organic dust stabilizers/suppressants, vegetative materials, or other District-approved control measure shall be applied to unpaved vehicle travel areas as required to limit Visible Dust Emissions to 20% opacity and comply with the requirements for a stabilized unpaved road as defined in District Rule 8011. [District Rules 8071 and 8011] Federally Enforceable Through Title V Permit

78. On each day that 50 or more VDT (Vehicle Daily Trips), or 25 or more VDT with 3 or more axles, originates from within and remains exclusively within an unpaved vehicle/equipment traffic area, dusting materials accumulated on paved surfaces shall be removed daily or water and/or chemical/organic dust stabilizers/suppressants shall be applied to the paved surface as required to maintain continuous compliance with the requirements for a stabilized unpaved road as defined in District Rule 8011 and limit Visible Dust Emissions (VDE) to 20% opacity. [District Rules 8011 and 8071] Federally Enforceable Through Title V Permit

79. Whenever any portion of the site becomes inactive, Permittee shall restrict access and periodically stabilize any disturbed surface to comply with the conditions for a stabilized surface as defined in Section 3.58 of District Rule 8011. [District Rules 8071 and 8011] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

80. Records and other supporting documentation shall be maintained as required to demonstrate compliance with the requirements of the rules under Regulation VIII only for those days that a control measure was implemented. Such records shall include the type of control measure(s) used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressant, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. Records shall be kept for one year following project completion that results in the termination of all dust generating activities. [District Rules 8031, 8071, and 8011] Federally Enforceable Through Title V Permit

81. Permittee shall keep records of delays encountered during repair of leaks or repair of positive wellhead readings. Documentation of delays shall be submitted with the annual report. [17 CCR 95468]

82. Permittee shall identify areas which are dangerous and unable to be inspected. Areas shall be clearly identified on a map of the facility. A copy of the map shall be kept onsite as well as submitted with the annual report. [17 CCR 95468]

83. Permittee shall conduct monitoring of the landfill surface within 3 inches of the surface. The facility may monitor surface emissions with the probe tip at the height of the vegetation if there is vegetation and it is impractical to monitor at 3 inches from the landfill surface. [17 CCR 95468]

84. Permittee shall terminate surface emission testing when the measured average wind speed is over 10 mph or the instantaneous wind speed is over 20 mph. [17 CCR 95468 and 17 CCR 95471]

85. Permittee shall only conduct surface emission testing when precipitation has met the following requirements. It has been 24 hours since measured precipitation of 0.01 to 0.15 inches. It has been 48 hours since measured precipitation of 0.16 to 0.24 inches. It has been 72 hours since measured precipitation of 0.25 or more inches. [17 CCR 95468]

86. Landfill collection and control system may be operated intermittently provided the methane emission from the landfill do not exceed instantaneous or integrated limit requirements. [17 CCR 95464]

87. Landfill gas collection system wellheads must be operated under vacuum. Monthly monitoring of wellheads is required. Landfill gas collection system wellheads may be operated under neutral or positive pressure when there is a fire, while GCCS is offline during intermittent operation as allowed in this permit, or during other times as allowed in sections 95464 (c), 95464(d), and 95464(e). [17 CCR 95464, 17 CCR 95468]

88. Landfill gas collection system components downstream of blower have a leak limit of 500 ppmv as methane. Components must be checked quarterly. [17 CCR 95464]

89. The flare must have automatic dampers, an automatic shutdown device, a flame arrester, and continuous recording temperature sensors. [17 CCR 95464]

90. The flare must operate within the parameter ranges established during most recent source test. [17 CCR 95464]

91. Landfill surface methane emissions shall not exceed instantaneous surface emission limit of 500 ppmv as methane or integrated surface emission limit of 25 ppmv as methane. [17 CCR 95464]

92. Instantaneous and integrated landfill surface emissions measurements shall be done quarterly. The landfill may monitor annually provided they comply with requirements of 17 CCR 95469 (a)(1). [17 CCR 95469]

93. Permittee shall keep records of all gas collection system downtime exceeding five days, including individual well shutdown and disconnection times and the reason for downtime. [17 CCR 95470]

94. Permittee shall keep records of all gas control system downtime in excess of one hour, the reason for the downtime and the length of time the gas control system was shutdown. [17 CCR 95470]

95. Permittee shall keep records of the expected gas generation flow rate calculated pursuant to section 95471(e). [17 CCR 95470]

96. Permittee shall keep records of all instantaneous surface readings of 200 ppmv or greater; all exceedances of the limits in sections 95464(b)(1)(B) or 95465, including the location of the leak (or affected grid), leak concentration in ppmv, date and time of measurement, the action taken to repair the leak, date of repair, any required re-monitoring and the re-monitored concentration in ppmv, and wind speed during surface sampling; and the installation date and location of each well installed as part of a gas collection system expansion. [17 CCR 95470]

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97. Permittee shall keep records of any positive wellhead gauge pressure measurements, the date of the measurements, the well identification number, and the corrective action taken. [17 CCR 95470]

98. Permittee shall keep records of the annual solid waste acceptance rate and the current amount of waste-in-place. [17 CCR 95470]

99. Permittee shall keep records of the nature, location, amount , and date of deposition of non-degradable waste for any landfill areas excluded from the collection system. [17 CCR 95470]

100. Permittee shall keep records of any source tests conducted pursuant to section 95464(b)(4). [17 CCR 95470]

101. Permittee shall keep records describing the mitigation measures taken to prevent the release of methane or other emissions into the atmosphere during the following activities: 1. When solid waste was brought to the surface during the installation or preparation of wells, piping, or other equipment; 2. During repairs or the temporary shutdown of gas collection system components; or, 3. When solid waste was excavated and moved. [17 CCR 95470]

102. Permittee shall keep records of any construction activities pursuant to section 95466. The records must contain the following information: 1. A description of the actions being taken, the areas of the MSW landfill that will be affected by these actions, the reason the actions are required, and any landfill gas collection system components that will be affected by these actions. 2. Construction start and finish dates, projected equipment installation dates, and projected shut down times for individual gas collection system components. 3. A description of the mitigation measures taken to minimize methane emissions and other potential air quality impacts. [17 CCR 95470]

103. Permittee shall keep records of the equipment operating parameters specified to be monitored under section 95469(b)(1) as well as records for periods of operation during which the parameter boundaries established during the most recent source test are exceeded. The records must include the following information: 1. For enclosed flares, all 3-hour periods of operation during which the average temperature difference was more than 28 degrees Celsius (or 50 degrees Fahrenheit) below the average combustion temperature during the most recent source test at which compliance with section 95464(b)(2) was determined and a gas flow rate device which must record the flow to the control device at least every 15 minutes. [17 CCR 95470]

104. Permittee shall submit the following reports as required in section 95470(b): Closure notification, Equipment removal report and Annual report. All reports must be accompanied by a certification of truth, accuracy, and completeness signed by a responsible official. [17 CCR 95470]

105. Permittee may comply with the CARB regulation for landfill methane control measures by using approved alternative compliance options. Documentation of approved alternative compliance options shall be available for inspection upon request. [17 CCR 95468]

106. Each wellhead in the collection system shall be operated with a landfill gas temperature less than 55 degrees Celsius (131 degrees Fahrenheit). The owner or operator may establish a higher operating temperature at a particular well. A higher operating temperature request must be submitted to the Administrator for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits decomposition by killing methanogens. The demonstration must satisfy both of these criteria in order to be approved. [40 CFR 62.16716(c)] Federally Enforceable Through Title V Permit

107. The owner or operator shall monitor each well monthly for temperature. If a well exceeds 55 degrees Celsius (131 degrees Fahrenheit) action shall be initiated within 5 days to correct the exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. If a landfill gas temperature less than or equal to 55 degrees Celsius (131 degrees Fahrenheit) cannot be achieved within 15 days of the initial exceedance, the owner or operator shall conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after the initial exceedance. If corrective actions cannot be completed within 60 days following the initial exceedance, the owner or operator shall also conduct a corrective action analysis and develop an implementation schedule to complete the necessary corrective action(s) as soon as practicable, but no more than 120 days following the initial exceedance. If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the owner or operator shall submit the root cause analysis, corrective action analysis and corresponding implementation schedule to the Administrator.. [40 CFR 62.16720(a)(4)] Federally Enforceable Through Title V Permit

108. The owner or operator shall monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis. [40 CFR 62.16722(a)(2)] Federally Enforceable Through Title V Permit

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109. Nitrogen concentration in the landfill gas shall be determined using EPA Method 3C of appendix A-2 to 40 CFR Part 60, unless an alternative method is approved. Unless an alternative method is approved, oxygen concentration in the landfill gas shall be determined using a portable gas composition analyzer or an oxygen meter. When using a portable gas analyzer, the analyzer shall be calibrated and meet all quality assurance and quality control requirements for EPA Method 3A of appendix A-2 to 40 CFR Part 60 or ASTM D6522-11. When using an oxygen meter, the meter shall use EPA Method 3A or 3C of appendix A-2 to 40 CFR Part 60 or ASTM D6522-11 except that: (1) The span shall be set between 10- and 12-percent oxygen, (2) A data recorder is not required, (3) Only two calibration gases are required, a zero and span, (4) A calibration error check is not required, and (5) The allowable sample bias, zero drift, and calibration drift are plus or minus 10 percent. [40 CFR 62.16722(a)(2)] Federally Enforceable Through Title V Permit

110. For the temperature measuring device used to monitor landfill gas temperature, the owner or operator shall calibrate the temperature measuring device annually using the procedure in Section 10.3 of EPA Method 2 of appendix A-1 to 40 CFR Part 60. [40 CFR 62.16720(a)(4) and 62.16722(a)(3)] Federally Enforceable Through Title V Permit

111. The owner or operator shall submit a notification to the Administrator as soon as practicable, but no later than 75 days after the initial exceedance for corrective action(s), as required by this permit, that are not completed within 60 days of the initial exceedance. If corrective action(s) take longer than 120 days to complete after the initial exceedance, the owner or operator shall submit the root cause analysis, corrective action analysis and corresponding implementation schedule to the Administrator as soon as practicable but no later than 75 days after the initial exceedance. [40 CFR 62.16724(k)] Federally Enforceable Through Title V Permit

112. The owner or operator shall keep records of each wellhead temperature monitoring value of 55 degrees Celsius (131 degrees Fahrenheit) or above, each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent. [40 CFR 62.16726(e)(2)] Federally Enforceable Through Title V Permit

113. For any root cause analysis for which corrections are required, the operator shall keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the regulatory agency. [40 CFR 62.16726(e)(5)] Federally Enforceable Through Title V Permit

APPENDIX C

Measured F Factors for the Landfill Gas from the December 2021 and December 2022 Source Test Reports

STACK GAS FLOW RATE DETERMINATION -- FUEL USAGE
EPA Method 19

Facility: City Of Clovis Landfill
Unit: Flare (C-3074-8-6)
Condition Normal
Date: 12/7/2021
Personell: SA/BK

Time:	1248-1323 Run 1	1334-1409 Run 2	1420-1455 Run 3	
Gross Calorific Value @ 60°F	438	439	438	Btu / ft³
Stack Oxygen	15.87	16.73	16.46	%
Gas Fd-Factor @ 60°F	9,879	9,890	9,877	DSCF/MMBtu
Standard Temperature (°F)	60	60	60	°F
Corrected Fuel Rate (SCFM) @ 60°F	425.0	424.0	424.0	SCFM
Fuel Flowrate (SCFH)	25,500	25,440	25,440	SCFH
Million Btu per minute	0.186	0.186	0.186	MMBtu/min
Heat Input (MMBtu/hour)	11.17	11.17	11.14	MMBtu/Hr
Stack Gas Flow Rate	**7643**	**9217**	**8632**	**DSCFM**

WHERE:

Gas Fd-Factor = Fuel conversion factor (ratio of combustion gas volumes to heat inputs)
MMBtu = Milion Btu

CALCULATIONS:

SCFM = CFM * 528 * (gas line PSIA) / 14.7 / (gas °F + 460)
MMBtu/min = (SCFM * Btu/ft³) / 1,000,000
DSCFM = Gas Fd-Factor * MMBtu/min * 20.9/ (20.9 - stack oxygen%)
SCFH = SCFM * 60
Heat Input = MMBtu/min * 60

STACK GAS FLOW RATE DETERMINATION -- FUEL USAGE

Facility: City of Clovis Landfill
Unit: Flare (C-3074-8-6)
Condition: As Found
Date: 12/06/22

	Run 1	Run 2	Run3	
Gross Calorific Value	449	450	442	Btu / ft³
Stack Oxygen	17.19	17.05	17.39	%
Gas Fd-Factor @ ~~70°F~~ *60 F*	9,463	9,637	9,666	DSCF/MMBtu
Standard Temperature (°F) *60 F*	60	60	60	°F
Corrected Fuel Rate (SCFM)	**503**	**494**	**507**	SCFM
Fuel Flowrate (SCFH)	30,180	29,640	30,420	SCFH
Million Btu per minute	0.226	0.222	0.224	MMBtu/min
Heat Input (MMBtu/hour)	13.55	13.34	13.45	MMBtu/Hr

Best avg.: 12189

Stack Gas Flow Rate	**12,039**	**11,617**	**12,911**	**DSCFM**

APCD avg.: 12193

WHERE:

Gas Fd-Factor = Fuel conversion factor (ratio of combustion gas volumes to heat inputs)
MMBtu = Milion Btu

CALCULATIONS:

MMBtu/min = (SCFM * Btu/ft³) / 1,000,000
DSCFM = Gas Fd-Factor * MMBtu/min * 20.9/ (20.9 - stack oxygen%)
SCFH = SCFM * 60
Heat Input = MMBtu/min * 60

APPENDIX D
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database.

As discussed in Section VII.A, this facility is a seasonal source that typically only operates during tomato processing season, which runs from June to October (the last month of the 2nd quarter, the 3rd quarter, and the first month of the 4th quarter). However, because the potential emissions from each of the boilers addressed in this project were calculated assuming maximum operation for up to 24 hours per day and 365 days per year, the QNEC will be calculated based on operation throughout the year. Therefore, the QNEC can be calculated as follows:

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

<u>QNEC for ATC C-3074-8-8 (Landfill Controlled by Flares)</u>

Net Emissions Change (lb/yr) C-3074-8-8					
	PE2 (lb/year)	-	PE1 (lb/year)	=	NEC (lb/yr)
NO_X	13,140	-	13,140	=	0
SO_X	8,672	-	8,672	=	0
PM_{10}	6,012	-	6,012	=	0
CO	52,560	-	52,560	=	0
VOC	21,316	-	21,316	=	0

Quarterly NEC [QNEC] (lb/qtr) C-3074-8-8					
	PE2 (lb/qtr)	-	PE1 (lb/qtr)	=	QNEC (lb/qtr)
NO_X	3,285.00	-	3,285.00	=	0.00
SO_X	2,168.00	-	2,168.00	=	0.00
PM_{10}	1,503.00	-	1,503.00	=	0.00
CO	13,140.00	-	13,140.00	=	0.00
VOC	5,329.00	-	5,329.00	=	0.00

APPENDIX E
Compliance Certification

RECEIVED
AUG 31 2022
Permits Services
SJVAPCD
HEALTHY AIR LIVING

San Joaquin Valley Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

☐ ADMINISTRATIVE AMENDMENT ☒ MINOR MODIFICATION ☐ SIGNIFICANT MODIFICATION

COMPANY NAME: City of Clovis Landfill	FACILITY ID: C-3074
1. Type of Organization: ☐ Corporation ☐ Sole Ownership ☒ Government ☐ Partnership ☐ Utility	
2. Owner's Name: City of Clovis	
3. Agent to the Owner: Glenn Eastes, Assistant Public Utilities Director	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial **applicable** circles 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).

✓ 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.

✓ 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.

✓ For minor modifications, this application meets the criteria for use of minor permit modification procedures pursuant to District Rule 2520.

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

8/26/22
Date

Glenn Eastes
Name of Responsible Official (please print)

Assistant Public Utilities Director
Title of Responsible Official (please print)