San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JUL 20 2012

Mr. Curtis Larkin
American Avenue Landfill
2220 Tulare St. 6th Floor
Fresno, CA 93721

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # C-3115
Project # C-1120109

Dear Mr. Larkin:

Enclosed for your review is the District's analysis of an application for Authority to Construct for American Avenue Landfill at 18950 W American Ave, Kerman. The applicant is requesting that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The applicant proposes the installation of a new 99 MMBtu/hr enclosed ground level flare with associated piping and extraction wells for 40 CFR 62 Subpart GGG rule compliance.

After addressing any EPA comments made during the 45-day comment period, the Authority to Construct will be issued to the facility with a Certificate of Conformity. 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. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures
c: Stanley Tom, Permit Services

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JUL 20 2012

Gerardo C. Rios, Chief
Permits Office
Air Division
U.S. EPA - Region IX
75 Hawthorne St.
San Francisco, CA 94105

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # C-3115
Project # C-1120109

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for American Avenue Landfill at 18950 W American Ave, Kerman, which has been issued a Title V permit. American Avenue Landfill is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The applicant proposes the installation of a new 99 MMBtu/hr enclosed ground level flare with associated piping and extraction wells for 40 CFR 62 Subpart GGG rule compliance.

Enclosed is the engineering evaluation of this application with a copy of the current Title V permit and proposed Authority to Construct # ATC # C-3115-2-12 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures
c: Stanley Tom, Permit Services

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JUL 20 2012

Mike Tollstrup, Chief
Project Assessment Branch
Air Resources Board
P O Box 2815
Sacramento, CA 95812-2815

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # C-3115
Project # C-1120109

Dear Mr. Tollstrup:

Enclosed for your review is the District's analysis of an application for Authority to Construct for American Avenue Landfill at 18950 W American Ave, Kerman. The applicant is requesting that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The applicant proposes the installation of a new 99 MMBtu/hr enclosed ground level flare with associated piping and extraction wells for 40 CFR 62 Subpart GGG rule compliance.

Enclosed is the engineering evaluation of this application with a copy of the current Title V permit and proposed Authority to Construct # ATC # C-3115-2-12 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 30-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures
c: Stanley Tom, Permit Services

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

Fresno Bee

**NOTICE OF PRELIMINARY DECISION
FOR THE ISSUANCE OF AUTHORITY TO CONSTRUCT AND
THE PROPOSED SIGNIFICANT MODIFICATION OF FEDERALLY
MANDATED OPERATING PERMIT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed significant modification of American Avenue Landfill for its municipal solid waste landfill at 18950 W American Ave, Kerman, California. The applicant proposes the installation of a new 99 MMBtu/hr enclosed ground level flare with associated piping and extraction wells for 40 CFR 62 Subpart GGG rule compliance.

The District's analysis of the legal and factual basis for this proposed action, project #C-1120109, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. This will be the public's only opportunity to comment on the specific conditions of the modification. If requested by the public, the District will hold a public hearing regarding issuance of this modification. For additional information, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 1990 E. GETTYSBURG AVE, FRESNO, CA 93726-0244.

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Install 99 MMBtu/hr Landfill Gas-Fired Flare

Facility Name:	American Avenue Landfill	Date:	May 30, 2012
Mailing Address:	2220 Tulare St, 6th Floor	Engineer:	Stanley Tom
	Fresno, CA 93721-2106	Lead Engineer:	Sheraz Gill
Contact Person:	Stephanie Young, P.E. (consultant)		
Telephone:	(916) 286-0452		
Application #:	C-3115-2-12		
Project #:	C-1120109		
Deemed Complete:	February 9, 2012		

I. Proposal

American Avenue Landfill (AAL) has applied for an Authority to Construct (ATC) for the installation of a new 99 MMBtu/hr enclosed ground flare with associated piping and extraction wells for 40 CFR 62 Subpart GGG rule compliance.

AAL consists of a 440-acre parcel with 367 acres permitted for waste disposal. Of the 367 acres, 30 acres are unlined (Fill Area I), 160 acres contain lined disposal area (majority of waste in place) while part contain office/maintenance facilities (Fill Area II), and 41 acres are comprised of three modules (Fill Area III). An additional three modules for Fill Area III are planned for construction in 2012.

Waste placement in Fill Area III commenced in April 2008. Per 40 CFR Part 62 Subpart GGG, AAL is required to control landfill gas in waste that has been in place for 5 years or longer. Therefore, the proposed flare will serve as a control device to minimize emissions from landfill gas in Fill Area III.

The facility has an existing landfill gas collection system that includes vertical extraction wells in Fill Areas I and II that extract landfill gas and convey it to an existing 51.0 MMBtu/hr enclosed flare. This flare capacity is not sufficient to handle the additional landfill gas from Fill Area III. The proposed flare and the existing flare will operate dependently, with both flares capable of flaring landfill gas from Fill Areas I, II, or III.

The existing collection system also includes a 3,150 gallon condensate storage tank, with landfill gas condensate injected into existing flare. Landfill gas condensate will also be injected into the proposed flare. Per manufacturer's recommendation, the proposed flare is capable of destroying approximately 1 gallon of condensate per minute for every 11 MMBtu/hr of heat release (9 gallons per minute for the proposed 99 MMBtu/hr flare).

Additionally, AAL has proposed to clarify two existing conditions from the current Permit to Operate (PTO), C-3115-2-11. Condition 33 on the current PTO requires the facility to record

and monitor the net heating value of landfill gas being combusted. The facility has requested the condition be clarified to specify an annual frequency of monitoring. Further, Condition 36 on the current PTO requires the facility to monitor and record the oxygen content in the flare main header. This condition will be removed because the facility is already required to monitor oxygen from each interior well.

The current permit also allows for earth moving activities (moving of soil and covering of waste). No changes are proposed to the existing flare or the existing earth moving activities.

AAL received their Title V Permit on June 30, 2002. This modification can be classified as a Title V significant modification pursuant to Rule 2520, Section 3.29, 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 will be satisfied prior to the issuance of the Authority to Construct. AAL must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99) 40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills
Rule 4002	National Emission 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 (6/18/09)
Rule 4642	Solid Waste Disposal Site (4/16/98)
Rule 4651	Soil Decontamination Operations (9/20/07)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
40 CFR Part 62 GGG	Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction Prior to May 30, 1991 and Have Not Been Modified or Reconstructed Since May 30, 1991
40 CFR Part 64	Compliance Assurance Monitoring (CAM)

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 18950 W American Ave in Kerman, CA. The District has verified that 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 flare system will be comprised of a vertical enclosed ground flare capable of condensate injection, and blower skid as the landfill gas handling system, and associated piping and extraction wells. The flare is a ZTOF Model manufactured by John Zink Company, or a District-approved equivalent.

Collection wells are installed to collect landfill gas anywhere within the site's permitted facility boundary. Wells are typically equipped with a sample port for monitoring and a control valve for adjusting flow volumes. The collection well components are constructed of PVC, high density polyethylene pipe, fiberglass, stainless steel, or other nonporous, corrosion resistant material such as carbon steel.

The location of any collection well depends on a variety of factors, which include but are not limited to, the configuration of the landfill; the type of waste within an area (e.g. organics such as yard waste, construction and demolition, municipal solid waste); the depth of waste; area climate; location of operations; and the collection of landfill gas whether from within the waste mass or outside of it.

The landfill gas collected by the gas collection system will be conveyed to both the existing and proposed flare stations. The proposed landfill gas moving equipment, consisting of three multistage centrifugal type blowers, will move landfill gas from the well field to the proposed flare enclosure for combustion. The blowers will be connected in parallel configuration with regards to flow and vacuum head, with one of the blowers used as standby. Condensate collected in the landfill gas headers will be drained to sumps and pumped into the existing 3,150-gallon double-walled condensate storage tank where it is held until it is injected into the flare for destruction. The condensate storage tank vents through an activated carbon canister.

The condensate injection system is an automated operation designed to dispose of condensate generated from landfill gas safely. Injection is achieved by forcing a liquid stream through a nozzle at high pressure, thereby creating a fine mist, which vaporizes in the combustion chamber. The condensate injection system includes continuous monitoring of flare operating conditions and liquid level devices to prevent equipment damage.

V. Equipment Listing

Pre-Project Equipment Description:

C-3115-2-11: 44.4 MILLION CUBIC YARD CAPACITY (367 ACRES) MUNICIPAL SOLID WASTE LANDFILL WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 3,150 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY AN ENCLOSED GROUND FLARE USING AN LPG PILOT

Proposed Modification:

C-3115-2-12: MODIFICATION OF 44.4 MILLION CUBIC YARD CAPACITY (367 ACRES) MUNICIPAL SOLID WASTE LANDFILL WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 3,150 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY AN ENCLOSED GROUND FLARE USING AN LPG PILOT: INSTALL A 99-MMBTU/HR JOHN ZINK MODEL ZTOF ENCLOSED GROUND FLARE (OR DISTRICT-APPROVED EQUIVALENT) WITH ASSOCIATED PIPING AND EXTRACTION WELLS

Post-Project Equipment Description:

C-3115-2-12: 44.4 MILLION CUBIC YARD CAPACITY (367 ACRES) MUNICIPAL SOLID WASTE LANDFILL WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 3,150 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY ONE 51 MMBTU/HR AND ONE 99 MMBTU/HR ENCLOSED GROUND FLARE USING AN LPG PILOT

VI. Emission Control Technology Evaluation

Enclosed Flares:

According to EPA's OAQPS Control Cost Manual, gaseous fuels with a heating value of at least 300 Btu/scf do not require auxiliary fuel (generally natural gas). Auxiliary fuel is needed only to increase the Btu content of gases that have heating values of less than 300 Btu/scf. The net heating value of the landfill gas is proposed to meet the minimum of 300 Btu/scf; therefore, auxiliary fuel may not be required for complete combustion. Ongoing testing of the gas stream will verify Btu content. The applicant has proposed a landfill gas heating value of 445 Btu/scf.

The enclosed flare is designed to maintain a temperature of 1,400 °F with a residence time of 0.6 seconds in the active flame zone sufficient for 98% control of VOC emissions.

To determine if the flares in this project can handle the landfill gas generated from the landfill,

$$Total\ LFG\ generated = \frac{6{,}887\ ft^3 - LFG}{\min} \times \frac{60\ \min}{hr} \times \frac{447\ Btu}{ft^3} = 184.7 \frac{MMBtu - LFG}{hr}$$

The assumed collection efficiency for this project is 75% per AP-42 (10/08) Section 2.4.4.2.

$$Total\ LFG\ handled\ by\ flare = \frac{184.7\ MMBtu - LFG}{hr} \times (0.75) = 138.5 \frac{MMBtu - LFG}{hr}$$

The proposed flares have a combined maximum heat input of 150 MMBtu/hr (51 MMBtu/hr + 99 MMBtu/hr). Therefore, the proposed flares can handle the maximum gas generation rate from the landfill.

VII. General Calculations

A. Assumptions

- 1,348 ppmv VOC concentration based on the Tier 2 Emission Report (SCS Engineers, 2000)
- Methane generation potential "L_o" = 170 m^3/mg (Applicant proposed)
- Methane generation rate constant "k" = 0.02 per year (AP-42 default for dry sites)
- Landfill emissions are expected to peak in year 2040 with a Landfill Gas Generation rate of 6,887 scfm (see Appendix B)
- The flare VOC control efficiency = 98% based on an expected exhaust gas temperature of 1,400 degrees K and a retention time in the active flame zone of 0.6 seconds.
- VOC collection system efficiency = 75% (per AP-42 (10/08) Section 2.4.4.2).
- Existing enclosed flare maximum firing rate is 51 MMBtu/hr
- New enclosed flare maximum short term firing rate is 99 MMBtu/hr
- Landfill gas H2S concentration = 46.9 ppmv (default AP-42 value Section 2.4 Equation 8 11/98)
- Landfill gas = 50% by volume methane (per applicant)
- Heating Value of Landfill gas = 445 Btu/scf (per applicant)
- Molecular weight of Hexane = 86.18 lb/lb-mole (AP-42, 11/98, Section 2.4.4.2).
- Standard molar volume of gas = 379.5 ft^3/lb-mole (universal constant)
- LPG is used to fuel pilot light of flare (per applicant)
- LPG heating value = 3,200 Btu/ft^3 (http://www.connel.com/freeware/fuels2.shtml)
- Maximum pilot LPG flow rate is 22 ft^3/hr (per applicant)
- The condensate emissions are accounted for in the landfill VOC concentration limit of 1,348 ppmv
- Existing system has a maximum continuous condensate injection rate of 2 gallon/minute (project C-1062284)
- New enclosed flare may destroy up to 9 gal/min of condensate (per manufacturer flare is capable of destroying one gallon per minute of condensate for every 11 MMBtu/hr of heat release)
- Landfill area is 367 acres (current permit)
- Soil cover depth = 10 feet
- Soil density is 120 lbs/cubic foot

B. Emission Factors

Existing Operations:

The facility is not proposing to change any emission factors for the existing flare and existing earth moving activities at the landfill.

Existing 51 MMBtu/hr Enclosed Flare:

Current Pre-project

The following emission factors for the landfill gas/condensate are listed on the current PTO, and were supplied by the applicant under District project C-1020253.

NO_x: 0.05 lb/MMBtu
SO_X: 0.0178 lb/MMBtu
PM_{10}: 0.034 lb/MMBtu
CO: 0.2 lb/MMBtu
VOC: 15.8 lb/day (current PTO)

Revised Pre-project

The PM10 emission factor for the flare will be updated in this project to the FYI 83 value of 0.008 lb/MMBtu which is applicable to smokeless combustion flares. The flare currently has an opacity limit of 5%; therefore, the PM10 emission factor of 0.008 lb/MMBtu is applicable.

Per District Policy APR 1110, revision of the emission factor will have no NSR implications.

New 99 MMBtu/hr Enclosed Flare:

The facility has proposed the following emissions rates for the proposed 99 MMBtu/hr flare and condensate injection.

NO_x: 0.057 lb/MMBtu (Manufacturer Guarantee)
SO_X: 0.0178 lb/MMBtu (Mass Balance)
PM_{10}: 0.008 lb/MMBtu (FYI 83)
CO: 0.110 lb/MMBtu (Manufacturer Guarantee)

$$SOx = \frac{\left(99\frac{MMBtu}{hr}\right)\left(\frac{ft^3-fuel}{445\,Btu}\right)\left(\frac{46.9\,ft^3-H_2S}{10^6\,ft^3-fuel}\right)\left(34\frac{lb-H_2S}{lb-mol}\right)}{\left(379.5\frac{ft^3-H_2S}{lb-mol}\right)\left(\frac{34\,lb-H_2S}{32\,lb-S}\right)\left(\frac{32\,lb-S}{64\,lb-SO_2}\right)}$$

SOx = 1.76 lb/hr ÷ 99 MMBtu/hr = 0.0178 lb/MMBtu

Flare LPG-Fired Pilot

Flare Pilot Emission Factors		Source
NO_x	0.15 lb/MMBtu	AP-42 Table 1.5-1 (7/98)
SO_x	0.0164[1] lb/MMBtu	Applicant Proposal
PM_{10}	0.0044 lb/MMBtu	AP-42 Table 1.5-1 (7/98)
CO	0.021 lb/MMBtu	AP-42 Table 1.5-1 (7/98)
VOC	0.0055 lb/MMBtu	AP-42 Table 1.5-1 (7/98)

PM10 Emissions from Earthmoving Activities – Intermediate and Final Covering

0.008 lb-PM_{10}/ton of soil (current PTO)

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Current Pre-project

Per project C-1020253,

Daily PE1 = (1,348 scf-NMOC/10^6 scf landfill gas) x (86.16 lb/lb-mol) x (lb-mol/379.5 scf) x [(2,312) scf/min] x (60 min/hr) x (24 hr/day) x (1 – 0.98)
= 15.3 lb/day

Revised Pre-project

The existing VOC emissions will be revised based upon updated waste acceptance values and to include fugitive landfill VOC emissions. There is no proposed change to the waste acceptance limit on the permit.

Per District Policy APR 1110, revision of the emission rate will have no NSR implications.

Fugitive VOC Emissions from Landfill

Fugitive VOC emissions from the landfill have not been calculated for this facility. A collection efficiency of 75% has been assumed per AP-42 (10/08) Section 2.4.4.2.

1 SOx = 0.1(S), where S = sulfur content in gr/100 scf = 0.1 (15) = 1.5 lb/1000 gal => (1.5 lb/1000 gal ÷ 0.0915 MMBtu/gal) = 0.0164 lb/MMBtu where, maximum sulfur content of LPG is 15 gr/100 scf (CRC Handbook of Tables for Applied Engineering Science, 2nd Edition, page 390).

Daily PE1 = (1,348 scf-NMOC/10^6 scf landfill gas) x (86.16 lb/lb-mol) x (lb-mol/379.5 scf) x (6,887 scf/min) x (60 min/hr) x (24 hr/day) x (1 – 0.75)
= 758.8 lb/day

Annual PE1 = 758.8 lb/day x 365 days/year = 276,962 lb/year

VOC Emissions from 51 MMBtu/hr Flare

Daily PE1 = (1,348 scf-NMOC/10^6 scf landfill gas) x (86.16 lb/lb-mol) x (lb-mol/379.5 scf) x (6,887 scf/min) x (60 min/hr) x (24 hr/day) x (0.75) x (1 – 0.98) = 45.5 lb/day

Annual PE1 = 45.5 lb/day x 365 days/year = 16,608 lb/year

Emissions from existing 51 MMBtu/hr flare

Pollutant	Daily PE1 – Flare												
	Emission Factors			Heat input			Hours per day			Total			
NO_X	0.05	(lb-NO_X/MMBtu)	x	51	(MMBtu/hr)	x	24	(hr/day)	=	**61.2**	(lb-NO_X/day)
SO_X	0.0178	(lb-SO_X/MMBtu)	x	51	(MMBtu/hr)	x	24	(hr/day)	=	**21.8**	(lb-SO_X/day)
PM_{10}	0.008	(lb-PM_{10}/MMBtu)	x	51	(MMBtu/hr)	x	24	(hr/day)	=	**9.8**	(lb-PM_{10}/day)
CO	0.2	(lb-CO/MMBtu)	x	51	(MMBtu/hr)	x	24	(hr/day)	=	**244.8**	(lb-CO/day)

Pollutant	Daily PE1 – Flare Pilot													
	Emission Factors			Heat Input				Hours per day			Total			
NO_X	0.15	(lb-NO_X/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	24	(hr/day)	=	**0.3**	(lb-NO_X/day)
SO_X	0.0164	(lb-SO_X/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	24	(hr/day)	=	**0.0**	(lb-SO_X/day)
PM_{10}	0.0044	(lb-PM_{10}/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	24	(hr/day)	=	**0.0**	(lb-PM_{10}/day)
CO	0.021	(lb-CO/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	24	(hr/day)	=	**0.0**	(lb-CO/day)
VOC	0.0055	(lb-VOC/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	24	(hr/day)	=	**0.0**	(lb-VOC/day)

Pollutant	Annual PE1 – Flare										
	Emission Factors			Heat input			Hours per year			Total	
NO_X	0.05	(lb-NO_X/MMBtu)	x	51	(MMBtu/hr)	x	8,760	(hr/yr)	=	**22,338**	(lb-NO_X/year)
SO_X	0.0178	(lb-SO_X/MMBtu)	x	51	(MMBtu/hr)	x	8,760	(hr/yr)	=	**7,952**	(lb-SO_X/year)
PM_{10}	0.008	(lb-PM_{10}/MMBtu)	x	51	(MMBtu/hr)	x	8,760	(hr/yr)	=	**3,574**	(lb-PM_{10}/year)
CO	0.2	(lb-CO/MMBtu)	x	51	(MMBtu/hr)	x	8,760	(hr/yr)	=	**89,352**	(lb-CO/year)

Pollutant	Annual PE1 – Flare Pilot													
	Emission Factors			Heat Input				Hours per day				Total	
NO_X	0.15	(lb-NO_X/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	8760	(hr/day)	=	**93**	(lb-NO_X/yr)
SO_X	0.0164	(lb-SO_X/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	8760	(hr/day)	=	**10**	(lb-SO_X/yr)
PM_{10}	0.0044	(lb-PM_{10}/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	8760	(hr/day)	=	**3**	(lb-PM_{10}/yr)
CO	0.021	(lb-CO/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	8760	(hr/day)	=	**13**	(lb-CO/yr)
VOC	0.0055	(lb-VOC/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	8760	(hr/day)	=	**3**	(lb-VOC/yr)

Earthmoving – Soil Cover

The landfill is 367 acres, equivalent to 15,986,520 square feet since 1 acre = 43,560 square feet. With a soil depth of 10 feet, the volume of soil moved per year, assuming the entire landfill is covered, would be 159,865,200 cubic feet of soil (equivalent to 5,920,933 cubic yards). Assuming a soil density of 120 lb/cubic foot (equivalent to 3,240 lb/cubic yard):

5,920,933 cubic yards of soil x 3,240 lb/cubic yard ÷ 2000 lb/ton = 9,591,911 tons of soil

Applying the calculated AP-42 emissions factor of 0.008 lb PM10/ton:

0.008 lb-PM_{10}/ton x 9,591,911 tons = 76,735 lb-PM_{10}/year

76,735 lb-PM_{10}/year x 1 year ÷ 365 days = 210.2 lb-PM_{10}/day

Total PE1:

Daily Pre-Project Potential to Emit (PE1)					
Pollutant	Landfill Fugitive (lb/day)	Flare (lb/day)	Flare Pilot (lb/day)	Earth Moving (lb/day)	PE1 (lb/day)
NO_X	0	61.2	0.3	0	61.5
SO_X	0	21.8	0.0	0	21.8
PM_{10}	0	9.8	0.0	210.2	220.0
CO	0	244.8	0.0	0	244.8
VOC	758.8	45.5	0.0	0	804.3

Annual Pre-Project Potential to Emit (PE1)					
Pollutant	Landfill Fugitive (lb/year)	Flare (lb/year)	Flare Pilot (lb/year)	Earth Moving (lb/year)	PE1 (lb/year)
NO_X	0	22,338	93	0	22,431
SO_X	0	7,952	10	0	7,962
PM_{10}	0	3,574	3	76,735	80,312
CO	0	89,352	13	0	89,365
VOC	276,962	16,608	3	0	293,573

2. Post-Project Potential to Emit (PE2)

Emissions from new 99 MMBtu/hr flare

Pollutant	Daily PE2 - Flare											
	Emission Factors			Heat Input			Hours per day			Daily Emissions		
NO_X	0.057	(lb-NO_X/MMBtu)	x	99	(MMBtu/hr)	x	24	(hr/day)	=	**135.4**	(lb-NO_X/day)
SO_X	0.0178	(lb-SO_X/MMBtu)	x	99	(MMBtu/hr)	x	24	(hr/day)	=	**42.3**	(lb-SO_X/day)
PM_{10}	0.008	(lb-SO_X/MMBtu)	x	99	(MMBtu/hr)	x	24	(hr/day)	=	**19.0**	(lb-PM_{10}/day)
CO	0.110	(lb-CO/MMBtu)	x	99	(MMBtu/hr)	x	24	(hr/day)	=	**261.4**	(lb-CO/day)

Pollutant	Daily PE2 – Flare Pilot													
	Emission Factors			Heat Input					Hours per day			Total		
NO_X	0.15	(lb-NO_X/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	24	(hr/day)	=	**0.3**	(lb-NO_X/day)
SO_X	0.0164	(lb-SO_X/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	24	(hr/day)	=	**0.0**	(lb-SO_X/day)
PM_{10}	0.0044	(lb-PM_{10}/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	24	(hr/day)	=	**0.0**	(lb-PM_{10}/day)
CO	0.021	(lb-CO/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	24	(hr/day)	=	**0.0**	(lb-CO/day)
VOC	0.0055	(lb-VOC/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	24	(hr/day)	=	**0.0**	(lb-VOC/day)

Pollutant	Annual PE2 - Flare									
	Emission Factors			Heat Input			Hours per year			Annual Emissions	
NO_X	0.057	(lb-NO_X/MMBtu)	x	99	(MMBtu/hr)	x	8760	(hr/day)	=	**49,433**	(lb-NO_X/year)
SO_X	0.0178	(lb-SO_X/MMBtu)	x	99	(MMBtu/hr)	x	8760	(hr/day)	=	**15,437**	(lb-SO_X/year)
PM_{10}	0.008	(lb- PM_{10}/MMBtu)	x	99	(MMBtu/hr)	x	8760	(hr/day)	=	**6,938**	(lb-PM_{10}/ year)
CO	0.110	(lb-CO/MMBtu)	x	99	(MMBtu/hr)	x	8760	(hr/day)	=	**95,396**	(lb-CO/year)

Pollutant	Annual PE2 – Flare Pilot													
	Emission Factors			Heat Input					Hours per year			Total		
NO_X	0.15	(lb-NO_X/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	8760	(hr/year)	=	**93**	(lb-NO_X/yr)
SO_X	0.0164	(lb-SO_X/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	8760	(hr/year)	=	**10**	(lb-SO_X/yr)
PM_{10}	0.0044	(lb-PM_{10}/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	8760	(hr/year)	=	**3**	(lb-PM_{10}/yr)
CO	0.021	(lb-CO/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	8760	(hr/year)	=	**13**	(lb-CO/yr)
VOC	0.0055	(lb-VOC/MMBtu)	x	22	(scf/hr)	x	3200	Btu/scf	x	8760	(hr/year)	=	**3**	(lb-VOC/yr)

VOC Emissions from 51 MMBtu/hr and 99 MMBtu/hr Flares

Addition of the new 99 MMBtu/hr flare will not affect the landfill VOC emissions since these emissions are based upon the concentration of the NMOC in the landfill gas and the collection efficiency of 75% and destruction efficiency of 98%.

Daily PE2 = (1,348 scf-NMOC/10^6 scf landfill gas) x (86.16 lb/lb-mol) x (lb-mol/379.5 scf) x (6,887 scf/min) x (60 min/hr) x (24 hr/day) x (0.75) x (1 – 0.98)
= 45.5 lb/day

Annual PE2 = 45.5 lb/day x 365 days/year = 16,608 lb/year

Total PE2:

As previously stated, the facility is not proposing to change the amount of waste acceptance or any emission factors for the existing flare and earth moving operations. Therefore, PE2 for the existing fugitive landfill emissions and existing flare and earth moving operations are equal to PE1.

Daily Post-Project Potential to Emit (PE2)							
Pollutant	Landfill Fugitive (lb/day)	51 MMBtu/hr Flare (lb/day)	99 MMBtu/hr Flare (lb/day)	51 MMBtu/hr Flare Pilot (lb/day)	99 MMBtu/hr Flare Pilot (lb/day)	Earth Moving (lb/day)	PE2 (lb/day)
NO_X	0	61.2	135.4	0.3	0.3	0	197.2
SO_X	0	21.8	42.3	0.0	0.0	0	64.1
PM_{10}	0	9.8	19.0	0.0	0.0	210.2	239.0
CO	0	244.8	261.4	0.0	0.0	0	506.2
VOC	758.8	45.5		0.0	0.0	0	804.3

Annual Post-Project Potential to Emit (PE2)							
Pollutant	Landfill Fugitive (lb/year)	51 MMBtu/hr Flare (lb/year)	99 MMBtu/hr Flare (lb/year)	51 MMBtu/hr Flare Pilot (lb/year)	99 MMBtu/hr Flare Pilot (lb/year)	Earth Moving (lb/year)	PE2 (lb/year)
NO_X	0	22,338	49,433	93	93	0	71,957
SO_X	0	7,952	15,437	10	10	0	23,409
PM_{10}	0	3,574	6,938	3	3	76,735	87,253
CO	0	89,352	95,396	13	13	0	184,774
VOC	276,962	16,608		3	3	0	293,576

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the Pre-Project Stationary Source Potential to Emit (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 that have occurred at the source, and which have not been used on-site.

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
Permit Unit	NO_X	SO_X	PM_{10}	CO	VOC
C-3115-2-11	22,431	7,962	80,312	89,365	293,573
C-3115-3-0	474	0	7	33	12
Pre-Project SSPE (SSPE1)	22,905	7,962	80,319	89,398	293,585

4. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to Section 4.10 of District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) 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 that have occurred at the source, and which have not been used on-site.

Post-Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
Permit Unit	NO_X	SO_X	PM_{10}	CO	VOC
C-3115-2-12	71,957	23,409	87,253	184,774	293,576
C-3115-3-0	474	0	7	33	12
Post-Project SSPE (SSPE2)	72,431	23,409	87,260	184,807	293,588

5. Major Source Determination

Pursuant to District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, for the purposes of determining major source status, the SSPE2 shall not include the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Major Source Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Pre-Project SSPE (SSPE1)	22,905	7,962	80,319	89,398	293,585
Post Project SSPE (SSPE2)	72,431	23,409	87,260	184,807	293,588
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	Yes

As seen in the table above, this facility is an existing Major Source for NOx and VOC emissions and will remain a Major Source for NOx and VOC.

6. Baseline Emissions (BE)

BE = Pre-project Potential to Emit 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 Section 3.22

As shown in Section VII.C.5 above, the facility is a Major Source for NOx emissions.

99 MMBtu/hr Flare

Since this is a new emissions unit, BE = PE1 = 0 for all pollutants.

51 MMBtu/hr Flare

NOx Emissions - Clean Emissions Unit, Located at a Major Source

Pursuant to Rule 2201, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

For NOx emissions, BACT Guideline 1.4.3 (updated January 8, 2001) lists achieved-in-practice BACT for landfill gas vapor collection systems as having a maximum emissions rate of 0.06 lb-NOx/MMBtu. (See copy in Appendix C)

The current permit limits NOx emissions for this unit to 0.05 lb-NOx/MMBtu. Therefore, the unit meets that achieved-in-practice BACT requirement for NOx emissions as applicable five years prior to the submission of the ATC application. Thus, baseline emissions are equal to PE1.

VOC Emissions - Clean Emissions Unit, Located at a Major Source

Pursuant to Rule 2201, Section 3.12, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

For VOC emissions, BACT Guideline 1.4.3 (updated January 8, 2001) lists achieved-in-practice BACT for landfill gas vapor collection systems as a flare with a control efficiency of (= or >) 98% or a controlled VOC (measured as methane) of (= or <) 20 ppmv @ 3% O2. (See copy in Appendix C)

The current permit requires a VOC control efficiency of ≥ 98% or a controlled VOC (measured as methane) of ≤ 20 ppmv @ 3% O2. Therefore, the unit meets that achieved-in-practice BACT requirement for VOC emissions as applicable five years prior to the submission of the ATC application. Thus, baseline emissions are equal to PE1.

SOx, PM10, and CO Emissions – Unit Located at Non-Major Source

Facility emissions for all other criteria pollutants are below Major Source thresholds. Therefore, baseline emissions for SOx, PM10, and CO are equal to PE1.

Baseline Emissions [BE] (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
C-3115-2-12	22,431	7,952	3,577	89,365	16,611

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "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."

As discussed in Section VII.C.5 above, the facility is not a Major Source for SOx, PM10 and VOC emissions; therefore, the project does not constitute a SB 288 Major Modification for SOx, PM10 and VOC emissions.

Since this facility is a major source for NOx, the PE2 for the emission units within this project is compared to the SB 288 Major Modification Threshold in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Threshold (Existing Major Source)			
Pollutant	Project PE (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO_X	22,338 + 49,433 + 93 + 93 = 71,957	50,000	Yes
VOC	16,608 + 3 + 3 = 16,614	50,000	No

Baseline Actual Emissions (BAE)

The baseline actual fuel use values were provided by the applicant. The baseline actual emissions are calculated using the baseline actual fuel use values and the actual source tested emission factor and higher heating values.

Baseline Actual Emissions (BAE)						
Month	**Total Fuel Use (ft^3)**	**Gas Quality (% CH_4)**	**Non-Methane Fuel Use (ft^3)**	**Source Tested Emission Factor (lb-NOx/MMBtu)**	**Source Tested Higher Heating Value (Btu/ft^3)**	**NO_X Emissions (lb/year)**
February 2010	36,869,442	49.4	18,213,504	0.0281	451.5	231
March 2010	20,887,014	50.9	10,631,490			135
April 2010	41,291,856	49.5	20,439,469			259
May 2010	50,487,840	49.4	24,940,993			316
June 2010	47,221,381	50.7	23,941,240			304
July 2010	49,846,675	47.0	23,427,937			297
August 2010	48,789,691	51.9	25,321,850			321
September 2010	37,736,048	51.1	19,283,121			245
October 2010	41,103,870	53.3	21,908,363			278
November 2010	41,924,566	51.5	21,591,151			274
December 2010	55,922,400	47.2	26,395,373			335
January 2011	61,317,225	45.7	28,021,972	0.0250	454.41	318
February 2011	56,672,775	48.7	27,599,641			314
March 2011	64,625,722	49.8	32,183,610			366
April 2011	66,303,387	46.8	31,029,985			353
May 2011	68,530,830	48.0	32,894,798			374
June 2011	66,243,411	48.6	32,194,298			366
July 2011	68,675,556	46.4	31,865,458			362
August 2011	68,427,320	46.2	31,613,422			359
September 2011	62,683,906	47.2	29,586,804			336
October 2011	66,456,062	48.2	32,031,822			364
November 2011	66,441,031	45.3	30,097,787			342
December 2011	68,398,788	44.8	30,642,657			348
January 2012	68,627,540	45.8	31,431,413			357
Total						7,553
Annual Average						3,777

Potential to Emit (PE)

As shown above, the Potential to Emit values are as follows:

Potential to Emit (PE2)	
Pollutant	**PE2 (lb/year)**
NOx	71,957

Net Emissions Increase

Net Emissions Increase (NEI) is calculated as follows:

NEI = PE2 – BAE

Net Emissions Increase (NEI)				
Pollutant	**PE2**	**BAE**	**NEI (lb/year)**	**NEI (ton/year)**
NOx	71,957	3,777	68,180	34.1

SB 288 Major Modification Thresholds (Existing Major Source)			
Pollutant	NEI (lb/year)	Threshold (lb/year)	SB 288 Major Modification?
NO_x	68,180	50,000	Yes

The NEI for this project will be greater than the SB288 Major Modification thresholds for NO_X. Therefore, this project does not qualify for a "Less-Than-Significant Emissions Increase" exclusion and is thus determined to be a SB288 Major Modification for NO_X.

8. Federal Major Modification

As discussed in Section VII.C.5 above, the facility is not a Major Source for SOx or PM10 emissions; therefore, the project does not constitute a Federal Major Modification for SOx or PM10 emissions. However, a determination of Federal Major Modification must be made for NOx and VOC emissions.

District Rule 2201, states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA. SB 288 Major Modifications are not federal major modifications if they meet the criteria of the "Less-Than-Significant Emissions Increase" exclusion.

A Less-Than-Significant Emissions Increase exclusion is for an emissions increase for the project, or a Net Emissions Increase for the project (as defined in 40 CFR 51.165 (a)(2)(ii)(B) through (D), and (F)), that is not significant for a given regulated NSR pollutant, and therefore is not a federal major modification for that pollutant.

- To determine the post-project projected actual emissions from existing units, the provisions of 40 CFR 51.165 (a)(1)(xxviii) shall be used.
- To determine the pre-project baseline actual emissions, the provisions of 40 CFR 51.165 (a)(1)(xxxv)(A) through (D) shall be used.
- If the project is determined not to be a federal major modification pursuant to the provisions of 40 CFR 51.165 (a)(2)(ii)(B), but there is a reasonable possibility that the project may result in a significant emissions increase, the owner or operator shall comply with all of the provisions of 40 CFR 51.165 (a)(6) and (a)(7).
- Emissions increases calculated pursuant to this section are significant if they exceed the significance thresholds specified in the table below.

Significant Threshold (lb/year)	
Pollutant	Threshold (lb/year)
NOx	0
VOC	0

The Net Emissions Increases (NEI) for purposes of determination of a "Less-Than-Significant Emissions Increase" exclusion will be calculated below to determine if this project qualifies for such an exclusion.

Net Emission Increase for New Units (NEI_N)

Per 40 CFR 51.165 (a)(2)(ii)(D) for new ernissions units in this project,

$NEI_N = PE2_N - BAE$

Since the 99 MMBtu/hr flare is a new unit, BAE for this unit is zero and,

$NEI_N = PE2_N$

where $PE2_N$ is the Post Project Potential to Emit for the new emission unit.

NEI_N (NOx) = $PE2_N$ (NOx) = 49,433 + 93 = 49,526 lb-NOx/year
NEI_N (VOC) = $PE2_N$ (VOC) = 16,608 + 3 = 16,611 lb-VOC/year

The NEI for this project is thus calculated as follows:

$NEI = NEI_N$

NEI (NOx) = 49,526 lb-NOx/year
NEI (VOC) = 16,611 lb-VOC/year

The NEI for this project will be greater than the federal Major Modification threshold of 0 lb/year for NOx and VOC. Therefore, this project does not qualify for a "Less-Than-Significant Emissions Increase" exclusion and is thus determined to be a Federal Major Modification for NOx and VOC.

9. 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.

VI. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

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 AIPE exceeding two pounds per day, and/or
d. Any new or modified emissions unit, in a stationary source project, which results in an SB288 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.

Installation of the new 99 MMBtu/hr flare will be solely to control the additional landfill gas produced from Fill Area III. There is no proposed change in the waste acceptance rate of the landfill. 40 CFR Part 62 Subpart GGG requires control of landfill gas in waste that has been in place for 5 years or longer. The waste in Fill Area III has been in place for 5 years or longer and therefore, the installation of the 99 MMBtu/hr flare in this project qualifies as a modification solely for compliance of District, State, or Federal air pollution control laws, regulations, or orders.

BACT shall not be required for the following:

4.2.3 For existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, as approved by the APCO, shall be exempt from Best Available Control Technology for all air pollutants, provided all of the following conditions are met:

4.2.3.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;
4.2.3.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
4.2.3.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and

4.2.3.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO_x, or 25 tons per year of VOC, or 15 tons per year of SO_X, or 15 tons per year of PM10, or 50 tons per year of CO.

Each of the above-listed criteria are met, and BACT is not triggered for any pollutant.

B. Offsets

1. Offset Applicability

Installation of the new 99 MMBtu/hr flare will be solely to control the additional landfill gas produced from Fill Area III. There is no proposed change in the waste acceptance rate of the landfill. 40 CFR Part 62 Subpart GGG requires control of landfill gas in waste that has been in place for 5 years or longer. The waste in Fill Area III has been in place for 5 years or longer and therefore, the installation of the 99 MMBtu/hr flare in this project qualifies as a modification solely for compliance of District, State, or Federal air pollution control laws, regulations, or orders.

As stated above, the proposed modifications are solely for compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, and are exempt from offsets if the following criteria are satisfied. Rule 2201, Section 4.6.8 provides the following exemption from offsets.

Emission offsets shall not be required for the following:

4.6.8 For existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, as approved by the APCO, shall be exempt from offset requirements for all air pollutants provided all of the following conditions are met:

4.6.8.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;

4.6.8.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;

4.6.8.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and

4.6.8.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO_x, or 25 tons per year of VOC, or 15 tons per year of SO_x, or 15 tons per year of PM-10, or 50 tons per year of CO.

Since the above-listed criteria are met, offsets are not triggered for any pollutant.

2. Quantity of Offsets Required

As seen above, the project meets the exemption requirements of section 4.6.8 of District Rule 2201; therefore offset calculations are not necessary and offsets are not required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:
a. New Major Sources, Federal Major Modifications, and SB288 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, and/or
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Sources, Federal Major Modifications, and SB288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in VII.C.7, this project is an SB 288 and Federal Major Modification for NOx and VOC. Therefore, public noticing for SB 288 and Federal Major Modification purposes is required.

b. PE > 100 lb/day

The PE2 for this new unit is compared to the daily PE Public Notice thresholds in the following table:

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO_X	135.7	100 lb/day	Yes
SO_X	42.3	100 lb/day	No
PM_{10}	19.0	100 lb/day	No
CO	261.4	100 lb/day	Yes
VOC	45.5	100 lb/day	No

Therefore, public noticing for PE > 100 lb/day purposes is required.

c. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO_X	22,905	72,431	20,000 lb/year	No
SO_X	7,962	23,409	54,750 lb/year	No
PM_{10}	80,319	87,260	29,200 lb/year	No
CO	89,398	184,807	200,000 lb/year	No
VOC	293,585	293,588	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. The values for SSPE1 and SSPE2 are calculated according to Rule 2201. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	72,431	22,905	49,526	20,000 lb/year	Yes
SO_x	23,409	7,962	15,447	20,000 lb/year	No
PM_{10}	87,260	80,319	6,941	20,000 lb/year	No
CO	184,807	89,398	95,409	20,000 lb/year	Yes
VOC	293,588	293,585	3	20,000 lb/year	No

As demonstrated above, the SSIPEs for NO_X and CO were greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

2. Public Notice Action

As discussed above, public noticing is required for this project for triggering SB 288 Major Modification for NOx, Federal Major Modification for NOx and VOC, for NO_X and CO emissions in excess of 100 lb/day, and for SSIPE of more than 20,000 lb/year for NOx and CO. Therefore, public notice documents will be submitted to the California Air

Resources Board (CARB), US Environmental Protection Agency (EPA), and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required 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.

Proposed Rule 2201 (DEL) Conditions:

- VOC emissions from this landfill operation controlled with the 51 MMBtu/hr and 99 MMBtu/hr enclosed flares shall not exceed 804.3 lb/day (includes landfill fugitive, flare landfill gas, flare pilot, and flare condensate emissions). [District Rule 2201]
- The landfill gas consumption rate for the 51 MMBtu/hr enclosed flare shall not exceed 51 MMBtu/hr. Heat input shall be calculated daily using landfill gas flow into the flare (cubic feet per minute) and the annually tested landfill gas heat content (Btu/cubic foot). [District Rule 2201]
- The landfill gas consumption rate for the 99 MMBtu/hr enclosed flare shall not exceed 99 MMBtu/hr. Heat input shall be calculated daily using landfill gas flow into the flare (cubic feet per minute) and the annually tested landfill gas heat content (Btu/cubic foot). [District Rule 2201]
- The enclosed flares shall either reduce VOC by 98 weight percent or reduce the outlet VOC concentration to less than 20 parts per million by volume, dry basis as methane at 3 percent oxygen. [District Rule 2201 and 4102; 40 CFR 60.752(b)(2)(iii)((B)]
- Emissions from the 51 MMBtu/hr enclosed flare shall not exceed any of the following limits: 0.05 lb-NOx/MMBtu; 0.0178 lb-SOx/MMBtu (46.9 ppmv of H2S in fuel); 0.2 lb-CO/MMBtu; or 0.008 lb-PM10/MMBtu. [District Rule 2201]
- Emissions from the 99 MMBtu/hr enclosed flare shall not exceed any of the following limits: 0.057 lb-NOx/MMBtu; 0.0178 lb-SOx/MMBtu (46.9 ppmv of H2S in fuel); 0.110 lb-CO/MMBtu; or 0.008 lb-PM10/MMBtu. [District Rule 2201]
- Emissions from the flare LPG-fired pilot shall not exceed any of the following limits: 0.15 lb-NOx/MMBtu, 0.0164 lb-SOx/MMBtu, 0.0044 lb-PM10/MMBtu, 0.021 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201]
- Landfill design capacity shall not exceed 44.4 million cubic meters, or 367 acres, of solid waste. Annual amount of refuse received shall not exceed 1,300,000 ton/year. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

The following source testing requirements on the current permit will be carried over to the proposed ATC:

- Source testing on the 99 MMBtu/hr flare shall be performed to demonstrate compliance with the flare NOx and CO limits, and the NMOC destruction efficiency of 98% as required by this permit shall be conducted within 180 days of startup. [District Rule 2201]
- Source testing to demonstrate compliance with VOC, NOx, and CO emission limits and VOC control efficiency requirements shall be conducted at least once every 12 months for each flare. [District Rule 2201]
- Source testing for NOx shall be conducted using EPA Test Method 7E or CARB Method 100. [District Rule 1081]
- Source testing for CO shall be conducted using EPA Test Method 10 or 10B, CARB Methods 1-5 with 10 or CARB Test Method 100. [District Rule 1081]
- Gas combusted in the flares shall be tested for H2S content on a quarterly basis using draeger tubes. If compliance is shown for two consecutive quarters, the testing frequency may be changed to annual. Quarterly testing shall resume if any annual test shows noncompliance. [District Rule 1081]
- VOC emissions shall be measured by USEPA Test Method 18, 25, 25A, or 25C. [District Rule 1081 and 40 CFR 60.754(d) and 62.14354(b)]

2. Monitoring

The following monitoring requirements on the current permit will be carried over to the proposed ATC:

- Landfill gas condensate can be injected into the enclosed flares. [District Rule 2201]
- The enclosed flares shall be equipped with automatic dampers, an automatic shutdown device, and a flame arrester. [District Rule 2201]

Intermediate and final soil cover emissions were not previously expressed on the facility's operating permit, but will be as a result of this project. These emissions are considered part of the facility's baseline emissions.

- Annual amount of soil used for covering shall not exceed 5,920,933 cubic yards of soil, and PM10 emissions shall not exceed 0.008 lb PM10/ton of soil (using a soil density of 3,240 lbs/cubic yard of soil). Permittee shall keep annual records of the amount of soil used for covering. [District Rule 2201]

3. Recordkeeping

The following recordkeeping requirements on the current permit will be carried over to the proposed ATC:

- Landfill gas condensate can be injected into the enclosed flares. [District Rule 2201]
- The operator shall record emission control device source tests including VOC destruction/treatment efficiency and emissions of CO, NOx, and SOx, in pounds per MMBtu heat input. [District Rule 1081]
- All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 1070 and 40 CFR 60.758(a) and (b)]

4. Reporting

The following reporting requirements on the current permit will be carried over to the proposed ATC:

- Source sampling to determine the compliance status of an emissions source shall be witnessed or authorized by District personnel. [District Rule 1081]
- 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 Rule 1081]
- The operator shall record emission control device source tests including VOC destruction/treatment efficiency and emissions of CO, NOx, and SOx, in pounds per MMBtu heat input. [District Rule 1081]

Soil Cover

Soil cover emissions were not previously expressed on the facility's operating permit, but will be as a result of this project. These emissions are considered part of the facility's baseline emissions. For recordkeeping purposes the amount and density of soil will be converted to the following:

159,865,200 cu.ft x 1 cu.yd. ÷ 27 cu.ft. = 5,920,933

120 lb/cu.ft. x 27 cu.ft. ÷ cu.yd. = 3,240 lb/cu.yd.

- Annual amount of soil used for covering shall not exceed 5,920,933 cubic yards of soil, and PM10 emissions shall not exceed 0.008 lb PM10/ton of soil (using a soil density of 3,240 lbs/cubic yard of soil). Permittee shall keep annual records of the amount of soil used for covering. [District Rule 2201]

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The

District's Technical Services Division conducted the required analysis. Refer to Appendix G of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO_X, CO, and SO_X. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_X, CO, or SO_X.

The proposed location is in a non-attainment area for PM_{10}. The increase in the ambient PM_{10} concentration due to the proposed equipment is shown on the table titled Calculated Contribution. The levels of significance, from 40 CFR Part 51.165 (b)(2), are shown on the table titled Significance Levels.

Significance Levels					
Pollutant	Significance Levels ($\mu g/m^3$) - 40 CFR Part 51.165 (b)(2)				
	Annual Avg.	24 hr Avg.	8 hr Avg.	3 hr Avg.	1 hr Avg.
PM_{10}	1.0	5	N/A	N/A	N/A
$PM_{2.5}$	0.3	1.2	N/A	N/A	N/A

Calculated Contribution					
Pollutant	Calculated Contributions ($\mu g/m^3$)				
	Annual Avg.	24 hr Avg.	8 hr Avg.	3 hr Avg.	1 hr Avg.
PM_{10}	0.2	1.0	N/A	N/A	N/A
$PM_{2.5}$	0.2	1.0	N/A	N/A	N/A

As shown, the calculated contribution of PM_{10} and $PM_{2.5}$ will not exceed the EPA significance level. This project is not expected to cause or make worse a violation of an air quality standard.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Title I Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Sections VIII-Rule 2201-C.1.a and VIII-Rule 2201-C.1.b, this facility is a major source and this project does constitute a Title I modification, therefore this requirement is applicable. Included in Appendix E is the facility's compliance certification.

H. Alternative Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install a new enclosed ground flare to service as a control device for its existing landfill gas collection and control system.

Since the project is for an emissions control device used to control landfill gas resulting from waste already disposed of at the same location, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or

construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule. Section 3.29 defines a significant permit modification as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

Section 3.20.5 states that a minor permit modification is a permit modification that does not meet the definition of modification as given in Section 111 or Section 112 of the Federal Clean Air Act. Since this project is a Title I modification (i.e. Federal Major Modification), the proposed project is considered to be a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit pursuant to Section 3.29.

As discussed above, the facility has applied for a Certificate of Conformity (COC) (see Appendix F); 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 shall not implement the changes requested until the final permit is issued.

Rule 4001 New Source Performance Standards

As clarified in EPA's Municipal Solid Waste Landfills, Volume 1: Summary of the Requirements for the New Source Performance Standards and Emission Guidelines for Municipal Solid Waste Landfills, existing (construction, modification, or reconstruction commenced prior to May 30, 1991) landfills are subject to Subpart Cc which must be implemented through either a State Plan or a Federal Plan. Per the Federal Register (Vol. 64, No. 184 / Thursday, September 23, 1999 / Rules and Regulations 51447), the permit unit is subject to the Federal Plan (40 CFR 62 Subpart GGG) because the San Joaquin Valley Unified Air Pollution Control District has not submitted its portion to the California State Plan.

40 CFR 62 Subpart GGG

Per 40 CFR 62.14350(a), this subpart applies to "designated" landfills not covered by an EPA approved and currently effective State Plan. Since this facility is not covered by the California State Plan as explained above and satisfies the "designated" definition in 40 CFR 62.14352(a), this subpart is applicable.

Section 62.14353(b) states the owner or operator of a designated facility having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters must comply with the requirements of 40 CFR 60.752(b) in addition to the applicable reporting and recordkeeping requirements specified in this subpart.

Section 62.14354(b) states the owner or operator of a designated facility with a gas collection and control system used to comply with Section 62.14353(b) must comply with the operational standards in 40 CFR 60.753; the test procedures in 40 CFR 60.754(b) and (d); the compliance

provisions in 40 CFR 60.755; and the monitoring provisions in 40 CFR 60.756, unless alternative procedures have been approved.

60.752(b): Each owner or operator of an MSW landfill having a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters, shall either comply with paragraph (b)(2) of this section or calculate an NMOC emission rate for the landfill using the procedures specified in §60.754. The NMOC emission rate shall be recalculated annually, except as provided in §60.757(b)(1)(ii) of this subpart. The owner or operator of an MSW landfill subject to this subpart with a design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters is subject to part 70 or 71 permitting requirements.

(b)(1): If the calculated NMOC emission rate is less than 50 megagrams per year, the owner or operator shall:

(b)(1)(i): Submit an annual emission report to the Administrator, except as provided for in §60.757(b)(1)(ii); and

(b)(1)(ii): Recalculate the NMOC emission rate annually using the procedures specified in §60.754(a)(1) until such time as the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, or the landfill is closed.

(b)(1)(ii)(A): If the NMOC emission rate, upon recalculation required in paragraph (b)(1)(ii) of this section, is equal to or greater than 50 megagrams per year, the owner or operator shall install a collection and control system in compliance with paragraph (b)(2) of this section.

(b)(1)(ii)(B): If the landfill is permanently closed, a closure notification shall be submitted to the Administrator as provided for in §60.757(d).

(b)(2): If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, the owner or operator shall:

(b)(2)(i): Submit a collection and control system design plan prepared by a professional engineer to the Administrator within 1 year:

(b)(2)(i)(A): The collection and control system as described in the plan shall meet the design requirements of paragraph (b)(2)(ii) of this section.

(b)(2)(i)(B): The collection and control system design plan shall include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions of §§60.753 through 60.758 proposed by the owner or operator.

(b)(2)(i)(C): The collection and control system design plan shall either conform with specifications for active collection systems in §60.759 or include a demonstration to the Administrator's satisfaction of the sufficiency of the alternative provisions to §60.759.

(b)(2)(i)(D): The Administrator shall review the information submitted under paragraphs (b)(2)(i) (A),(B) and (C) of this section and either approve it, disapprove it, or request that additional information be submitted. Because of the many site-specific factors involved with landfill gas system design, alternative systems may be necessary. A wide variety of system designs are possible, such as vertical wells, combination horizontal and vertical collection systems, or horizontal trenches only, leachate collection components, and passive systems.

(b)(2)(ii): Install a collection and control system that captures the gas generated within the landfill as required by paragraphs (b)(2)(ii)(A) or (B) and (b)(2)(iii) of this section within 30 months after the first annual report in which the emission rate equals or exceeds 50 megagrams per year, unless Tier 2 or Tier 3 sampling demonstrates that the emission rate is less than 50 megagrams per year, as specified in §60.757(c)(1) or (2).

(b)(2)(ii)(A): An active collection system shall:

(b)(2)(ii)(A)(1): Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;

(b)(2)(ii)(A)(2): Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of:

(b)(2)(ii)(A)(2)(i): 5 years or more if active; or

(b)(2)(ii)(A)(2)(ii):2 years or more if closed or at final grade.

(b)(2)(ii)(A)(3): Collect gas at a sufficient extraction rate;

(b)(2)(ii)(A)(4): Be designed to minimize off-site migration of subsurface gas.

(b)(2)(ii)(B): A passive collection system shall:

(b)(2)(ii)(B)(1): Comply with the provisions specified in paragraphs (b)(2)(ii)(A)(1), (2), and (2)(ii)(A)(4) of this section.

(b)(2)(ii)(B)(2): Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners shall be installed as required under §258.40.

(b)(2)(iii): Route all the collected gas to a control system that complies with the requirements in either paragraph (b)(2)(iii) (A), (B) or (C) of this section.

(b)(2)(iii)(A): An open flare designed and operated in accordance with §60.18 except as noted in §60.754(e);

(b)(2)(iii)(B): A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. The reduction efficiency or parts per million by volume shall be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in §60.754(d).

(b)(2)(iii)(B)(1): If a boiler or process heater is used as the control device, the landfill gas stream shall be introduced into the flame zone.

(b)(2)(iii)(B)(2): The control device shall be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified in §60.756;

(b)(2)(iii)(C): Route the collected gas to a treatment system that processes the collected gas for subsequent sale or use. All emissions from any atmospheric vent from the gas treatment system shall be subject to the requirements of paragraph (b)(2)(iii) (A) or (B) of this section.

(b)(2)(iv): Operate the collection and control device installed to comply with this subpart in accordance with the provisions of §§60.753, 60.755 and 60.756.

(b)(2)(v): The collection and control system may be capped or removed provided that all the conditions of paragraphs (b)(2)(v) (A), (B), and (C) of this section are met:

(b)(2)(v)(A): The landfill shall be a closed landfill as defined in §60.751 of this subpart. A closure report shall be submitted to the Administrator as provided in §60.757(d);

(b)(2)(v)(B): The collection and control system shall have been in operation a minimum of 15 years; and

(b)(2)(v)(C): Following the procedures specified in §60.754(b) of this subpart, the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart.

The following conditions will be listed on the ATC to ensure compliance:

- 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 and 40 CFR Part 60.752(b)(2)(iii)(B)(2) and (b)(2)(iv), and 62.14353(b)]
- The enclosed flare control devices shall be operated within the parameter ranges established during the initial or most recent performance test. [40 CFR 60.752(b)(2)(iii)(B)(2) and 62.14353(b)]

- An active collection system shall be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment, collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade, collect gas at a sufficient extraction rate, and be designed to minimize off-site migration of subsurface gas. [40 CFR 60.752(b)(2)(ii)(A) and 62.14353(b)]
- The enclosed flares shall either reduce VOC by 98 weight percent or reduce the outlet VOC concentration to less than 20 parts per million by volume, dry basis as methane at 3 percent oxygen. [District Rules 2201 and 4102, and 40 CFR 60.752(b)(2)(iii)(B) and 62.14353(b)]
- This operating permit may be cancelled upon District approval when the landfill is closed, is not otherwise subject to the requirements of 40 CFR part 70 or part 71, and if the landfill meets the conditions for control system removal specified in 40 CFR 60.752(b)(2)(v). [40 CFR 62.14352(f)]
- 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 62.14354(b)]
- For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, owner or operator must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR Part 62 subpart GGG, these alternatives can be used to comply with 40 CFR 63 subpart AAAA, except that all affected sources must comply with the startup, shutdown, and malfunction (SSM) requirements in subpart A of 40 CFR 63 as specified in Table 1 of 40 CFR 63 subpart AAAA and all affected sources must submit compliance reports every 6 months as specified in 40 CFR 63.1980(a) and (b), including information on all deviations that occurred during the 6 month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average. [40 CFR 60.752(b)(2) and 63.1955(c)]

60.753(a): Operate the collection system such that the gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:

(a)(1): 5 years or more if active; or

(a)(2): 2 years or more if closed or at final grade;

(b): Operate the collection system with negative pressure at each wellhead, except under the following conditions:

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

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

(c): Operate each wellhead in the collection system with a landfill gas temperature less than 55 °C and with either a nitrogen level less than 20 percent or and oxygen content less than percent. However, the owner/operator may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

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

(e): Operate the system such that all collected gasses are vented to a control system designed and operated in compliance with 60.752(b)(2)(ii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves contributing to venting of the gas to the atmosphere shall be closed within one hour.

(f): Operate the control system at all times when the collected gas is routed to the system.

(g): If monitoring demonstrates that the operational requirements in paragraphs (b), (c), or (d) of this section are not met, corrective action shall be taken as specified in §60.755(a)(3) through (5) or §60.755(c) of this subpart. If corrective actions are taken as specified in §60.755, the monitored exceedance is not a violation of the operational requirements in this section.

The following conditions will be listed on the ATC to ensure compliance:

- In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour. [40 CFR 60.753(e) and 62.14354(b)]
- Permittee shall operate the landfill gas collection system with negative pressure at each wellhead except under the following conditions: (1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to

avoid a fire. These records shall be submitted with the annual reports ass provided in 60.757(f)(1); (2) At a wellhead within the immediate vicinity of filling; (3) Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan; (4) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the APCO. [40 CFR 60.753(b) and 62.14354(b)]

- The owner or operator shall monitor each interior well monthly for temperature and oxygen as provided in 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. [40 CFR 60.753(c), 60.755(a)(3) and (a)(5), 60.756(a)(2) and (a)(3), and 62.14354(b)]
- Permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. [40 CFR 60.753(d), 60.755(c)(1) and 62.14354(b)]
- Permittee shall operate the enclosed flares at all times when the collected gas is routed to it. [40 CFR 60.753(f) and 62.14354(b)]
- Permittee shall operate the landfill gas collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for: (1) five years or more if active; or (2) two years or more if closed or at final grade. [40 CFR 60.753(a) and 62.14354(b)]
- Permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 C and with oxygen level less than 5 percent except under the following conditions: (1) A fire or increased well temperature; or (2) at a wellhead within the immediate vicinity of filling. The owner or operator may establish a higher operating temperature or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decompositions by killing methanogens.. [40 CFR 60.753(c) and 62.14354(b)]
- The collection system shall be operated so that the methane concentration is less than 500 parts per million above background at the surface of the landfill, and such that all collected gases are sent to a control system designed and operated in compliance with 60.752(b)(2)(iii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour. [40 CFR 60.753(d), (e), 60.755(c), and 62.14354(b)]

- If monitoring demonstrates that the operational requirements are not met, corrective action shall be taken as specified in 40 CFR 60.755(a)(3 - 5) or (c). [40 CFR 60.753(g) and 62.14354(b)]
- For each interior wellhead, unless an alternative test method is established as allowed by 60.752(b)(2)(i) of this subpart, the oxygen shall be determined by a Landtec GEM gas meter or equal, in accordance with the equipment requirements set forth in 40 CFR 60.753 for field measurement of temperature and oxygen or an oxygen meter using Method 3A or 3C except that: (i) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span; (ii) A data recorder is not required; (iii) Only two calibration gases are required, a zero and span, and ambient air may be used as the span; (iv) A calibration error check is not required; (v) The allowable sample bias, zero drift, and calibration drift are +-10 percent. [40 CFR 60.753(c)(2) and 62.14354(b)]
- Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in 40 CFR 60.755(c)(4)(i-v) shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of 60.753(d). [40 CFR 60.755(c)(3), (4) and 62.14354(b)]

60.754(b): After the installation of a collection and control system in compliance with §60.755, the owner or operator shall calculate the NMOC emission rate for purposes of determining when the system can be removed as provided in §60.752(b)(2)(v), using the following equation:

$$M_{NMOC} = 1.89 \times 10^{-3} Q_{LFG} C_{NMOC}$$

(b)(1): The flow rate of landfill gas, Q_{LFG}, shall be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control device using a gas flow measuring device calibrated according to the provisions of section 4 of Method 2E of appendix A of this part.

(b)(2): The average NMOC concentration, C_{NMOC}, shall be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in Method 25C or Method 18 of appendix A of this part. If using Method 18 of appendix A of this part, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP–42). The sample location on the common header pipe shall be before any condensate removal or other gas refining units. The landfill owner or operator shall divide the NMOC concentration from Method 25C of appendix A of this part by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane.

(b)(3): The owner or operator may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator.

60.754(d): For the performance test required in §60.752(b)(2)(iii)(B), Method 25, 25C, or Method 18 of appendix A of this part must be used to determine compliance with the 98 weight-percent efficiency or the 20 ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the Administrator as provided by §60.752(b)(2)(i)(B). Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. If using Method 18 of appendix A of this part, the rninimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP–42). The following equation shall be used to calculate efficiency:

Control Efficiency = $(NMOC_{in} - NMOC_{out})/(NMOC_{in})$

The following conditions will be listed on the ATC to ensure compliance:

- VOC emissions shall be measured by USEPA Test Method 18, 25, 25A, or 25C. [District Rule 1081 and 40 CFR 60.754(d) and 62.14354(b)]
- Permittee shall calculate the NMOC emission rate for purposes of determining when the collection and control system can be removed as provided in 40 CFR 60.752(b)(2)(v) by using the equation found in 40 CFR 60.754(b). [40 CFR 60.754(b) and 62.14354(b)]
- For the performance test required in 60.752(b)(2)(iii)(B), Method 25, 25C, or Method 18 of Appendix A must be used to determine compliance with the 98 weight percent efficiency or the 20 ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the APCO as provided by 60.752(b)(2)(i)(B). Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. If using Method 18 of appendix A, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The following equation shall be used to calculate efficiency: $(NMOC_{in} - NMOC_{out})/NMOC_{in}$. 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 15 days prior to testing. [District Rule 1081 and 40 CFR 60.754(d) and 62.14354(b)]

60.755(a): Except as provided in §60.752(b)(2)(i)(B), the specified methods in paragraphs (a)(1) through (a)(6) of this section shall be used to determine whether the gas collection system is in compliance with §60.752(b)(2)(ii).

(a)(1): For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with §60.752(b)(2)(ii)(A)(1), one of the following equations shall be used. The k and $L_o$kinetic factors should be those published in the most recent Compilation of Air Pollutant Emission Factors (AP–42) or other site specific values demonstrated to be appropriate and approved by the Administrator. If k has been determined as specified in §60.754(a)(4), the value of k determined from the test shall be used. A value of no more than 15 years shall be used for the intended use period of the gas mover equipment. The

active life of the landfill is the age of the landfill plus the estimated number of years until closure.

(a)(1)(i): For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_oR\ (e^{-kc} - e^{-kt})$$

(a)(1)(ii): For sites with known year-to-year solid waste acceptance rate:

$$Q_M = \sum_{i=1}^{n} 2\,k\,L_o\,M_i\left(e^{-kt_i}\right)$$

(a)(1)(iii): If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, the equations in paragraphs (a)(1) (i) and (ii) of this section. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using the equations in paragraphs (a)(1) (i) or (ii) or other methods shall be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.

(a)(2): For the purposes of determining sufficient density of gas collectors for compliance with §60.752(b)(2)(ii)(A)(2), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Administrator, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.

(a)(3): For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with §60.752(b)(2)(ii)(A)(3), the owner or operator shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days, except for the three conditions allowed under §60.753(b). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.

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

(a)(5): For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator shall monitor each well monthly for temperature and nitrogen or oxygen as provided in §60.753(c). If a well exceeds one of these

operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.

(a)(6): An owner or operator seeking to demonstrate compliance with §60.752(b)(2)(ii)(A)(4) through the use of a collection system not conforming to the specifications provided in §60.759 shall provide information satisfactory to the Administrator as specified in §60.752(b)(2)(i)(C) demonstrating that offsite migration is being controlled.

(b): For purposes of compliance with §60.753(a), each owner or operator of a controlled landfill shall place each well or design component as specified in the approved design plan as provided in §60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of:

(b)(1): 5 years or more if active; or

(b)(2): 2 years or more if closed or at final grade.

(c): The following procedures shall be used for compliance with the surface methane operational standard as provided in §60.753(d).

(c)(1): After installation of the collection system, the owner or operator shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in paragraph (d) of this section.

(c)(2): The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.

(c)(3): Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A of this part, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.

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

(c)(4)(i): The location of each monitored exceedance shall be marked and the location recorded.

(c)(4)(ii): Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance.

(c)(4)(iii): If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the remonitoring shows a third exceedance for the same location, the action specified in paragraph (c)(4)(v) of this section shall be taken, and no further monitoring of that location is required until the action specified in paragraph (c)(4)(v) has been taken.

(c)(4)(iv): Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in paragraph (c)(4) (ii) or (iii) of this section shall be re-monitored 1 month from the initial exceedance. If the 1-month remonitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month remonitoring shows an exceedance, the actions specified in paragraph (c)(4) (iii) or (v) shall be taken.

(c)(4)(v): For any location where monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Administrator for approval.

(c)(5): The owner or operator shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

(d): Each owner or operator seeking to comply with the provisions in paragraph (c) of this section shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices:

(d)(1): The portable analyzer shall meet the instrument specifications provided in section 3 of Method 21 of appendix A of this part, except that "methane" shall replace all references to VOC.

(d)(2): The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.

(d)(3): To meet the performance evaluation requirements in section 3.1.3 of Method 21 of appendix A of this part, the instrument evaluation procedures of section 4.4 of Method 21 of appendix A of this part shall be used.

(d)(4): The calibration procedures provided in section 4.2 of Method 21 of appendix A of this part shall be followed immediately before commencing a surface monitoring survey.

(e): The provisions of this subpart apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices.

The following conditions will be listed on the ATC to ensure compliance:

- All equipment shall be constructed, calibrated, maintained and operated according to the specifications and plans contained in the permit application except as otherwise specified herein. [District Rule 2201 and 40 CFR 60.755(d), 60.756(b), 62.14354(b) and 40 CFR part 64]
- Except during periods of startup, shutdown, and malfunction, the permittee shall continuously monitor and record combustion chamber temperature. The enclosed flare average combustion temperature, for all 3-hour periods of operation, shall not drop more than 28 degrees C below the average combustion temperature, during the most recent performance test at which compliance with 60.752(b)(2)(iii)(B)(2) was determined. Upon detecting any temperature excursion lower than 28 degree C (50 degree F) below the source test average combustion temperature, averaged over a 3-hour period, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. Duration of startup, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for control devices where free venting of landfill gas occurs. [40 CFR 60.758(c)(1)(i), 60.755(e), 62.14354(b), and 40 CFR part 64]
- The owner or operator shall measure the gauge pressure in the gas collection header at each individual interior well on a monthly basis as provided in 60.755(a)(3). If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. [40 CFR 60.755(a)(3), 60.756(a)(1), and 62.14354(b)]
- The owner or operator shall monitor each interior well monthly for temperature and oxygen as provided in 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the

exceedance may be submitted to the Administrator for approval. [40 CFR 60.753(c), 60.755(a)(3) and (a)(5), 60.756(a)(2) and (a)(3), and 62.14354(b)]

- Each owner or operator shall place each well or design component as specified in the approved design plan as provided in 40 CFR 60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of: 1) 5 years or more if active or 2) 2 years or more if closed or at final grade. [40 CFR 60.755(b) and 62.14354(b)]
- Permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. [40 CFR 60.753(d), 60.755(c)(1) and 62.14354(b)]
- The operator shall record quarterly the surface emission tests including test time, weather conditions, precipitation records, areas sampled, calibration records, and test results. Corrective action shall be taken if required in accordance to 40 CFR 60.755(c). [District Rule 2201, 40 CFR 60.755(c), 60.756(f), and 62.14354(b)]
- For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with 60.752(b)(2)(ii)(A)(1), one of the equations in Section 60.755(a)(1)(i) or (ii) or (iii) shall be used. [40 CFR 60.755(a)(1) and 62.14354(b)]
- For the purposes of determining sufficient density of gas collectors for compliance with 60.752(b)(2)(ii)(A)(2), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the APCO, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards. [40 CFR 60.755(a)(2) and 62.14354(b)]
- Owners or operators are not required to expand the system as required in paragraph 60.755(a)(3) during the first 180 days after gas collection system startup. [40 CFR 60.755(a)(4) and 62.14354(b)]
- The collection system shall be operated so that the methane concentration is less than 500 parts per million above background at the surface of the landfill, and such that all collected gases are sent to a control system designed and operated in compliance with 60.752(b)(2)(iii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour. [40 CFR 60.753(d), (e), 60.755(c), and 62.14354(b)]
- The provisions of this subpart apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices. [40 CFR 60.755(e) and 62.14354(b)]
- Surface monitoring shall be performed on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.755(d). [40 CFR 60.755(c)(1) and 62.14354(b)]

- When performing surface monitoring, the background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. [40 CFR 60.755(c)(2) and 62.14354(b)]
- Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in 40 CFR 60.755(c)(4)(i-v) shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of 60.753(d). [40 CFR 60.755(c)(3), (4) and 62.14354(b)]
- Permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis. [40 CFR 60.755(c)(5) and 40 CFR 62.14354(b)]
- The portable analyzer shall meet the instrument specifications of Method 21, section 3 (except that "methane" shall replace all references to VOC). The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air. To meet the performance evaluation requirements of Method 21, section 3.1.3, the instrument evaluation procedures of Method 21, section 4.4 shall be used. The calibration procedures provided in Method 21, section 4.2 shall be followed immediately before commencing a surface monitoring survey. The provisions of this condition apply at all times, except during periods of start-up, shutdown, or malfunction which shall not exceed 5 days for collections systems and shall not exceed 1 hour for treatment or control devices. [40 CFR 60.755(d), (e) and 62.14354(b)]

60.756: Except as provided in §60.752(b)(2)(i)(B),

(a): Each owner or operator seeking to comply with §60.752(b)(2)(ii)(A) for an active gas collection system shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and:

(a)(1): Measure the gauge pressure in the gas collection header on a monthly basis as provided in §60.755(a)(3); and

(a)(2): Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in §60.755(a)(5); and

(a)(3): Monitor temperature of the landfill gas on a monthly basis as provided in §60.755(a)(5).

(b): Each owner or operator seeking to comply with §60.752(b)(2)(iii) using an enclosed combustor shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment.

(b)(1): A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 degrees Celsius, whichever is greater. A

temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts.

(b)(2): A device that records flow to or bypass of the control device. The owner or operator shall either:

(b)(2)(i): Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or

(b)(2)(ii): Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(c): Each owner or operator seeking to comply with §60.752(b)(2)(iii) using an open flare shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

(c)(1): A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame.

(c)(2): A device that records flow to or bypass of the flare. The owner or operator shall either:

(c)(2)(i): Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or

(c)(2)(ii): Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(d): Each owner or operator seeking to demonstrate compliance with §60.752(b)(2)(iii) using a device other than an open flare or an enclosed combustor shall provide information satisfactory to the Administrator as provided in §60.752(b)(2)(i)(B) describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator shall review the information and either approve it, or request that additional information be submitted. The Administrator may specify additional appropriate monitoring procedures.

(e): Each owner or operator seeking to install a collection system that does not meet the specifications in §60.759 or seeking to monitor alternative parameters to those required by §60.753 through §60.756 shall provide information satisfactory to the Administrator as provided in §60.752(b)(2)(i) (B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator may specify additional appropriate monitoring procedures.

(f): Each owner or operator seeking to demonstrate compliance with §60.755(c), shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in §60.755(d). Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

The following conditions will be listed on the ATC to ensure compliance:

- All equipment shall be constructed, calibrated, maintained and operated according to the specifications and plans contained in the permit application except as otherwise specified herein. [District Rule 2201 and 40 CFR 60.755(d), 60.756(b), 62.14354(b) and 40 CFR part 64]
- The enclosed flares shall be equipped with a temperature indicator and recorder which measures and records the operating temperature. The temperature indicator and recorder must operate continuously. [40 CFR 60.756(b)(1) and 62.14354(b)]
- The owner or operator shall measure the gauge pressure in the gas collection header at each individual interior well on a monthly basis as provided in 60.755(a)(3). If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. [40 CFR 60.755(a)(3), 60.756(a)(1), and 62.14354(b)]
- The owner or operator shall monitor each interior well monthly for temperature and oxygen as provided in 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. [40 CFR 60.753(c), 60.755(a)(3) and (a)(5), 60.756(a)(2) and (a)(3), and 62.14354(b)]
- The operator shall record quarterly the surface emission tests including test time, weather conditions, precipitation records, areas sampled, calibration records, and test results. Corrective action shall be taken if required in accordance to 40 CFR 60.755(c). [District Rule 2201, 40 CFR 60.755(c), 60.756(f), and 62.14354(b)]
- Permittee shall maintain continuous records of flare combustion temperature and volumetric gas flow rate. Permittee shall monitor and retain records of the net heating value of landfill gas being combusted. [District Rule 2201 and 40 CFR 60.756(b), 60.758(b)(2)(i), (c)(2) and (b)(2)(i), and 62.14354(b)]
- Each wellhead shall have a sampling port and a thermometer, other temperature-measuring device, or an access port for temperature measurements. [40 CFR 60.756(a)]
- The enclosed flares shall be equipped with a temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of +-1 percent of the temperature

being measured expressed in degrees Celsius or +- 0.5 degrees Celsius, whichever is greater. [District Rule 2201 and 40 CFR 60.756(b)(1) and 62.14354(b)]

- The owner/operator shall install, calibrate, maintain, and operate a meter with a continuous recording device that measures and records the landfill gas flow rate into the flare at least once every 15 minutes. This meter shall also be capable of measuring the landfill gas flow rate that might bypass the flare in the event of equipment malfunction or maintenance. [40 CFR 60.754(b)(1), 60.756(b)(2) and 62.14354(b)]
- When performing surface monitoring, any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring. [40 CFR 60.756(f) and 62.14354(b)]

Section 62.14355(a) states the owner or operator of a designated facility must comply with the recordkeeping and reporting provisions listed in 40 CFR 60.757 and 60.758, except as provided for under paragraphs (a)(1) and (a)(2) of this section.

60.757: Except as provided in §60.752(b)(2)(i)(B),

(c): Each owner or operator subject to the provisions of §60.752(b)(2)(i) shall submit a collection and control system design plan to the Administrator within 1 year of the first report required under paragraph (b) of this section in which the emission rate equals or exceeds 50 megagrams per year, except as follows:

(c)(1): If the owner or operator elects to recalculate the NMOC emission rate after Tier 2 NMOC sampling and analysis as provided in §60.754(a)(3) and the resulting rate is less than 50 megagrams per year, annual periodic reporting shall be resumed, using the Tier 2 determined site-specific NMOC concentration, until the calculated emission rate is equal to or greater than 50 megagrams per year or the landfill is closed. The revised NMOC emission rate report, with the recalculated emission rate based on NMOC sampling and analysis, shall be submitted within 180 days of the first calculated exceedance of 50 megagrams per year.

(c)(2): If the owner or operator elects to recalculate the NMOC emission rate after determining a sitespecific methane generation rate constant (k), as provided in Tier 3 in §60.754(a)(4), and the resulting NMOC emission rate is less than 50 Mg/yr, annual periodic reporting shall be resumed. The resulting site-specific methane generation rate constant (k) shall be used in the emission rate calculation until such time as the emissions rate calculation results in an exceedance. The revised NMOC emission rate report based on the provisions of §60.754(a)(4) and the resulting site-specific methane generation rate constant (k) shall be submitted to the Administrator within 1 year of the first calculated emission rate exceeding 50 megagrams per year.

(d): Each owner or operator of a controlled landfill shall submit a closure report to the Administrator within 30 days of waste acceptance cessation. The Administrator may request additional information as may be necessary to verify that permanent

closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under §60.7(a)(4).

(e): Each owner or operator of a controlled landfill shall submit an equipment removal report to the Administrator 30 days prior to removal or cessation of operation of the control equipment.

(e)(1): The equipment removal report shall contain all of the following items:

(e)(1)(i): A copy of the closure report submitted in accordance with paragraph (d) of this section;

(e)(1)(ii): A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired; and

(e)(1)(iii): Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.

(e)(2): The Administrator may request such additional information as may be necessary to verify that all of the conditions for removal in §60.752(b)(2)(v) have been met.

(f): Each owner or operator of a landfill seeking to comply with §60.752(b)(2) using an active collection system designed in accordance with §60.752(b)(2)(ii) shall submit to the Administrator annual reports of the recorded information in (f)(1) through (f)(6) of this paragraph. The initial annual report shall be submitted within 180 days of installation and start-up of the collection and control system, and shall include the initial performance test report required under §60.8. For enclosed combustion devices and flares, reportable exceedances are defined under §60.758(c).

(f)(1): Value and length of time for exceedance of applicable parameters monitored under §60.756(a), (b), (c), and (d).

(f)(2): Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756.

(f)(3): Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating.

(f)(4): All periods when the collection system was not operating in excess of 5 days.

(f)(5): The location of each exceedance of the 500 parts per million methane concentration as provided in §60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month.

(f)(6): The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of §60.755.

(g): Each owner or operator seeking to comply with §60.752(b)(2)(iii) shall include the following information with the initial performance test report required under §60.8:

(g)(1): A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;

(g)(2): The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;

(g)(3): The documentation of the presence of asbestos or nondegradable material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable material;

(g)(4): The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on nonproductivity and the calculations of gas generation flow rate for each excluded area; and

(g)(5): The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill; and

(g)(6): The provisions for the control of off-site migration.

The following conditions will be listed on the ATC to ensure compliance:

- 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 62.14354(b)]
- The operator shall monitor and record the oxygen content in the flare main header, maintenance-related and other control system downtimes and individual well shutdowns. Exceedances defined under 60.758(c) shall be reported once every 180 days. [District Rule 4102 and 40 CFR 60.757(f), (g)(4) and 60.758(c) and (e), and 62.14354(b)]

60.758(a): Except as provided in §60.752(b)(2)(i)(B), each owner or operator of an MSW landfill subject to the provisions of §60.752(b) shall keep for at least 5 years up-to-date, readily accessible, on-site records of the design capacity report which

triggered §60.752(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

(b): Except as provided in §60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in paragraphs (b)(1) through (b)(4) of this section as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal.

(b)(1): Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with §60.752(b)(2)(ii):

(b)(1)(i): The maximum expected gas generation flow rate as calculated in §60.755(a)(1). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Administrator.

(b)(1)(ii): The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in §60.759(a)(1).

(b)(2): Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with §60.752(b)(2)(iii) through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts:

(b)(2)(i): The average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test.

(b)(2)(ii): The percent reduction of NMOC determined as specified in §60.752(b)(2)(iii)(B) achieved by the control device.

(b)(3): Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with §60.752(b)(2)(iii)(B)(1) through use of a boiler or process heater of any size: a description of the location at which the collected gas vent stream is introduced into the boiler or process heater over the same time period of the performance testing.

(b)(4): Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with §60.752(b)(2)(iii)(A) through use of an open flare, the flare type (i.e., steam-assisted, air-assisted, or nonassisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in §60.18; continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent.

(c): Except as provided in §60.752(b)(2)(i)(B), each owner or operator of a controlled landfill subject to the provisions of this subpart shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in §60.756 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

(c)(1): The following constitute exceedances that shall be recorded and reported under §60.757(f):

(c)(1)(i): For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-hour periods of operation during which the average combustion temperature was more than 28 oC below the average combustion temperature during the most recent performance test at which compliance with §60.752(b)(2)(iii) was determined.

(c)(1)(ii): For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under paragraph (b)(3) of this section.

(c)(2): Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under §60.756.

(c)(3): Each owner or operator subject to the provisions of this subpart who uses a boiler or process heater with a design heat input capacity of 44 megawatts or greater to comply with §60.752(b)(2)(iii) shall keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other State, local, Tribal, or Federal regulatory requirements.)

(c)(4): Each owner or operator seeking to comply with the provisions of this subpart by use of an open flare shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under §60.756(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.

(d): Except as provided in §60.752(b)(2)(i)(B), each owner or operator subject to the provisions of this subpart shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector.

(d)(1): Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under §60.755(b).

(d)(2): Each owner or operator subject to the provisions of this subpart shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in §60.759(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in §60.759(a)(3)(ii).

(e): Except as provided in §60.752(b)(2)(i)(B), each owner or operator subject to the provisions of this subpart shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in §60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

(f): 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.

The following conditions will be listed on the ATC to ensure compliance:

- Except as provided in 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in paragraphs 60.758(b)(1) through (b)(4) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal. [40 CFR 60.758(b) and 62.14354(b)]
- Except during periods of startup, shutdown, and malfunction, the permittee shall continuously monitor and record combustion chamber temperature. The enclosed flare average combustion temperature, for all 3-hour periods of operation, shall not drop more than 28 degrees C below the average combustion temperature, during the most recent performance test at which compliance with 60.752(b)(2)(iii)(B)(2) was determined. Upon detecting any temperature excursion lower than 28 degree C (50 degree F) below the source test average combustion temperature, averaged over a 3-hour period, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. Duration of startup, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for control devices where free venting of landfill gas occurs. [40 CFR 60.758(c)(1)(i), 60.755(e), 62.14354(b), and 40 CFR part 64]
- Permittee shall keep the following records: (1)(i) the maximum expected gas generation flow rate as calculated in 60.755(a)(1). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the

APCO; (ii) the density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 60.759(a)(1); (2)(i) the average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test; (ii) the percent reduction of NMOC determined as specified in 60.752(b)(2)(iii)(B) achieved by the control device. [40 CFR 60.758(b)(1) and (2) and 62.14354(b)]

- Permittee shall maintain continuous records of flare combustion temperature and volumetric gas flow rate. Permittee shall monitor and retain records of the net heating value of landfill gas being combusted. [District Rule 2201 and 40 CFR 60.756(b), 60.758(b)(2)(i), (c)(2) and (b)(2)(i), and 62.14354(b)]
- Except as provided in 60.752(b)(2)(i)(B), permittee shall keep, for the life of the collection system, an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. If applicable, permittee shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as well as any nonproductive areas excluded from collection. [40 CFR 60.758(d), 62.14354(b), and 60.34(c)]
- The operator shall monitor and record the oxygen content in the flare main header, maintenance-related and other control system downtimes and individual well shutdowns. Exceedances defined under 60.758(c) shall be reported once every 180 days. [District Rule 4102 and 40 CFR 60.757(f), (g)(4), 60.758(c) and (e), and 62.14354(b)]
- Except as provided in 60.752(b)(2)(i)(B), permittee shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in 60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. [40 CFR 60.758(e)]
- All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 1070 and 40 CFR 60.758(a) and (b) and 62.14354(b)]

40 CFR 60 Subpart WWW

Per 40 CFR 60.750(a), this subpart is only applicable to landfills that commenced construction, reconstruction or modification on or after May 30, 1991. This facility began operations in 1971. There are no records indicating modifications (as defined in 40 CFR 60.750 which requires vertical or horizontal expansion resulting in a capacity increase) since initial permitting. Therefore, this facility is not subject to this subpart.

40 CFR Part 64 Compliance Assurance Monitoring (CAM):

Except for back-up utility units that are exempt under paragraph (b)(2), Section 64.2 states that the requirements of this subpart shall apply to a pollutant-specific emissions unit at a major source that is required to obtain a Part 70 or 71 permit if the unit satisfies all of the following criteria:

1) the unit must have an emission limit for the pollutant;
2) the unit must have add-on controls for the pollutant; these are devices such as flue gas recirculation (FGR), baghouses, catalytic oxidizers, etc; and
3) the unit must have a pre-control potential to emit of greater than the major source thresholds.

Pollutant	Major Source Threshold (lb/year)
VOC	20,000
NO_X	20,000
CO	200,000
PM_{10}	140,000
SO_X	140,000

NOx, SOx, PM10, and CO emissions limits of the enclosed flare that are uncontrolled and are not subject to CAM.

The VOC emissions from the landfill and the enclosed flare is limited to not exceed 804.3 lb-VOC/day. The VOC emissions from the landfill collection system is controlled by an enclosed flare that reduces the inlet NMOC emissions by at least 98% by weight or to no more than 20 ppmvd @ 3% O2 as methane. As shown below, the landfill collection system's VOC emissions had been evaluated with a Pre-Control emissions of greater than 20,000 lb-VOC/year (Major Source Threshold). Therefore, the landfill collection system VOC emissions controlled by the flare is subject to CAM for VOC.

VOC Emissions From Landfill to Flares:

Annual Uncontrolled PE = (1,348 scf-NMOC/10^6 scf landfill gas) x (86.16 lb/lb-mol) x (lb-mol/379.5 scf) x (6,887 scf/min) x (60 min/hr) x (24 hr/day) x (365 day/year) x (0.75)
= 830,865 lb/year

For the landfill collection system to comply with CAM, the facility will continuously monitor and record combustion chamber temperature of the enclosed flare. The combustion temperature is an indicator of the enclosed flare's control efficiency. The temperature readings will not be less than 28 °C (50 °F) below the average combustion temperature determined during the most recent flare source test, averaged over a 3-hour period. Upon detecting any temperature excursion lower than 28 °C (50 °F) below the source test average combustion temperature, averaged over a 3-hour period, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable.

The temperature monitoring device shall be calibrated, maintained, and operated according to the manufacturer's specifications. The enclosed flare burner and its associated components and the vapor collection system shall be inspected on an annual basis. The records of inspection shall at least contain date and time of inspection, identification of the person performing an inspection, parts replacement and repairs, and all maintenance actions taken.

The records shall be kept and maintained for compliance inspection upon request. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7.

The following conditions ensure compliance with the requirements of this rule:

- Except during periods of startup, shutdown, and malfunction, the permittee shall continuously monitor and record combustion chamber temperature. The enclosed flare average combustion temperature, for all 3-hour periods of operation, shall not drop more than 28 degrees C below the average combustion temperature, during the most recent performance test at which compliance with 60.752(b)(2)(iii)(B)(2) was determined. Upon detecting any temperature excursion lower than 28 degree C (50 degree F) below the source test average combustion temperature, averaged over a 3-hour period, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. Duration of startup, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for control devices where free venting of landfill gas occurs. [40 CFR 60.758(c)(1)(i), 60.755(e), 62.14354(b), and 40 CFR part 64]
- The enclosed flare shall be equipped with a temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of +-1 percent of the temperature being measured expressed in degrees Celsius or +- 0.5 degrees Celsius, whichever is greater. The temperature indicator and recorder must operate continuously. [District Rule 2201 and 40 CFR 60.756(b)(1) and 62.14354(b) and 40 CFR part 64]
- The enclosed flare burner and its associated components and the vapor collection system shall be inspected on an annual basis. The records of inspection shall at least contain date and time of inspection, identification of the person performing an inspection, parts replacement and repairs, and all maintenance actions taken. The records shall be kept and maintained for compliance inspection upon request. [40 CFR part 64]
- The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64]
- The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64]
- If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR part 64]

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

This landfill is currently subject to the requirements of 40 CFR 63 Subpart AAAA for Municipal Solid Waste Landfills.

§ 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. This subpart requires all landfills described in §63.1935 to meet the requirements of 40 CFR Part 60, subpart Cc or WWW.

This subpart also requires such landfills to meet the startup, shutdown, and malfunction (SSM) requirements of the general provisions of this part and provides that compliance with the operating conditions shall be demonstrated by parameter monitoring results that are within the specified ranges.

It also includes additional reporting requirements.

§ 63.1935 Am I subject to this subpart?

This municipal solid waste landfill facility has operated since 1971 and is a Major Source. Therefore this facility is subject to the requirements of Subpart AAAA.

§ 63.1940 What is the affected source of this subpart?

Per this section, the entire facility is considered the affected source.

§ 63.1945 When do I have to comply with this subpart?

Since this facility is an existing affected source, it must comply with this subpart starting January 16, 2004.

§ 63.1947 When do I have to comply with this subpart if I own or operate a bioreactor?

This facility does not own or operate a bioreactor. Therefore, this section does not apply.

§ 63.1950 When am I no longer required to comply with this subpart?

This section states the facility is no longer required to comply with this subpart when the facility is no longer required to apply controls as specified in 40 CFR 60.752(b)(2)(v) of subpart WWW, or the Federal plan or EPA approved and effective State plan or tribal plan that implements 40 CFR part 60, subpart Cc, whichever applies to the landfill.

The following condition will be listed on the permit to ensure compliance:

- The landfill is no longer required to comply with the requirements of 40 CFR Part 63 Subpart AAAA when it is no longer required to apply controls as specified in the Federal plan or EPA approved and effective State plan or tribal plan that implements 40 CFR part 60, subpart Cc. [40 CFR 63.1950]

§ 63.1952 When am I no longer required to comply with the requirements of this subpart if I own or operate a bioreactor?

This facility does not own or operate a bioreactor. Therefore, this section does not apply.

§ 63.1955 What requirements must I meet?

(a) This section states that the landfill must comply with the following:
(1) 40 CFR 60 Subpart WWW,
(2) Comply with the requirements of the Federal plan or EPA approved and effective State plan or tribal plan that implements 40 CFR part 60, subpart Cc.

The facility complies with the requirements of the Federal plan or EPA approved and effective State plan or tribal plan that implements 40 CFR part 60, subpart Cc.

(b) If the facility is required by 40 CFR 60.752(b)(2) of subpart WWW, the Federal plan, or an EPA approved and effective State or tribal plan to install a collection and control system, the facility must comply with the requirements in §§63.1960 through 63.1985 and with the general provisions of this part specified in table 1 of this subpart.

(c) For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, the permittee must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR part 60 subpart WWW or the Federal plan, or EPA approved and effective State or tribal plan, these alternatives can be used to comply with this subpart, except that all affected sources must comply with the SSM requirements in Subpart A of this part as specified in Table 1 of this subpart and all affected sources must submit compliance reports every 6 months as specified in §63.1980(a) and (b), including information on all deviations that occurred during the 6-month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average.

The following condition will be listed on the permit to ensure compliance:

- The permittee shall comply with the general provisions specified in Table 1 of 40 CFR Part 63 Subpart AAAA and 63.1960 through 63.1985 starting on the date required to install the gas collection and control system. [40 CFR 63.1955(b)]

Sections 63.1960

This section states compliance is determined in the same manner as 40 CFR Part 60 Subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence.

Continuous parameter monitoring data, collected under 40 CFR 60.756(b)(1), (c)(1), and (d), are used to demonstrate compliance with the operating conditions for control systems. If a deviation occurs, the permittee has failed to meet the control device operation conditions described in this subpart and have deviated from the requirements of this subpart. Finally, the permittee must develop a written SSM plan according to the provisions in 40 CFR 63.6(e)(3). A copy of the SSM plan must be maintained on site. Failure to write or maintain a copy of the SSM plan is a deviation from the requirements of this subpart.

The following condition will be listed on the ATCs to ensure compliance:

- The permittee shall maintain a copy of the SSM plan written according to the provisions in 40 CFR 63.6(e)(3). Failure to maintain a copy of the SSM plan is a deviation from the requirements of this subpart. [40 CFR 63.1960]

Section 63.1980

This section states records and reports must be kept:

(a) Keep records and reports as specified in 40 CFR part 60, subpart WWW, or in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR part 60, subpart Cc, whichever applies to your landfill. However, the annual report described in Section 60.757(f) must be submitted every 6 months.
(b) As specified in the general provisions of 40 CFR part 60 and this part as shown in Table 1 of this subpart. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports.

The following conditions will be listed on the ATCs to ensure compliance:

- The permittee shall keep records and reports as specified in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR part 60, subpart Cc. The annual report described in 40 CFR 60.757(f) must be submitted every 6 months. [40 CFR 63.1980(a)]
- The permittee shall maintain records as specified in the general provisions of 40 CFR part 60 and this part as shown in Table 1 of this subpart. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports. [40 CFR 63.1980(b)]

Rule 4101 Visible Emissions

Rule 4101 states that 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.

The enclosed system on the flares will minimize visible emissions. Since the flares either triggered BACT for PM10 or uses a BACT level PM10 emission factor, permit conditions have been included requiring that the flares operate in a smokeless manner ensuring a maximum visible emission rate of ¼ Ringelmann or 5% opacity. Air contaminants released into the atmosphere, which are greater than these visible emission limits, are not expected.

Therefore, compliance with the requirements of this rule is expected.

Rule 4102 Nuisance

Section 4.0 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.

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.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (Appendix G), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
C-3115-2-12	0.0157 per million	No

Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in Appendix G of this report, the emissions increases for this project was determined to be less than significant.

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.

Particulate matter calculations were performed for each piece of equipment by the following equation:

F-Factor for LFG: 9,120 dscf/MMBtu at 60 °F
PM_{10} Emission Factor: 0.008 lb-PM_{10}/MMBtu
Percentage of PM as PM_{10} in Exhaust: 100%

$$GL = \left(\frac{0.008\ lb-PM}{MMBtu} \times \frac{7{,}000\ grain}{lb-PM}\right) / \left(\frac{9{,}120\ ft^3}{MMBtu}\right)$$

$$GL = 0.006\ grain/dscf < 0.1\ grain/dscf$$

Rule 4201			
Permit	Pollutant	Emission Factor	PM Concentration
C-3115-2-12	PM_{10}	0.008 lb-PM10/MMBtu	0.006 grain/dscf

Since the particulate matter concentration is ≤ 0.1 grains per dscf, compliance with Rule 4201 is expected.

Rule 4301 Fuel Burning Equipment

Per Section 4.1 of this rule, fuel burning equipment used primarily for the destruction of air contaminants will be exempt from the requirements of this rule. Since the LFG flare is used to incinerate VOC emissions from the landfill site, it is considered a control device. Rule 4301 does not apply.

Rule 4311 Flares

This rule is applicable to operations involving the use of flares. The purpose is to limit the emissions of VOC, NOx, and SOx from the operation of flares.

Section 4.2 states that flares that are subject to the requirements of 40 CFR 60 Subpart WWW (Standards of Performance for Municipal Waste Landfills), or Subpart Cc (Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills) are exempt from this rule.

As clarified in EPA's Municipal Solid Waste Landfills, Volume 1: Summary of the Requirements for the New Source Performance Standards and Emission Guidelines for Municipal Solid Waste Landfills, existing (construction, modification, or reconstruction commenced prior to May 30, 1991) landfills are subject to Subpart Cc which must be implemented through either a State Plan or a Federal Plan. Per the Federal Register (Vol. 64, No. 184 / Thursday, September 23, 1999 / Rules and Regulations 51447), the permit unit is subject to the Federal Plan (40 CFR 62 Subpart GGG) because the San Joaquin Valley Unified Air Pollution Control District has not submitted its portion to the California State Plan.

Therefore, the flare in this operation is exempt from this rule.

Rule 4642 Solid Waste Disposal Sites

This rule applies to any solid waste disposal site which has a gas collection system and/or control device in operation, or undergoing maintenance or repair. The purpose of this rule is to reduce VOC emissions from solid waste disposal sites.

Section 4.1 states that the requirements of this rule shall not apply to active disposal areas in a landfill, or any solid waste disposal site which is subject to the requirements of 40 CFR 60 Subpart WWW (Standards of Performance for Municipal Waste Landfills) or Subpart Cc (Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills).

As clarified in EPA's Municipal Solid Waste Landfills, Volume 1: Summary of the Requirements for the New Source Performance Standards and Emission Guidelines for Municipal Solid Waste Landfills, existing (construction, modification, or reconstruction commenced prior to May 30, 1991) landfills are subject to Subpart Cc which must be implemented through either a State Plan or a Federal Plan. Per the Federal Register (Vol. 64, No. 184 / Thursday, September 23, 1999 / Rules and Regulations 51447), the permit unit is subject to the Federal Plan (40 CFR 62 Subpart GGG) because the San Joaquin Valley Unified Air Pollution Control District has not submitted its portion to the California State Plan.

Therefore, the operation is exempt from this rule.

Rule 4651 Soil Decontamination Operations

The purpose of this rule is to limit VOC emissions from soil that has been contaminated with a VOC-containing liquid.

This rule shall apply to operations involved in the excavation, transportation, handling, decontamination, and disposal of contaminated soil.

The landfill does not excavate, transport, handle, decontaminate, or dispose of contaminated soil. Therefore, this landfill is not subject to the requirements of this rule.

Rule 4801 Sulfur Compounds

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: 0.2 % by volume (equivalent to 2,000 ppmv) calculated as SO_2, on a dry basis averaged over 15 consecutive minutes.

Per the applicant, the flare LFG will contain the following H2S concentration:

C-3115-2-12 = 46.9 ppmv H2S = 46.9 ppmv SOx (as SO2)

Therefore, compliance with District Rule 4801 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

The facility is located at 18950 W American Ave in Kerman, CA. The District has verified that 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.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (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 San Joaquin Valley Unified Air Pollution Control District (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.
- 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.

The County of Fresno is the public agency having principal responsibility for approving the Project. As such, the County served as the Lead Agency for the project. Consistent with CEQA Guidelines §15301(f) (Existing Facilities); §15307 (Actions by Regulatory Agencies for Protection of Natural Resources); and §15308 (Actions by Regulatory Agencies for Protection of the Environment), a Notice of Exemption was prepared and adopted and filed by the County.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381).

The District's engineering evaluation of the project (this document) demonstrates that compliance with District rules and permit conditions would reduce Stationary Source emissions from the project to levels below the District's thresholds of significance for criteria pollutants. Thus, the District concludes that through a combination of project design elements and permit conditions, project specific stationary source emissions will be reduced and mitigated to less than significant levels. The District does not have authority over any of the other project impacts and has, therefore, determined that no additional findings are required (CEQA Guidelines §15096(h)).

VII. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authority to Construct C-3115-2-12 subject to the permit conditions on the attached draft Authority to Construct in Appendix H.

VIII.Billing Information

Per Rule 3020, Schedule 12, annual permit fees are calculated as follows:

- 100 acres @ $2,353
- $99 for each 5 acres above 99 acres

Fees = $2,353 + ($99) * (367 acres – 99 acres)/5
= $2,353 + ($99 * 54 acres)
= $7,699

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
C-3115-2-12	3020-12-U	367 Acre Landfill	$7,699

Appendixes

A: Current PTO
B: EPA LandGEM Emission Calculations
C: BACT Guideline 1.4.3
D: Quarterly Net Emissions Change
E: Compliance Certification
F: Certificate of Conformity
G: Risk Management Review and Ambient Air Quality Analysis
H: Draft ATC

APPENDIX A
Current PTO

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-3115-2-11 **EXPIRATION DATE:** 07/31/2015

EQUIPMENT DESCRIPTION:
44.4 MILLION CUBIC YARD CAPACITY (367 ACRES) MUNICIPAL SOLID WASTE LANDFILL WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 3,150 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY AN ENCLOSED GROUND FLARE USING AN LPG PILOT

PERMIT UNIT REQUIREMENTS

1. Annual amount of soil used for covering shall not exceed 5,920,933 cubic yards of soil, and PM10 emissions shall not exceed 0.008 lb PM10/ton of soil (using a soil density of 3,240 lbs/cubic yard of soil). Permittee shall keep annual records of the amount of soil used for covering. [District Rule 2201] Federally Enforceable Through Title V Permit
2. 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 and 40 CFR Part 60.752(b)(2)(iii)(B)(2) and (b)(2)(iv), and 62.14353(b)] Federally Enforceable Through Title V Permit
3. All equipment shall be constructed, calibrated, maintained and operated according to the specifications and plans contained in the permit application except as otherwise specified herein. [District Rule 2201 and 40 CFR 60.755(d), 60.756(b), and 62.14354(b)] Federally Enforceable Through Title V Permit
4. No air contaminant shall be discharged from the flare into the atmosphere for a period or periods aggregating more than five minutes in any two hours which is as dark as, or darker than, Ringelmann 1/4 or 5% opacity. [40 CFR 60.18(c)(1)] Federally Enforceable Through Title V Permit
5. Particulate matter emissions from any combustion source shall not exceed 0.1 grains/dscf (calculated to 12% carbon dioxide). [District Rule 4301] Federally Enforceable Through Title V Permit
6. The combined landfill gas and landfill condensate consumption rate for the enclosed flare shall not exceed 51 MMBtu per hour. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The facility shall maintain in proper operating condition a gas flow meter with a continuous recording device which measures the amount of landfill gas consumed per day. [District Rule 2201 and 40 CFR Part 60.754(b)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit
8. Landfill gas condensate can be injected into the enclosed flare. The landfill gas condensate injection flow rate shall be recorded daily when the injector is operating. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The enclosed flare shall be equipped with automatic dampers, an automatic shutdown device, and a flame arrester. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The enclosed flare shall be equipped with a temperature indicator and recorder which measures and records the operating temperature. The temperature indicator and recorder must operate continuously. [40 CFR 60.756(b)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit
11. The enclosed flare control device shall be operated within the parameter ranges established during the initial or most recent performance test. [40 CFR 60.752(b)(2)(iii)(B)(2) and 60.14353(b)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. Except during periods of startup, shutdown, and malfunction, the enclosed flare average combustion temperature, for all 3-hour periods of operation, shall not drop more than 28 degrees C below the average combustion temperature, during the most recent performance test at which compliance with 60.752(b)(2)(iii)(B)(2) was determined. Duration of startup, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for control devices where free venting of landfill gas occurs. [40 CFR 60.758(c)(1)(i), 60.755(e), and 62.14354(b)] Federally Enforceable Through Title V Permit
13. In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour. [40 CFR 60.753(e) and 62.14354(b)] Federally Enforceable Through Title V Permit
14. VOC emissions from this landfill operation controlled with an enclosed flare shall not exceed 15.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The enclosed flare shall either reduce VOC by 98 weight percent or reduce the outlet VOC concentration to less than 20 parts per million by volume, dry basis as methane at 3 percent oxygen. [District Rules 2201 and 4102, and 40 CFR 60.752(b)(2)(iii)(B) and 62.14353(b)] Federally Enforceable Through Title V Permit
16. Emissions from the enclosed flare shall not exceed any of the following limits: 0.05 lb-NOx/MMBtu, 0.2 lb-CO/MMBtu, or 0.034 lb-PM10/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Emissions from the enclosed flare shall not exceed 0.0178 lb-SOx/MMBtu (46.9 ppmv of H2S in fuel). [District Rule 2201] Federally Enforceable Through Title V Permit
18. Landfill design capacity shall not exceed 44.4 million cubic yards, or 367 acres, of solid waste. Annual amount of refuse received shall not exceed 1,300,000 ton/year. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The enclosed flare shall be equipped with an LPG fired pilot. [40 CFR 60.18(c)(2) and (f)(2)] Federally Enforceable Through Title V Permit
20. Source sampling to determine the compliance status of an emissions source shall be witnessed or authorized by District personnel. [District Rule 1081] Federally Enforceable Through Title V Permit
21. 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 Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing to demonstrate compliance with VOC, NOx, and CO emission limits and VOC control efficiency requirements shall be conducted annually. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Source testing for NOx shall be conducted using EPA Test Method 7E or CARB Method 100. [District Rule 1081] Federally Enforceable Through Title V Permit
24. Source testing for CO shall be conducted using EPA Test Method 10 or 10B, CARB Methods 1-5 with 10 or CARB Test Method 100. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Gas combusted in the flare shall be tested for H2S content on a quarterly basis using draeger tubes. If compliance is shown for two consecutive quarters, the testing frequency may be changed to annual. Quarterly testing shall resume if any annual test shows noncompliance. [District Rule 1081] Federally Enforceable Through Title V Permit
26. VOC emissions shall be measured by USEPA Test Method 18, 25, 25A, or 25C. [District Rule 1081 and 40 CFR 60.754(d) and 62.14354(b)] Federally Enforceable Through Title V Permit
27. The owner or operator shall operate the collection system with negative pressure at each interior wellhead except under the following conditions: 1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire; 2) Use of a geomembrane or synthetic cover; or 3) A decommissioned well. [40 CFR 60.753(b) and 62.14354(b)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

28. The owner or operator shall measure the gauge pressure in the gas collection header at each individual interior well on a monthly basis as provided in 60.755(a)(3). If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. [40 CFR 60.755(a)(3), 60.756(a)(1), and 62.14354(b)] Federally Enforceable Through Title V Permit

29. The owner or operator shall monitor each interior well monthly for temperature and oxygen as provided in 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. [40 CFR 60.753(c), 60.755(a)(5), 60.756(a)(2) and (a)(3), and 62.14354(b)] Federally Enforceable Through Title V Permit

30. The gas collection system shall be monitored monthly at the interior wellheads, and corrective action shall be taken to ensure the system is 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. [40 CFR 60.753(c), 60.755(a)(3) and (a)(5), and 62.14354(b)] Federally Enforceable Through Title V Permit

31. Each owner or operator shall place each well or design component as specified in the approved design plan as provided in 40 CFR 60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of: 1) 5 years or more if active or 2) 2 years or more if closed or at final grade. [40 CFR 60.755(b)] Federally Enforceable Through Title V Permit

32. The operator shall record quarterly the surface emission tests including test time, weather conditions, precipitation records, areas sampled, calibration records, and test results. Corrective action shall be taken if required in accordance to 40 CFR 60.755(c). [District Rule 2201, 40 CFR 60.755(c), 60.756(f), and 62.14354(b)] Federally Enforceable Through Title V Permit

33. Permittee shall maintain continuous records of flare combustion temperature and volumetric gas flow rate. Permittee shall monitor and retain records of the net heating value of landfill gas being combusted. [District Rule 2201 and 40 CFR 60.756(b), 60.758(b)(2)(i), (c)(2) and (b)(2)(i), and 62.14354(b)] Federally Enforceable Through Title V Permit

34. Permittee shall keep, for the life of the collection system, an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. [40 CFR 60.758(d) and 60.34(c)] Federally Enforceable Through Title V Permit

35. The operator shall record emission control device source tests including VOC destruction/treatment efficiency and emissions of CO, NOx, PM10, VOC, and SOx, in pounds per MMBtu heat input. [District Rule 1081] Federally Enforceable Through Title V Permit

36. The operator shall monitor and record the oxygen content in the flare main header, maintenance-related and other control system downtimes and individual well shutdowns. Exceedances defined under 60.758(c) shall be reported once every 180 days. [District Rule 4102 and 40 CFR 60.757(f), (g)(4) and 60.758(c) and (e)] Federally Enforceable Through Title V Permit

37. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 1070 and 40 CFR 60.758(a) and (b)] Federally Enforceable Through Title V Permit

38. This operating permit may be cancelled upon District approval when the landfill is closed, is not otherwise subject to the requirements of 40 CFR part 70 or part 71, and if the landfill meets the conditions for control system removal specified in 40 CFR 60.752(b)(2)(v). [40 CFR 62.14352(f)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

39. 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 62.14355(a)] Federally Enforceable Through Title V Permit

40. Each owner or operator, required by 40 CFR Part 62 subpart GGG to install a collection and control system, shall comply with the requirements in 40 CFR 63.1960 through 63.1985 and with the general provisions specified in table 1 of 40 CFR 63 subpart AAAA. [40 CFR 63.1955(b)] Federally Enforceable Through Title V Permit

41. For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, owner or operator must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR part 62 subpart GGG, these alternatives can be used to comply with 40 CFR 63 subpart AAAA, except that all affected sources must comply with the startup, shutdown, and malfunction (SSM) requirements in subpart A of 40 CFR 63 as specified in Table 1 of 40 CFR 63 subpart AAAA and all affected sources must submit compliance reports every 6 months as specified in 40 CFR 63.1980(a) and (b), including information on all deviations that occurred during the 6 month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average. [40 CFR 63.1955(c)] Federally Enforceable Through Title V Permit

APPENDIX B
EPA LandGEM Emission Calculations

Table 1. Projected Landfill Gas Generation Rates
American Avenue Landfill, Kerman, California

YEAR	Annual Disposal (tons per year)	Refuse In-Place (tons)	Landfill Gas Generation (cfm)
1971	85882		0
1972	85,882	171,764	35
1973	85,882	257,646	70
1974	85,882	343,528	104
1975	85,882	429,410	137
1976	85,882	515,292	170
1977	85,882	601,174	202
1978	85,882	687,056	233
1979	85,882	772,938	264
1980	85,882	858,820	294
1981	85,882	944,702	324
1982	85,882	1,030,584	353
1983	85,882	1,116,466	381
1984	85,882	1,202,348	409
1985	85,882	1,288,230	436
1986	85,882	1,374,112	463
1987	85,882	1,459,994	489
1988	85,882	1,545,876	515
1989	85,882	1,631,758	540
1990	85,882	1,717,640	564
1991	85,882	1,803,522	589
1992	85,883	1,889,405	612
1993	100,039	1,989,444	636
1994	262,757	2,252,201	664
1995	419,729	2,671,930	759
1996	517,183	3,189,113	917
1997	585,258	3,774,371	1,112
1998	627,863	4,402,234	1,331
1999	629,429	5,031,663	1,563
2000	591,550	5,623,213	1,791
2001	522,372	6,145,585	1,999
2002	511,761	6,657,346	2,174
2003	475,543	7,132,889	2,342
2004	451,788	7,584,677	2,491
2005	517,580	8,102,257	2,628
2006	473,656	8,575,913	2,789
2007	775,244	9,351,157	2,929
2008	522,660	9,873,817	3,190
2009	359,724	10,233,541	3,342
2010	383,552	10,617,093	3,424
2011	391,223	11,008,315	3,514
2012	399,047	11,407,362	3,605
2013	407,028	11,814,390	3,698
2014	415,169	12,229,559	3,792
2015	423,472	12,653,031	3,888
2016	431,941	13,084,972	3,986
2017	440,580	13,525,552	4,084
2018	449,392	13,974,944	4,185
2019	458,380	14,433,323	4,287
2020	467,547	14,900,871	4,391
2021	476,898	15,377,769	4,496
2022	486,436	15,864,205	4,604
2023	496,165	16,360,370	4,713
2024	506,088	16,866,458	4,824
2025	516,210	17,382,668	4,936
2026	526,534	17,909,202	5,051
2027	537,065	18,446,266	5,168
2028	547,806	18,994,072	5,287
2029	558,762	19,552,835	5,408
2030	569,937	20,122,772	5,530
2031	581,336	20,704,108	5,656
2032	592,963	21,297,071	5,783
2033	604,822	21,901,893	5,912
2034	616,919	22,518,812	6,044
2035	629,257	23,148,069	6,179
2036	641,842	23,789,911	6,315
2037	654,679	24,444,590	6,454
2038	667,773	25,112,362	6,596
2039	681,128	25,793,490	6,740
2040	260,169	26,053,659	6,887
2041		26,053,659	6,858
2042		26,053,659	6,722
2043		26,053,659	6,589
2044		26,053,659	6,459

ASSUMPTIONS:

Methane gas generation rate (k):	0.02	
Potential methane generation capacity (Lo):	170	m^3/mg
Percent methane gas (% by volume):	50%	

APPENDIX C
BACT Guideline 1.4.3

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 1.4.3*

Last Update 1/8/2001

Landfill Gas Vapor Collection System

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
NOx	0.06 lb-NOx/MMBtu	0.05 lb/MMBtu	
PM10	Air assist fan	Steam injection	
SOx		Wet Scrubber with 98% control efficiency	
VOC	Flare with a control efficiency of (= or >) 98% or a controlled VOC (measured as methane) of (= or <) 20 ppmv @ 3% O2		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

APPENDIX D
Quarterly Net Emissions Change

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall 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.

Using the values in Sections VII.C.1 and VII.C.2 in the evaluation above, quarterly PE2 and quarterly BE can be calculated as follows:

$PE2_{quarterly} = PE2_{annual} \div 4$ quarters/year
$PE1_{quarterly} = PE1_{annual} \div 4$ quarters/year

The results of the QNEC calculations are shown in the following table.

Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	NEC (lb/qtr)
NO_X	17,989	5,608	12,381
SO_X	5,852	1,991	3,861
PM_{10}	21,813	20,078	1,735
CO	46,194	22,341	23,853
VOC	73,394	73,393	1

APPENDIX E
Compliance Certification

County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING
Alan Weaver, DIRECTOR

March 2, 2012

Dave Warner, Director of Permit Services
San Joaquin Valley Air Pollution Control District
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244

Subject: **Certification of Compliance, American Avenue Landfill, District Facility Number C-3115**

Dear Mr. Warner:

Pursuant to San Joaquin Valley Air Pollution Control District's Rule 2201 Section 4.15.2, the County of Fresno Department of Public Works and Planning, Resources Division (County) respectfully submits this Letter of Certification as it pertains to the American Avenue Landfill major source facility. I hereby certify that as of the date of this letter, the County's American Avenue Landfill is in compliance or is on a schedule for compliance with all applicable emissions limitations and standards. The American Avenue Landfill is the only major source owned and operated by the County in the State of California.

Thank you for your time and consideration regarding this certification. If you have any questions regarding this matter, please contact Curtis Larkin at (559) 600-4306.

Respectfully,

John R. Thompson
Resources Division Manager

JT:CL:SY
3/2/12

c. Jerry Sandhu, SJVAPCD
Stephanie Young, CH2M HILL
Curtis Larkin, Senior Engineer

G:\4360Resources\Disposal Sites\Geology & Regulatory Compliance\Working Documents\AA\2012\March\Compliance Certification C-3115.doc

APPENDIX F
Certificate of Conformity

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[X] SIGNIFICANT PERMIT MODIFICATION
[ ] MINOR PERMIT MODIFICATION
[ ] ADMINISTRATIVE AMENDMENT

COMPANY NAME: American Avenue Landfill	FACILITY ID: C - 3115
1. Type of Organization:[ ] Corporation [ ] Sole Ownership [X] Government [ ] Partnership [ ] Utility	
2. Owner's Name: County of Fresno, Department of Public Works and Planning, Resources Division	
3. Agent to the Owner: N/A	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial **all** circles for confirmation):

(MW) 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).

(MW) 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.

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

(MW) Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

MW — 12/30/11

Signature of Responsible Official Designee — Date

Curtis Larkin

Name of Responsible Official Designee (please print)

Senior Engineer, County of Fresno Public Works & Planning, Resources Division

Title of Responsible Official Designee (please print)

APPENDIX G
Risk Management Review and Ambient Air Quality Analysis

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Stanley Tom – Permit Services
From:	Kou Thao – Technical Services
Date:	4-6-12
Facility Name:	American Avenue Landfill
Location:	18950 W American Avenue, Kerman, CA
Application #(s):	C-3115-2-12
Project #:	C-1120109

A. RMR SUMMARY

RMR Summary			
Categories	**Flare (Unit 2-12)**	**Project Totals**	**Facility Totals**
Prioritization Score	4.32	4.32	>1
Acute Hazard Index	8.36E-06	8.36E-06	8.36E-06
Chronic Hazard Index	2.85E-05	2.85E-05	3.38E-02
Maximum Individual Cancer Risk (10^{-6})	1.57E-08	1.57E-08	9.45E-06*
T-BACT Required?	**No**		
Special Permit Conditions?	**No**		

* Please note that the total facility cancer risk is approaching 10.

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit # 2-12

No special conditions are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on February 9, 2012, to perform an Ambient Air Quality Analysis and a Risk Management Review for a proposed installation of a 99 MMBtu/hr enclosed ground landfill flare.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. VOC emission rates were calculated using emission source test estimates for landfill gas speciation provided by the facility for project C-1020253. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Madera to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 2-12 Landfill Flare			
Source Type	Point	**Location Type**	Rural
Stack Height (m)	18.28	**Closest Receptor (m)**	304
Stack Diameter. (m)	3.353	**Type of Receptor**	Residential
Stack Exit Velocity (m/s)	3.047	**Max Hours per Year**	8760
Stack Exit Temp. (°K)	1255.37	**Fuel Type**	Landfill gas

Technical Services performed modeling for criteria pollutants CO, NOx, SOx and PM_{10}; as well as a RMR. The emission rates used for criteria pollutant modeling were 10.89 lb/hr CO, 5.64 lb/hr NOx, 1.76 lb/hr SOx, and 1.68 lb/hr PM_{10}. The engineer supplied the maximum fuel rate for the flare used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO_x	Pass[1]	X	X	X	Pass
SO_x	Pass	Pass	X	Pass	Pass
PM_{10}	X	X	X	Pass[2]	Pass[2]
$PM_{2.5}$	X	X	X	Pass[2]	Pass[2]

*Results were taken from the attached PSD spreadsheet.
[1]The project was compared to the 1-hour NO2 National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.
[2]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk associated with the project is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

IV. Attachments

A. RMR request from the project engineer
B. Additional information from the applicant/project engineer
C. Toxic emissions summary
D. AAQA summary
E. Prioritization score
F. Facility Summary

AAQA for American Avenue Landfill (C-3115-2-12)
All Values are in Micrograms per Cubic Meter

	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
STCK1	15.7	0.6	30.3	11.5	4.9	3.1	1.0	0.2	1.0	0.2
Background	86.1	13.4	1,864.0	1,165.0	159.8	133.2	71.9	26.6	78.0	40.0
Facility Totals	101.8	14.0	1,894.3	1,176.5	164.7	136.3	73.0	26.8	79.0	40.2
AAQS	188.7	56.0	23,000.0	10,000.0	195.0	1,300.0	105.0	80.0	50.0	30.0
	Pass	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Fail**	**Fail**

EPA's Significance Level (ug/m^3)

NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
0.0	**1.0**	**2000.0**	**500.0**	**0.0**	**25.0**	**5.0**	**1.0**	**5.0**	**1.0**

PM_{10} = 1.0 pass 0.2 pass

$PM_{2.5}$ = 1.0 pass 0.2 pass

$PM_{2.5}$ SIL = $1.2 ug/m^3$ = 24hr
$0.3 ug/m^3$ = Annual.

*Since 5-years of metereological data were used, an adjustment factor of 1.5 for Madera was applied to the annual average concentrations for the devices modeled.

APPENDIX H
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-3115-2-12 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AMERICAN AVENUE LANDFILL
MAILING ADDRESS: 2220 TULARE ST, 6TH FLOOR
ATTN: RESOURCES MANAGER
FRESNO, CA 93721

LOCATION: 18950 W AMERICAN AVE
KERMAN, CA

EQUIPMENT DESCRIPTION:
MODIFICATION OF 44.4 MILLION CUBIC YARD CAPACITY (367 ACRES) MUNICIPAL SOLID WASTE LANDFILL WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 3,150 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY AN ENCLOSED GROUND FLARE USING AN LPG PILOT: INSTALL A 99 MMBTU/HR JOHN ZINK MODEL ZTOF ENCLOSED GROUND FLARE (OR DISTRICT-APPROVED EQUIVALENT) WITH ASSOCIATED PIPING AND EXTRACTION WELLS FOR 40 CFR 62 SUBPART GGG RULE COMPLIANCE

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. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] 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.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services
C-3115-2-12 : Jun 4 2012 1:06PM – TOMS : Joint Inspection NOT Required

5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

6. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

7. Annual amount of soil used for covering shall not exceed 5,920,933 cubic yards of soil, and PM10 emissions shall not exceed 0.008 lb PM10/ton of soil (using a soil density of 3,240 lbs/cubic yard of soil). Permittee shall keep annual records of the amount of soil used for covering. [District Rule 2201] Federally Enforceable Through Title V Permit

8. 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 and 40 CFR Part 60.752(b)(2)(iii)(B)(2) and (b)(2)(iv), and 62.14353(b)] Federally Enforceable Through Title V Permit

9. All equipment shall be constructed, calibrated, maintained and operated according to the specifications and plans contained in the permit application except as otherwise specified herein. [District Rule 2201 and 40 CFR 60.755(d), 60.756(b), 62.14354(b) and 40 CFR part 64] Federally Enforceable Through Title V Permit

10. No air contaminant shall be discharged from the flare into the atmosphere for a period or periods aggregating more than five minutes in any two hours which is as dark as, or darker than, Ringelmann 1/4 or 5% opacity. [40 CFR 60.18(c)(1)] Federally Enforceable Through Title V Permit

11. Particulate matter emissions from any combustion source shall not exceed 0.1 grains/dscf (calculated to 12% carbon dioxide). [District Rule 4301] Federally Enforceable Through Title V Permit

12. Landfill gas condensate can be injected into the enclosed flares. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The enclosed flares shall be equipped with automatic dampers, an automatic shutdown device, and a flame arrester. [District Rule 2201] Federally Enforceable Through Title V Permit

14. VOC emissions from this landfill operation controlled with the 51 MMBtu/hr and 99 MMBtu/hr enclosed flares shall not exceed 804.3 lb/day (includes landfill fugitive, flare landfill gas, flare pilot, and flare condensate emissions). [District Rule 2201] Federally Enforceable Through Title V Permit

15. The enclosed flares shall either reduce VOC by 98 weight percent or reduce the outlet VOC concentration to less than 20 parts per million by volume, dry basis as methane at 3 percent oxygen. [District Rules 2201 and 4102, and 40 CFR 60.752(b)(2)(iii)(B) and 62.14353(b)] Federally Enforceable Through Title V Permit

16. The landfill gas consumption rate for the 51 MMBtu/hr enclosed flare shall not exceed 51 MMBtu/hr. Heat input shall be calculated daily using landfill gas flow into the flare (cubic feet per minute) and the annually tested landfill gas heat content (Btu/cubic foot). [District Rule 2201] Federally Enforceable Through Title V Permit

17. The landfill gas consumption rate for the 99 MMBtu/hr enclosed flare shall not exceed 99 MMBtu/hr. Heat input shall be calculated daily using landfill gas flow into the flare (cubic feet per minute) and the annually tested landfill gas heat content (Btu/cubic foot). [District Rule 2201] Federally Enforceable Through Title V Permit

18. Emissions from the 51 MMBtu/hr enclosed flare shall not exceed any of the following limits: 0.05 lb-NOx/MMBtu; 0.0178 lb-SOx/MMBtu (46.9 ppmv of H2S in fuel); 0.2 lb-CO/MMBtu; or 0.008 lb-PM10/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

19. Emissions from the 99 MMBtu/hr enclosed flare shall not exceed any of the following limits: 0.057 lb-NOx/MMBtu; 0.0178 lb-SOx/MMBtu (46.9 ppmv of H2S in fuel); 0.110 lb-CO/MMBtu; or 0.008 lb-PM10/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

20. Landfill design capacity shall not exceed 44.4 million cubic meters, or 367 acres, of solid waste. Annual amount of refuse received shall not exceed 1,300,000 ton/year. [District Rule 2201] Federally Enforceable Through Title V Permit

21. The enclosed flares shall be equipped with an LPG fired pilot. [40 CFR 60.18(c)(2) and (f)(2)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. Emissions from the flare LPG-fired pilot shall not exceed any of the following limits: 0.15 lb-NOx/MMBtu, 0.0164 lb-SOx/MMBtu, 0.0044 lb-PM10/MMBtu, 0.021 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

23. Source sampling to determine the compliance status of an emissions source shall be witnessed or authorized by District personnel. [District Rule 1081] Federally Enforceable Through Title V Permit

24. 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 Rule 1081] Federally Enforceable Through Title V Permit

25. Source testing on the 99 MMBtu/hr flare shall be performed to demonstrate compliance with the flare NOx and CO limits, and the NMOC destruction efficiency of 98% as required by this permit shall be conducted within 180 days of startup. [District Rule 2201] Federally Enforceable Through Title V Permit

26. Source testing to demonstrate compliance with VOC, NOx, and CO emission limits and VOC control efficiency requirements shall be conducted at least once every 12 months for each flare. [District Rule 2201] Federally Enforceable Through Title V Permit

27. Source testing for NOx shall be conducted using EPA Test Method 7E or CARB Method 100. [District Rule 1081] Federally Enforceable Through Title V Permit

28. Source testing for CO shall be conducted using EPA Test Method 10 or 10B, CARB Methods 1-5 with 10 or CARB Test Method 100. [District Rule 1081] Federally Enforceable Through Title V Permit

29. Gas combusted in the flares shall be tested for H2S content on a quarterly basis using draeger tubes. If compliance is shown for two consecutive quarters, the testing frequency may be changed to annual. Quarterly testing shall resume if any annual test shows noncompliance. [District Rule 1081] Federally Enforceable Through Title V Permit

30. VOC emissions shall be measured by USEPA Test Method 18, 25, 25A, or 25C. [District Rule 1081 and 40 CFR 60.754(d) and 62.14354(b)] Federally Enforceable Through Title V Permit

31. The enclosed flares shall be equipped with a temperature indicator and recorder which measures and records the operating temperature. The temperature indicator and recorder must operate continuously. [40 CFR 60.756(b)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit

32. The enclosed flare control devices shall be operated within the parameter ranges established during the initial or most recent performance test. [40 CFR 60.752(b)(2)(iii)(B)(2) and 62.14353(b)] Federally Enforceable Through Title V Permit

33. Except during periods of startup, shutdown, and malfunction, the permittee shall continuously monitor and record combustion chamber temperature. The enclosed flare average combustion temperature, for all 3-hour periods of operation, shall not drop more than 28 degrees C below the average combustion temperature, during the most recent performance test at which compliance with 60.752(b)(2)(iii)(B)(2) was determined. Upon detecting any temperature excursion lower than 28 degree C (50 degree F) below the source test average combustion temperature, averaged over a 3-hour period, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. Duration of startup, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for control devices where free venting of landfill gas occurs. [40 CFR 60.758(c)(1)(i), 60.755(e), 62.14354(b), and 40 CFR part 64] Federally Enforceable Through Title V Permit

34. The owner or operator shall measure the gauge pressure in the gas collection header at each individual interior well on a monthly basis as provided in 60.755(a)(3). If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. [40 CFR 60.755(a)(3), 60.756(a)(1), and 62.14354(b)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

35. The owner or operator shall monitor each interior well monthly for temperature and oxygen as provided in 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. [40 CFR 60.753(c), 60.755(a)(3) and (a)(5), 60.756(a)(2) and (a)(3), and 62.14354(b)] Federally Enforceable Through Title V Permit

36. The operator shall record quarterly the surface emission tests including test time, weather conditions, precipitation records, areas sampled, calibration records, and test results. Corrective action shall be taken if required in accordance to 40 CFR 60.755(c). [District Rule 2201, 40 CFR 60.755(c), 60.756(f), and 62.14354(b)] Federally Enforceable Through Title V Permit

37. Permittee shall maintain continuous records of flare combustion temperature and volumetric gas flow rate. Permittee shall record and test the net heating value of landfill gas being combusted at least annually using ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2201 and 40 CFR 60.756(b), 60.758(b)(2)(i), (c)(2) and (b)(2)(i), and 62.14354(b)] Federally Enforceable Through Title V Permit

38. Permittee shall keep, for the life of the collection system, an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. [40 CFR 60.758(d) and 60.34(c)] Federally Enforceable Through Title V Permit

39. The operator shall record emission control device source tests including VOC destruction/treatment efficiency and emissions of CO, NOx, and SOx, in pounds per MMBtu heat input. [District Rule 1081] Federally Enforceable Through Title V Permit

40. Records of the weight of materials received (tons) of Class II/III waste material shall be maintained. [District Rules 2201] Federally Enforceable Through Title V Permit

41. This operating permit may be cancelled upon District approval when the landfill is closed, is not otherwise subject to the requirements of 40 CFR part 70 or part 71, and if the landfill meets the conditions for control system removal specified in 40 CFR 60.752(b)(2)(v). [40 CFR 62.14352(f)] Federally Enforceable Through Title V Permit

42. An active collection system shall be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment, collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade, collect gas at a sufficient extraction rate, and be designed to minimize off-site migration of subsurface gas. [40 CFR 60.752(b)(2)(ii)(A) and 62.14353(b)] Federally Enforceable Through Title V Permit

43. 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 62.14354(b)] Federally Enforceable Through Title V Permit

44. For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, owner or operator must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR Part 62 subpart GGG, these alternatives can be used to comply with 40 CFR 63 subpart AAAA, except that all affected sources must comply with the startup, shutdown, and malfunction (SSM) requirements in subpart A of 40 CFR 63 as specified in Table 1 of 40 CFR 63 subpart AAAA and all affected sources must submit compliance reports every 6 months as specified in 40 CFR 63.1980(a) and (b), including information on all deviations that occurred during the 6 month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average. [40 CFR 60.752(b)(2) and 63.1955(c)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

45. Permittee shall operate the landfill gas collection system with negative pressure at each wellhead except under the following conditions: (1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports ass provided in 60.757(f)(1); (2) At a wellhead within the immediate vicinity of filling; (3) Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan; (4) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the APCO. [40 CFR 60.753(b) and 62.14354(b)] Federally Enforceable Through Title V Permit

46. Permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. [40 CFR 60.753(d), 60.755(c)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit

47. Compliance with the surface methane operational standard shall be demonstrated using the procedures outlined in 40 CFR 60.755(c) within 180 days of installation and startup of the collection and control system and quarterly thereafter. [40 CFR 60.753(d), 60.755(c), 62.14354(b), and 60.8] Federally Enforceable Through Title V Permit

48. Permittee shall operate the enclosed flares at all times when the collected gas is routed to it. [40 CFR 60.753(f) and 62.14354(b)] Federally Enforceable Through Title V Permit

49. Permittee shall operate the landfill gas collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for: (1) five years or more if active; or (2) two years or more if closed or at final grade. [40 CFR 60.753(a) and 62.14354(b)] Federally Enforceable Through Title V Permit

50. Permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 C and with oxygen level less than 5 percent except under the following conditions: (1) A fire or increased well temperature; or (2) at a wellhead within the immediate vicinity of filling. The owner or operator may establish a higher operating temperature or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decompositions by killing methanogens. [40 CFR 60.753(c) and 62.14354(b)] Federally Enforceable Through Title V Permit

51. The collection system shall be operated so that the methane concentration is less than 500 parts per million above background at the surface of the landfill, and such that all collected gases are sent to a control system designed and operated in compliance with 60.752(b)(2)(iii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour. [40 CFR 60.753(d), (e), 60.755(c), and 62.14354(b)] Federally Enforceable Through Title V Permit

52. If monitoring demonstrates that the operational requirements are not met, corrective action shall be taken as specified in 40 CFR 60.755(a)(3 - 5) or (c). [40 CFR 60.753(g) and 62.14354(b)] Federally Enforceable Through Title V Permit

53. For each interior wellhead, unless an alternative test method is established as allowed by 60.752(b)(2)(i) of this subpart, the oxygen shall be determined by a Landtec GEM gas meter or equal, in accordance with the equipment requirements set forth in 40 CFR 60.753 for field measurement of temperature and oxygen or an oxygen meter using Method 3A or 3C except that: (i) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span; (ii) A data recorder is not required; (iii) Only two calibration gases are required, a zero and span, and ambient air may be used as the span; (iv) A calibration error check is not required; (v) The allowable sample bias, zero drift, and calibration drift are +-10 percent. [40 CFR 60.753(c)(2) and 62.14354(b)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

54. Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in 40 CFR 60.755(c)(4)(i-v) shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of 60.753(d). [40 CFR 60.755(c)(3), (4) and 62.14354(b)] Federally Enforceable Through Title V Permit

55. Permittee shall calculate the NMOC emission rate for purposes of determining when the collection and control system can be removed as provided in 40 CFR 60.752(b)(2)(v) by using the equation found in 40 CFR 60.754(b). [40 CFR 60.754(b) and 62.14354(b)] Federally Enforceable Through Title V Permit

56. For the performance test required in 60.752(b)(2)(iii)(B), Method 25, 25C, or Method 18 of Appendix A must be used to determine compliance with the 98 weight percent efficiency or the 20 ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the APCO as provided by 60.752(b)(2)(i)(B). Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. If using Method 18 of appendix A, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The following equation shall be used to calculate efficiency: (NMOCin - NMOCout)/NMOCin. 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 15 days prior to testing. [District Rule 1081 and 40 CFR 60.754(d) and 62.14354(b)] Federally Enforceable Through Title V Permit

57. Each owner or operator shall place each well or design component as specified in the approved design plan as provided in 40 CFR 60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of: 1) 5 years or more if active or 2) 2 years or more if closed or at final grade. [40 CFR 60.755(b) and 62.14354(b)] Federally Enforceable Through Title V Permit

58. For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with 60.752(b)(2)(ii)(A)(1), one of the equations in Section 60.755(a)(1)(i) or (ii) or (iii) shall be used. [40 CFR 60.755(a)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit

59. For the purposes of determining sufficient density of gas collectors for compliance with 60.752(b)(2)(ii)(A)(2), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the APCO, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards. [40 CFR 60.755(a)(2) and 62.14354(b)] Federally Enforceable Through Title V Permit

60. Owners or operators are not required to expand the system as required in paragraph 60.755(a)(3) during the first 180 days after gas collection system startup. [40 CFR 60.755(a)(4) and 62.14354(b)] Federally Enforceable Through Title V Permit

61. The provisions of this subpart apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices. [40 CFR 60.755(e) and 62.14354(b)] Federally Enforceable Through Title V Permit

62. Surface monitoring shall be performed on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.755(d). [40 CFR 60.755(c)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit

63. When performing surface monitoring, the background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. [40 CFR 60.755(c)(2) and 62.14354(b)] Federally Enforceable Through Title V Permit

64. Permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis. [40 CFR 60.755(c)(5) and 40 CFR 62.14354(b)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

65. The portable analyzer shall meet the instrument specifications of Method 21, section 3 (except that "methane" shall replace all references to VOC). The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air. To meet the performance evaluation requirements of Method 21, section 3.1.3, the instrument evaluation procedures of Method 21, section 4.4 shall be used. The calibration procedures provided in Method 21, section 4.2 shall be followed immediately before commencing a surface monitoring survey. The provisions of this condition apply at all times, except during periods of start-up, shutdown, or malfunction which shall not exceed 5 days for collections systems and shall not exceed 1 hour for treatment or control devices. [40 CFR 60.755(d), (e) and 62.14354(b)] Federally Enforceable Through Title V Permit

66. Each wellhead shall have a sampling port and a thermometer, other temperature-measuring device, or an access port for temperature measurements. [40 CFR 60.756(a)] Federally Enforceable Through Title V Permit

67. The enclosed flares shall be equipped with a temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of +-1 percent of the temperature being measured expressed in degrees Celsius or +- 0.5 degrees Celsius, whichever is greater. The temperature indicator and recorder must operate continuously. [District Rule 2201 and 40 CFR 60.756(b)(1) and 62.14354(b) and 40 CFR part 64] Federally Enforceable Through Title V Permit

68. The owner/operator shall install, calibrate, maintain, and operate a meter with a continuous recording device that measures and records the landfill gas flow rate into the flare at least once every 15 minutes. This meter shall also be capable of measuring the landfill gas flow rate that might bypass the flare in the event of equipment malfunction or maintenance. [40 CFR 60.754(b)(1), 60.756(b)(2) and 62.14354(b)] Federally Enforceable Through Title V Permit

69. When performing surface monitoring, any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring. [40 CFR 60.756(f) and 62.14354(b)] Federally Enforceable Through Title V Permit

70. The operator shall monitor and record maintenance-related and other control system downtimes and individual well shutdowns. Exceedances defined under 60.758(c) shall be reported once every 180 days. [District Rule 4102 and 40 CFR 60.757(f), (g)(4) and 60.758(c) and (e), and 62.14354(b)] Federally Enforceable Through Title V Permit

71. Except as provided in 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in paragraphs 60.758(b)(1) through (b)(4) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal. [40 CFR 60.758(b) and 62.14354(b)] Federally Enforceable Through Title V Permit

72. Permittee shall keep the following records: (1)(i) the maximum expected gas generation flow rate as calculated in 60.755(a)(1). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the APCO; (ii) the density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 60.759(a)(1); (2)(i) the average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test; (ii) the percent reduction of NMOC determined as specified in 60.752(b)(2)(iii)(B) achieved by the control device. [40 CFR 60.758(b)(1) and (2) and 62.14354(b)] Federally Enforceable Through Title V Permit

73. Except as provided in 60.752(b)(2)(i)(B), permittee shall keep, for the life of the collection system, an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. If applicable, permittee shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as well as any nonproductive areas excluded from collection. [40 CFR 60.758(d), 62.14354(b), and 60.34(c)] Federally Enforceable Through Title V Permit

74. Except as provided in 60.752(b)(2)(i)(B), permittee shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in 60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. [40 CFR 60.758(e)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

75. The landfill is no longer required to comply with the requirements of 40 CFR Part 63 Subpart AAAA when it is no longer required to apply controls as specified in the Federal plan or EPA approved and effective State plan or tribal plan that implements 40 CFR part 60, subpart Cc. [40 CFR 63.1950] Federally Enforceable Through Title V Permit

76. The permittee shall comply with the general provisions specified in Table 1 of 40 CFR Part 63 Subpart AAAA and 63.1960 through 63.1985 starting on the date required to install the gas collection and control system. [40 CFR 63.1955(b)] Federally Enforceable Through Title V Permit

77. The permittee shall maintain a copy of the SSM plan written according to the provisions in 40 CFR 63.6(e)(3). Failure to maintain a copy of the SSM plan is a deviation from the requirements of this subpart. [40 CFR 63.1960] Federally Enforceable Through Title V Permit

78. The permittee shall keep records and reports as specified in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR part 60, subpart Cc. The annual report described in 40 CFR 60.757(f) must be submitted every 6 months. [40 CFR 63.1980(a)] Federally Enforceable Through Title V Permit

79. The permittee shall maintain records as specified in the general provisions of 40 CFR part 60 and this part as shown in Table 1 of this subpart. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports. [40 CFR 63.1980(b)] Federally Enforceable Through Title V Permit

80. The enclosed flare burner and its associated components and the vapor collection system shall be inspected on an annual basis. The records of inspection shall at least contain date and time of inspection, identification of the person performing an inspection, parts replacement and repairs, and all maintenance actions taken. The records shall be kept and maintained for compliance inspection upon request. [40 CFR part 64] Federally Enforceable Through Title V Permit

81. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit

82. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit

83. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR part 64] Federally Enforceable Through Title V Permit

84. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 1070 and 40 CFR 60.758(a) and (b) and 62.14354(b)] Federally Enforceable Through Title V Permit