

Kirby Canyon Recycling and Disposal Facility

Title V Statement of Basis (SOB) for: Applications 21161, 27006, 27147 Minor Revision of Title V Operating Permit for Site # A1812

December 2015

Introduction

This is a minor permit revision pursuant to Regulation 2, Rule 6, Section 215. This minor revision includes permit condition changes approved pursuant to New Source Review (NSR) Applications # 21156, 24246, 25753, 27005, and 27147. The Statement of Basis/Evaluation Reports for these applications are attached to this SOB.

In addition, the Applicant has requested that the District update the component counts for the gas collection and control system wells at the site due to revisions in the number of installed wells.

Title Page

The District is proposing to change the Responsible Official and the BAAQMD Permit Division Contact.

Section II

The District is proposing the following revisions to Table II – A:

- Updating the landfill gas collection system component counts for consistency with Condition # 1437, Part 6a.
- Add new stockpile sources, S-24 and S-25.

Section IV

The District is proposing to add the new Part 20 of Condition # 1437 to Table IV – A.

The District is proposing to add Table IV – B for the new stockpile sources: S-24 and S-25.

Section VI

The District is proposing to revise Condition #1437 as follows:

- Part 6: Add clarifying text and update collection system component counts and remaining authorized alterations.

- Part 8: Reduce the heat input limits for A-12 Flare.
- Part 10: Increase the NOx limit for A-12 Flare.
- Part 14: Increase the landfill gas condensate injection limit for A-12.
- Part 20: Add this part, which includes a sulfur dioxide emission limit for A-12, surrogate landfill gas sulfur content limits, and monitoring procedures.

The District is proposing to add a new permit condition, Condition # 25872, for the new stockpiles: S-24 and S-25.

Section VII

The District is proposing to incorporate the new and revised limits identified above for Condition # 1437 into Table VII – A.

The District is proposing to add Table VII – B for the new sources: S-24 and S-25.

Section VIII

The District is proposing to add test methods to Table VIII for the new sulfur limits in Condition # 1437, Part 20.

Section X

The District is adding a description of the changes that will be made by this minor revision to Section X.

By: _____
Stanley Tom
Air Quality Engineer II

_____ Date

ENGINEERING EVALUATION
 KIRBY CANYON RECYCLING & DISPOSAL PLANT #1812
 APPLICATION #21156

BACKGROUND

The facility has requested that we modify their conditions as it relates to SO₂ being emitted in the atmosphere. Current source test results show that the facility has not exceeded 300 ppm at the exhaust point. The facility would like to have a condition that specifies H₂S in the influent stream not to exceed 330 ppm. This application corrects an error that was found under A/N 15617 as the PTE calculations were in error for SO₂ calculations. In addition per A/N 21786, condition #6 had a paragraph added that was inadvertently left out when the renewal Title V was permitted in March 2012. I have corrected this so that the condition will reflect this addition to the condition. There is no change in the way the facility operates. This is an active landfill. There is no increase in PTE emissions of SO₂ from this facility. The facility would like to receive a change in condition for S-1.

Calculations:

SO₂ Emissions:

This flare will result in secondary sulfur dioxide (SO₂) emissions due to the combustion of sulfur compounds (primarily hydrogen sulfide) that are present in the landfill gas.

District source tests conducted in January 2009 show a methane concentration of 44.6%. Other source tests data show a greater methane generation. The District will use 40% methane as a more conservative estimate.

Assumptions:

Methane Concentration:	40.0%	in LFG
		BTU/scf
Methane Heat Content:	993.87	CH ₄
		BTU/scf
LFG Heat Content:	397.55	LFG
Flue Gas at 0% O ₂ :	4.0278	scf flue / scf LFG
Flue Gas Factor:	10131.4	scf flue / MM BTU
Standard Molar Volume:	386.765	scf/lbmol
Ambient Oxygen:	20.9%	

Source Test Yr	Ch4 concen	Total Sulfur- H2S in fuel ppm avg	SO2 Avg Out of stack ppm	Flue Gas at 0% O2	Flue Gas Factor
January 2008	46.67%	184.7	15.3	4.5326	9771.8
January 2009	44.6%	239	19.2	4.3759	9871.9
November 2009	50.4%	297	21.4	4.815	9612.3
October 2010	50.6%	128.5	9.8	4.8301	9604.4
November 2011	48.6%	242.7	20	4.6787	9686.2

The sulfur dioxide (SO₂) emission factors are taken from Regulation 9-1-302 (300 ppm of SO₂ in any exhaust point). Assuming the limit value, emission factor is derived below:

$$(300e-6 \text{ lb-mole S/lb-mole gas})(\text{lb-mole SO}_2/\text{lb-mol S})(10131.4 \text{ scf flue gas/MM BTU})(64.059 \text{ lbs SO}_2/\text{lb-mol SO}_2)/386.765 = 0.5034 \text{ lb SO}_2/\text{MM Btu gas}$$

$$\begin{aligned} (149 \text{ MM BTU/hour}) * (0.5034 \text{ lbs SO}_2/\text{MM BTU}) &= 75.0084 \text{ lbs SO}_2/\text{hour} \\ &= 1800.202 \text{ lbs SO}_2/\text{day} \\ &= 328.537 \text{ tons SO}_2/\text{year (329 tons/yr SO}_2) \end{aligned}$$

$$(300 \text{ ft}^3 \text{ SO}_2/1E6 \text{ ft}^3 \text{ flue gas}) * (4.0278 \text{ ft}^3 \text{ flue gas}/1 \text{ ft}^3 \text{ LFG}) * (1 \text{ ft}^3 \text{ H}_2\text{S}/1 \text{ ft}^3 \text{ SO}_2) = 12.08E-4 \text{ ft}^3 \text{ H}_2\text{S}/1 \text{ ft}^3 \text{ LFG} = 1208.34 \text{ ppmv of H}_2\text{S in LFG}$$

If reduce TRS to 330 in gas stream get the following results

$$(82 \text{ ft}^3 \text{ SO}_2/1E6 \text{ ft}^3 \text{ flue gas}) * (4.0278 \text{ ft}^3 \text{ flue gas}/1 \text{ ft}^3 \text{ LFG}) * (1 \text{ ft}^3 \text{ H}_2\text{S}/1 \text{ ft}^3 \text{ SO}_2) = 3.3E-4 \text{ ft}^3 \text{ H}_2\text{S}/1 \text{ ft}^3 \text{ LFG} = 330 \text{ ppmv of H}_2\text{S in LFG}$$

$$(82E-6 \text{ lb-mole S/lb-mole gas})(\text{lb-mole SO}_2/\text{lb-mol S})(10131.4 \text{ scf flue gas/MM BTU})(64.059 \text{ lbs SO}_2/\text{lb-mol SO}_2)/386.765 = 0.1376 \text{ lb SO}_2/\text{MM Btu gas}$$

$$\begin{aligned} (149 \text{ MM BTU/hour}) * (0.1376 \text{ lbs SO}_2/\text{MM BTU}) &= 20.5023 \text{ lbs SO}_2/\text{hour} \\ &= 492.0552 \text{ lbs SO}_2/\text{day} \\ &= 89.8001 \text{ tons SO}_2/\text{year (< 100 tons/yr SO}_2) \end{aligned}$$

Previous application 15617 A-11 45 MM Btu/hr flare: PTE calculation of Flare choose the largest methane concentration November 2007 OS-2213

Source Test Yr	Ch4 concen	Total Sulfur-H2S in fuel ppm avg	SO2 Avg Out of stack ppm	Flue Gas at 0% O2	Flue Gas Factor
December 2005	42%	28	3.2	4.1791	10,011.7
November 2006	46.1%	44.3	4.6	4.4895	9798.6
November 2007	47%	90	8.4	4.5576	9756.8

$$(300e-6 \text{ lb-mole S/lb-mole gas})(\text{lb-mole SO}_2/\text{lb-mol S})(9756.8 \text{ scf flue gas/MM BTU})(64.059 \text{ lbs SO}_2/\text{lb-mol SO}_2)/386.765 = 0.4848 \text{ lb SO}_2/\text{MM Btu gas}$$

$$\begin{aligned} (45 \text{ MM BTU/hour}) * (0.4848 \text{ lbs SO}_2/\text{MM BTU}) &= 21.816 \text{ lbs SO}_2/\text{hour} \\ &= 523.583 \text{ lbs SO}_2/\text{day} \\ &= 95.55 \text{ tons SO}_2/\text{year} \end{aligned}$$

EMISSIONS

Criteria Pollutants

Maximum daily and annual emission rates for the flare and the cumulative emission increases for this application are summarized in Table 1

Table 1. Summary of Criteria Pollutant Emissions from A-12

	Emission Factor Pounds/MM BTU	Max Daily Emissions Pounds/Day	Max Annual Emissions Tons/Year	Application PTE Change Tons/Year
SO ₂	0.1376	492.06	89.80	-5.75

STATEMENT OF COMPLIANCE

Regulation 2, Rule 1 (CEQA and Public Notice Requirements)

This application is for a change of permit conditions at S-1. The permit condition revisions will not result in any significant emission increases at this facility. There is no possibility that the proposed permit condition revisions could have any significant impact on the environment. Therefore, this proposed change of permit condition is categorically exempt from CEQA review pursuant to Regulation 2-1-312.1 and 2-1-312.11. No further CEQA review is required.

The project is over 1000 feet from the nearest school and is not subject to the public notification requirements of Regulation 2-1-412.

Regulation 2, Rule 2 (NSR)

Per Regulation 2, Rule 2, Section 112, BACT review does not apply to emissions of secondary pollutants that are the direct result of operation of an abatement device that complies with the BACT or BARCT requirements for the control of another pollutant. Facility is not subject to NSR as there is no increase in emissions from source S-1 that is abated by A-12. Facility is not subject to the following: Regulation 2-2-301 (BACT), Regulation 2-2-303 Offset Requirements- as there will be a reduction in PTE emissions of SO₂ once the permit condition is modified.

The proposed landfill gas flare is an abatement device as defined in Regulation 1-240, which has been installed to meet the control requirements in Regulation 8, Rule 34. There is no modification proposed to the landfill itself, so there is no increase in the capacity of the 'unit being controlled.' Therefore, emission offsets are not required for the secondary pollutant emissions from the combustion of landfill gas at the proposed flare.

This facility does not result in SO₂ emissions exceeding 40 tons/year for a major facility. Therefore PSD for SO₂ is not applicable. Sections 2-2-304 do not apply.

Regulation 2, Rule 5 (Toxic NSR)

Not applicable as there was no increase in emissions for this source. This application is only for a condition limit of SO₂.

Regulation 2, Rule 6 Major Facility Review

This facility is subject to the operating requirements of Title V of the Federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2 Rule 6 because it is a designated and major facility defined by the BAAQMD Regulation 2, Rule 6, Section 204, Regulation 2-6-304 and Regulation 2-6-212. The facility has been issued a Title V permit. The modification of permit conditions will require a minor revision to the MFR Permit pursuant to Regulation 2-6-201. This application serves as the Statement of Basis for the minor MFR permit revision.

Regulation 6, "Particulate Matter and Visible Emissions"

Facility is expected to comply with Section 310.

The facility is expected to comply with Regulation 8, Rule 34, Section 301.

This section requires the flare to meet a non-methane organic compound (NMOC) destruction efficiency of at least 98% by weight or meeting an outlet NMOC concentration of less than 30 ppmv, dry as methane, corrected to 3% oxygen. The flare is expected to comply with these limits, which will be included in the permit conditions and enforced through a minimum temperature limit. The facility is also in compliance with landfill surface requirements.

Regulation 9, Rule 1, "Inorganic Gaseous Pollutants – Sulfur Dioxide"

The flare will be subject to Regulation 9, Rule 1, Section 9-1-301 and Section 9-1-302. Section 9-1-302 limits sulfur dioxide emissions to no more than 300 ppmv in the exhaust.

Compliance with the SO₂ concentration limit for the existing flare can be established through a surrogate limit of 1208 ppmv of total reduced sulfur (TRS) content in the landfill gas with 40% methane. Assuming all of the sulfur is converted to SO₂ upon combustion, this level of sulfur will result in the following SO₂ emissions:

A limit of TRS will be set far below the 300 ppmv level in the exhaust. The facility will easily comply with this condition. A condition set at 330 ppmv of H₂S concentration in LFG will be set. Therefore, this permit condition will ensure compliance with the Regulation 9-1-302 limit. Source test of the landfill gas has demonstrated compliance with this TRS concentration limit. Levels have been reported at less than 330 ppm at the outlet for TRS in the concentrate gas (November 2009). Facility can easily comply with 9-1-302

Compliance with the TRS content of less than 1208 ppmv therefore ensures compliance with the limit in Section 9-1-302. Compliance with the 300 ppmv SO₂ exhaust limit Section 9-1-301 is expected to ensure compliance with the ground level concentration limits in Section 9-1-301 of 0.5 ppm continuously for 3 minutes, 0.25 ppm averaged over 60 minutes, and 0.05 ppm averaged over 24 hours. .

Regulation 9, Rule 2, "Inorganic Gaseous Pollutants – Hydrogen Sulfide"

The ground level concentration limit on hydrogen sulfide in Section 9-2-301 is 0.06 ppm averaged over 3 minutes or 0.03 ppm averaged over 60 minutes. Hydrogen sulfide is generally identified by its characteristic rotten egg smell and can be detected by its odor at concentrations as low as 0.0005 ppmv. Therefore, H₂S emissions are usually detected by smell well before the concentrations approach the limits in Section 9-2-301. Hydrogen sulfide complaints are rarely received in association with Bay Area landfills, therefore area monitoring to demonstrate compliance with this rule has not been required.

**40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS):
Subpart A, Standards of Performance for New Stationary Sources – General Provisions
Subpart Cc, Standards of Performance for New Stationary Sources – Emission Guidelines and
Compliance Times for Municipal Solid Waste Landfills**

40 CFR Part 60, Subpart Cc, Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills applies to MSW landfills that have had no design capacity modification since May 30, 1991, but that have accepted waste since November 8, 1987. This facility began accepting waste in July 1986 and facility is currently subject to the EG requirements. The District's Regulation 8, Rule 34 has been approved in the state plan for implementation of the EG requirements. Therefore, the facility is currently subject to the EG, which is enforced through compliance with District Regulation 8, Rule 34. See the discussion of Rule 8-34 requirements above.

**Subpart A, Standards of Performance for New Stationary Sources – General Provisions
Subpart WWW, Standards of Performance for New Stationary Sources –Municipal Solid Waste
Landfills**

Subpart WWW applies to municipal solid waste landfills that commenced construction, reconstruction, or modification or began accepting waste on or after May 30, 1991. For the purposes of Subpart WWW, modification is defined as

“an increase in the permitted volume design capacity of the landfill by either horizontal or vertical expansion based on its permitted design capacity as of May 30, 1991. Modification does not occur until the owner or operator commences construction on the horizontal or vertical expansion.”

The proposed change of condition at this site will not affect the permitted design capacity of the landfill, therefore this site will not become subject to Subpart WWW due to these changes.

**40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAPs):
Subpart M, National Emission Standard for Asbestos**

Subpart M applies to a number of asbestos related operations and handling activities, including active waste disposal sites that receive asbestos-containing waste material from sources subject to §61.149 (asbestos mills), 61.150 (manufacturing, fabricating, demolition, renovation, and spraying operations, and/or 61.155 (operations that convert asbestos-containing material into asbestos-free material). Asbestos-containing waste material is defined to include filters from control devices, friable asbestos waste, and bags or other packaging contaminated with commercial asbestos. This site accepts only non-friable asbestos and is therefore not subject to Subpart M.

**40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source
Categories/Maximum Achievable Control Technology (MACT) Standards:
Subpart A, National Emission Standards for Hazardous Air Pollutants – General Provisions
Subpart AAAA, National Emission Standards for Hazardous Air Pollutants – Municipal Solid Waste
Landfills**

Subpart AAAA applies to municipal solid waste landfills that have accepted waste since November 8, 1987 or have additional capacity to accept waste and that meets any of the following:

- The landfill is a major source as defined in 40 CFR Part 63.2 of Subpart A (has the potential to emit, considering controls, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants);
- The landfill is co-located with a major source as defined in 40 CFR Part 63.2 of Subpart A; or
- The landfill is area source with a design capacity of 2.5 million megagrams and 2.5 million cubic meters or more and which has estimated uncontrolled non-methane organic compound emissions of 50 megagrams or more, as calculated according to Part 60, Subpart WWW.

This site is actively accepting waste and has a design capacity greater than 2.5 million cubic meters and is therefore subject to this regulation. This regulation requires subject landfills to meet the requirements of 40 CFR Part 60, Subpart Cc or WWW (addressed above). In addition, subject facilities are required to develop, maintain, and comply with a written startup, shutdown, and malfunction (SSM) plan per §63.1960 and Subpart A of this part. §63.1980 of the rule also requires semiannual submittal of the

reports required by 40 CFR 60.757(f) (instead of annually). Table 1 requires compliance with certain sections of 40 CFR Part 63, Subpart A which are mirrored in 40 CFR Part 60, Subpart A and the following sections of 40 CFR Part 63, Subpart A:

- §63.5(b), Requirements for existing, newly constructed, and reconstructed sources: This application does not constitute reconstruction of the affected source.
- §63.6(e), Operation and maintenance requirements: This section requires operation of the affected source in a manner consistent with safety and good control practices for minimizing emissions, including during any periods of startup, shutdown, or malfunction. The facility is expected to continue to comply with these requirements.
- §63.10(b)(2)(i) – (v), General recordkeeping requirements: This section requires maintenance of records pertaining to startup, shutdown, and malfunction of the source, as well as maintenance on control and monitoring equipment. This must include all information necessary to demonstrate compliance with the SSM plan and documentation of actions taken that are different from the procedures in the SSM plan. The facility is expected to continue to comply with these requirements.
- §63.10(d)(5), General reporting requirements: Periodic reports of actions taken in compliance with the SSM plan must be reported if there was an exceedance of an emission limit. These reports must be submitted semiannually. If there was an exceedance of an emission limit and the actions taken are inconsistent with the SSM plan, an immediate report is required. The report must include a summary of the actions taken, must be reported within 2 working days, and a summary must follow within 7 working days after the event ends. The facility is expected to continue to comply with these requirements.

40 CFR Part 70, State Operating Permit Programs (Title V):

This facility is a designated facility, as it is currently subject to the requirements of 40 CFR Part 70. As a designated facility, this facility is subject to the requirements of 40 CFR Part 70. The requirements of this program have been codified in District Regulation 2, Rule 6. See discussion of Rule 2-6 above.

PERMIT CONDITIONS

Condition #143725301

For: S-1 Kirby Canyon MSW Landfill – Waste Decomposition Process; Equipped with Landfill Gas Collection System; abated by A-12, Enclosed Landfill Gas Flare with Condensate Injection System; S-22 Kirby Canyon MSW Landfill – Waste and Cover Material Dumping; and S-23 Kirby Canyon MSW Landfill – Excavating, Bulldozing, and Compacting Activities

1. The owner/operator shall comply with the following waste acceptance and disposal limits and shall obtain the appropriate New Source Review permit, if one of the following limits is exceeded:
 - a. Except for temporary emergency situations approved by the Local Enforcement Agency, the total waste accepted and placed at the landfill shall not exceed 2600 tons in any day. (Basis: Regulation 2-1-301)
 - b. The total cumulative amount of all decomposable materials placed in the landfill shall not exceed 19.84 million tons. Exceedance of the cumulative tonnage limit is not a violation of the permit and does not trigger the requirement to obtain a New Source review permit, if the operator can, within 30 days of the date of discovery of the exceedance, provide documentation to the District demonstrating, in accordance with BAAQMD Regulation 2-1-234.3, that the limit should be higher. (Basis: Regulation 2-1-234.3)
 - c. The maximum design capacity of the landfill (total volume of all wastes placed in the landfill) shall not exceed 36.40 million cubic yards. (Basis: Regulation 2-1-301)

2. Handling Procedures for Soil Containing Volatile Organic Compounds
 - a. The procedures listed below in subparts b-l do not apply if the following criteria are satisfied. However, the record keeping requirements in subpart m, below, are applicable.
 - i. The owner/operator has appropriate documentation demonstrating that either the organic content of the soil or the organic concentration above the soil is below the "contaminated" level (as defined in Regulation 8, Rule 40, Sections 205, 207, and 211). The handling of soil containing VOCs in concentrations below the "contaminated" level is subject to Part 3 below.
 - ii. The owner/operator has no documentation to prove that soil is not contaminated, but source of the soil is known and there is no reason to suspect that the soil might contain organic compounds.
 - b. The owner/operator shall provide verbal notification to the Compliance and Enforcement Division of the owner/operator's intention to accept contaminated soil at the facility at least 24 hours in advance of receiving the contaminated soil. The owner/operator shall provide an estimate of the amount of contaminated soil to be received, the degree of contamination (range and average VOC Content), and the type or source of contamination.
 - c. Any soil received at the facility that is known or suspected to contain volatile organic compounds (VOCs) shall be handled as if the soil were contaminated, unless the owner/operator receives test results proving that the soil is not contaminated. To prove that the soil is not contaminated, the owner/operator shall collect soil samples in accordance with Regulation 8-40-601 within 24 hours of receipt of the soil by the facility. The organic content of the collected soil samples shall be determined in accordance with Regulation 8-40-602.
 - i. If these test results indicate that the soil is still contaminated or if the soil was not sampled within 24 hours of receipt by the facility, the owner/operator must continue to handle the soil in accordance with the procedures set forth in subparts e-1, below, until the soil has completed treatment or has been placed in a final disposal location and adequately covered. Storing soil in a temporary stockpile or pit is not considered treatment. Co-mingling, blending, or mixing of soil lots is not considered treatment.
 - ii. If these test results indicate that the soil – as received at the facility – has an organic content of 50 ppmw or less, then the soil is no longer contaminated and shall be handled in accordance with the procedures in Part 3 instead of Part 2, subparts e-l.
 - d. Any contaminated soil received at the facility shall be clearly identified as contaminated soil, shall be handled in accordance with subparts e-l. below, and shall be segregated from non-contaminated soil. Contaminated soil lots may not be co-mingled, blended, or otherwise mixed with non-contaminated soil lots prior to treatment, reuse, or disposal. Mixing soil lots in an attempt to reduce the overall concentration of the contaminated soil or to circumvent any requirements or limits is strictly prohibited.
 - e. On-site handling of contaminated soil shall be limited to no more than 2 on-site transfers per soil lot. For instance, unloading soil from off-site transport vehicles into a temporary storage pile is 1 transfer. Moving soil from a temporary storage to a staging area is 1 transfer. Moving soil from a temporary storage pile to a final disposal site is 1 transfer. Moving soil from a staging area to a final disposal site is 1 transfer. Therefore, unloading soil from off-site transport into a temporary storage pile and then moving the soil from that temporary storage pile

- to the final disposal site is allowed. Unloading soil from off-site transport into a staging area and then moving the soil from that staging area to the final disposal site is allowed. However, unloading soil from off-site transport to a temporary storage pile, moving this soil to a staging area, and then moving the soil again to a final disposal site is 3 on-site transfers and is not allowed.
- f. If the contaminated soil has an organic content of less than 500 ppmw, the contaminated soil shall be treated, deposited in a final disposal site, or transported off-site for treatment within 90 days of receipt at the facility.
 - g. If the contaminated soil has an organic content 500 ppmw or more, the contaminated soil shall be treated, deposited in a final disposal site, or transported off-site for treatment within 45 days of receipt at the facility.
 - h. All active storage piles shall meet the requirements of Regulation 8-40-304 by using water sprays, vapor suppressants or approved coverings to minimize emissions. The exposed surface area of any active storage pile (including the active face at a landfill) shall be limited to 6000 ft². The types of storage piles that may become subject to these provisions include (but are not limited to) truck unloading areas, staging areas, temporary stockpiles, soil on conveyors, bulldozers or trucks, the active face of a landfill, or other permanent storage pile at the final disposal location.
 - i. All inactive storage piles shall meet the requirements of Regulation 8-40-305 including the requirement to cover contaminated soil during periods of inactivity longer than one hour. The types of storage piles that may become subject to these provisions include (but are not limited to) soil on trucks or other on-site equipment, staging areas, temporary stockpiles, and the permanent storage pile at the final disposal location. District approved coverings for inactive storage piles include continuous heavy-duty plastic sheeting (in good condition, joined at the seams, and securely anchored) or encapsulating vapor suppressants (with re-treatment as necessary to prevent emissions).
 - j. The owner/operator must:
 - i. Keep contaminated soil covered with continuous heavy-duty plastic sheeting (in good condition, joined at the seams, and securely anchored) whenever soil is to be stored in temporary stockpiles or during on-site transport in trucks. Soil in trucks shall not be left uncovered for more than 1 hour.
 - ii. Establish a tipping area for contaminated soils near the active face that is isolated from the tipping area for other wastes.
 - iii. Spray contaminated soil with water or vapor suppressant immediately after dumping the soil from a truck at the tipping area.
 - iv. Ensure that all contaminated soil is transferred from the tipping area to the active face immediately after spraying with water or vapor suppressant.
 - v. Ensure that contaminated soil in the tipping area is not disturbed by subsequent trucks. Trucks shall not drive over contaminated soil in the tipping area or track contaminated soil out of the tipping area on their wheels.
 - vi. Spray contaminated soil on the active face with water or vapor suppressant (to keep the soil visibly moist) until the soil can be covered with an approved covering.
 - vii. Limit the area of exposed soil on the active face to no more than 6000 ft².
 - viii. Ensure that contaminated soil spread on the active face is completely covered on all sides with one of the following approved coverings: at least 6 inches of clean compacted soil, at least 12 inches of compacted garbage, or at least 12 inches of compacted green waste.

- ix. Ensure that covering of soil on the active face is completed within one hour of the time that the soil was first dumped from a truck at the tipping area.
- k. Contaminated soil shall not be used as daily, intermediate, or final cover material for landfill waste operations unless the requirements of Regulation 8, Rule 40, Sections 116 or 117 have been satisfied.
- l. Contaminated soil is considered to be a decomposable solid waste pursuant to Regulation 8, Rule 34. All contaminated soil disposed of at a site shall be included in any calculations of the amount of decomposable waste in place that are necessary for annual reporting requirements or for purposes of 8-34-111 or 8-34-304.
- m. The owner/operator shall keep the following records for each lot of soil received, in order to demonstrate on-going compliance with the applicable provisions of Regulation 8, Rule 40.
 - i. For all soil received by the facility (including soil with no known contamination), record the arrival date at the facility, the soil lot number, the amount of soil in the lot, the organic content or organic concentration of the lot (if known), the type of contamination (if any), and keep copies of any test data or other information that documents whether the soil is contaminated (as defined in 8-40-205) or not contaminated, with what, and by how much.
 - ii. If the soil is tested for organic content after receipt by the facility, record the sampling date, test results, and the date that these results were received.
 - iii. For all on-site handling of contaminated soil, use a checklist or other approved method to demonstrate that appropriate procedures were followed during all on-site handling activities. One checklist shall be completed for each day and for each soil lot (if multiple lots are handled per day).
 - iv. For soil aerated in accordance with 8-40-116 or 117 record the soil lot number, the amount of soil in the lot, the organic content, the final placement date, the final placement location, and describe how the soil was handled or used on-site.
 - v. For final disposal at a landfill, record on a daily basis the soil lot number, the amount of soil placed in the landfill, the disposal date, and the disposal location.

All records shall be retained for at least 5 years from the date of entry and shall be made available for District inspection upon request.

(basis: Regulations 8-40-301, 8-40-304 and 8-40-305)

- 3. Low VOC soil (soil that contains 50 ppmw or less of VOC) is not considered to be "contaminated soil" and may be used as daily, intermediate, or final cover material for landfill waste operations if the organic concentration above the soil does not exceed 50 ppmv (expressed as methane, C1). To demonstrate compliance with this requirement, each lot of soil to be used as cover material shall be randomly screened for VOC surface emissions (in such a manner as to be representative of the entire lot) using the testing procedures outlined in Regulation 8-40-604. The owner/operator shall keep the following records for each lot of soil subject to this requirement:
 - a. The soil lot number as established in part 2m.i. (above).
 - b. The time and date of the soil screening.
 - c. The name and affiliation of the person performing the monitoring.
 - d. The results of the screening and an acknowledgement that the procedures outlined in Regulation 8-40-604 were used.

Soil presumed to be low VOC soil that is found to have a surface VOC concentration greater than 50 ppmv as described above shall be considered contaminated soil and will

be subject to the requirements of part 2 of these conditions. (basis: Regulations 2-1-403, 8-40-205, 8-40-604)

4. Water and/or dust suppressants shall be applied to all unpaved roadways, active soil removal, and fill areas as necessary to prevent visible particulate emissions. Paved roadways shall be kept sufficiently clear of dirt and debris to prevent visible particulate emissions from vehicle traffic or wind. (basis: Regulations 2-1-403, 6-1-301, and 6-1-305)
5. All collected landfill gas shall be vented to properly operating Landfill Gas Flare (A-12). Raw landfill gas shall not be vented to the atmosphere, except for unavoidable landfill gas emissions that occur during collection system installation, maintenance, or repair that is performed in compliance with Regulation 8, Rule 34, Sections 113, 116, 117, or 118 and for component or surface leaks that do not exceed the limits specified in 8-34-301.2 or 8-34-303.(basis: Regulation 8-34-301)

6. The owner/operator shall apply for and receive a Change of Conditions from the District before altering the landfill gas collection system described in Parts 6a-b below. Increasing or decreasing the number of wells or collectors, changing the length of collectors, or changing the locations of wells or collectors are alterations that are subject to this requirement. [The authorized number of landfill gas collection system and leachate collection system components is the baseline count listed below, plus any components added and minus any components decommissioned pursuant to Part 6b, as evidenced by start-up/shutdown notification letters submitted to the District](#)

- a. The owner/operator has been issued a Permit to Operate for the landfill gas collection system and leachate collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in Permit Applications #2232, #7835, #11730, #17016, and #21786.

	Current
Total Number of Vertical Landfill Gas Extraction Wells:	58
Total Number of Horizontal Landfill Gas Trench Collectors:	0
Total Number of Leachate Collection Wells:	1

- b. The owner/operator is authorized to make the landfill gas collection system and leachate collection system component alterations listed below. Specific details regarding well alterations are described in Permit Application #23446.

	Minimum	Maximum
Install new Vertical Gas Extraction Wells:	0	45
Replace Vertical Gas Extraction Wells:	0	103
Decommission Vertical Gas Extraction Wells:	0	40
Install new Horizontal Trench Collectors	0	5
Decommission Horizontal Trench Collectors	0	2
Install new Leachate Cleanout Risers	0	15
Decommission Leachate Cleanout Risers	0	8

Wells installed, relocated, replaced, or shutdown pursuant to Part 6b shall be added to or removed from Part 6a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415. The owner/operator shall maintain records of the decommissioning date for each well that is shutdown and the initial operation date for each new or relocated well.

(basis: Regulations 2-1-301, 8-34-301.1, 8-34-303, 8-34-304, 8-34-305)

7. The landfill gas collection system described in Part 6a shall be operated continuously as defined in Regulation 8-34-219, except for leachate collection wells that are specifically allowed to operate less than continuously pursuant to Part 19. Wells shall not be shut off,

disconnected or removed from operation without written authorization from the APCO, unless the owner/operator complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118 and Condition #1437, Part 19. (basis: Regulation 8-34-301.1)

8. The owner/operator shall ensure that the heat input to the A-12 Landfill Gas Flare does not exceed 3,576 million Btu per day and does not exceed 1,305,240 million Btu per year. In order to demonstrate compliance with this part, the owner/operator shall calculate and record, on a monthly basis, the maximum daily and total monthly heat input to the flare based on: (a) the landfill gas flow rate recorded pursuant to part 15h, (b) the average methane concentration in the landfill gas measured in most recent source test, and (c) a high heating value for methane of 1013 BTU per cubic foot at 60 degrees F. (basis: Regulation 2-1-301)
9. The minimum combustion zone temperature of the Flare A-12 shall be determined by the results of the most recent source test in which compliance with all applicable requirements was demonstrated. The minimum combustion zone temperature shall be 1428 degrees F, which was determined from the average temperature measured during the complying source test on 1/20/09 minus 50 degrees F. Once the minimum temperature has been established, it shall be maintained during all periods of flare operation. Compliance with the temperature limit shall be based on a 3-hour averaging period. Under no circumstances shall the minimum flare temperature be less than 1,400 degrees F. Based on the results of required source testing of the flare, the APCO may add an explicit temperature limit to the conditions for the Flare A-12 in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415. (Basis: Regulations 2-5-302 and 8-34-301.3)
10. The owner/operator shall ensure that emissions of Nitrogen Oxides (NO_x) from the Flare A-12 do not exceed 0.05 pounds per million BTU (calculated as NO₂). (basis: RACT)
11. The owner/operator shall ensure that emissions of Carbon Monoxide (CO) from the Flare A-12 do not exceed 0.3 pounds per million BTU. (basis: RACT).
12. To demonstrate compliance with Regulation 8, Rule 34, Sections 301.3 and 412, and the above requirements, the owner/operator shall ensure that a District approved source test is conducted on the Landfill Gas Flare (A-12) within 90 days of startup, followed by annual source tests thereafter. The owner/operator shall obtain prior approval from the Source Test Manager for the location of sampling ports and source testing procedures. The startup and annual source tests shall determine the following:
 - a. landfill gas flow rate to the flare (dry basis);
 - b. concentrations (dry basis) of carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), methane (CH₄), and total non-methane organic compounds (NMOC) in the landfill gas;
 - c. stack gas flow rate from the flare (dry basis);
 - d. concentrations (dry basis) of nitrogen oxides (NO_x), carbon monoxide (CO), CH₄, NMOC, SO₂, and O₂ in the flare stack gas;
 - e. the NMOC destruction efficiency achieved by the flare; and
 - f. the average combustion temperature in the flare during the test period.Annual source tests shall be conducted no later than 12 months after the previous source test. The Source Test Section of the District shall be contacted to obtain approval of the source test procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division and to the Source Test Section within 60 days of the test date. (basis: RACT, Regulations 2-1-301, 2-5-302, 8-34-301.3, 8-34-412, and 9-1-302)

13. The owner/operator shall conduct a characterization of the landfill gas concurrent with the annual source test required by part 12 above. The landfill gas sample shall be drawn from the main landfill gas header. In addition to the compounds listed in part 12b, the landfill gas shall be analyzed for all the compounds listed in the most recent version of EPA's AP-42 Table 2.4-1 excluding acetone, carbon monoxide, and mercury. All concentrations shall be reported on a dry basis. The test report shall be submitted to the Compliance and Enforcement Division within 60 days of the test date. After conducting three annual landfill gas characterization tests, the owner/operator may request to remove specific compounds from the list of compounds to be tested for if the compounds have not been detected, have no significant impact on the cancer risk determination for the site, and have no significant impact on the hazard index determination for the site. (basis: Regulations 2-5-302 and 8-34-412)

- *14. The landfill gas condensate injection rate into the flare shall not exceed 5 gallons per minute. Total landfill gas condensate injection throughput shall not exceed 1,500,000 gallons during any consecutive twelve-month period. The owner/operator may submit a written petition to the District to increase the landfill gas condensate injection rate subject to current District-approved source test results. (basis: Regulation 2-5-302)

15. To demonstrate compliance with the above conditions, the owner/operator shall maintain the following records in a District approved logbook.
 - a. The total amount of municipal solid waste received at S-1 recorded on a daily basis. A summary of the daily waste acceptance records for each calendar month.
 - b. For each area or cell that is not controlled by a landfill gas collection system, a record of the date that waste was initially placed in the area or cell. The cumulative amount of waste placed in each uncontrolled area or cell recorded on a monthly basis.
 - c. If the owner/operator plans to exclude an uncontrolled area or cell from the collection system requirement, the owner/operator shall also record the types and amounts of all non-decomposable waste placed in the area and the percentage (if any) of decomposable waste placed in the area.
 - d. Low VOC soil screening data, pursuant to part 3.
 - e. The dates, locations, and frequency per day of all watering activities on unpaved roads or active soil or fill areas. The dates, locations, and type of any dust suppressant applications. The dates and description of all paved roadway cleaning activities. All records shall be summarized monthly.
 - f. The initial operation date for each new landfill gas well and collector.
 - g. An accurate map of the landfill that indicates the locations of all refuse boundaries and the locations of all wells and collectors (using unique identifiers) that are required to be operating continuously pursuant to part 6a. Any areas containing only non-decomposable waste shall be clearly identified. This map shall be updated at least once a year to indicate changes in refuse boundaries and to include any newly installed wells and collectors.
 - h. The operating times and the landfill gas flow rate to the A-12 Landfill Gas Flare recorded on a daily basis. A monthly summary of the heat input to A-12, pursuant to part 8 shall be calculated and recorded.
 - i. Continuous records of the combustion zone temperature for the A-12 Landfill Gas Flare during all hours of operation.
 - j. Records of all test dates and test results performed to maintain compliance with parts 12 and 13 above or any applicable rule or regulation.
 - k. Records of landfill gas condensate injection throughput and the duration of the injection recorded daily.All records shall be maintained on site or shall be made readily available to District staff

upon request for at least 5 years from the date of entry. These recordkeeping requirements do not replace the recordkeeping requirements contained in any applicable rules or regulations.

(basis: Cumulative Increase, 2-1-301, 2-6-501, 6-1-301, 6-1-305, 8-2-301, 8-34-301, 8-34-304, 8-34-501, and 9-1-302)

16. The annual report required by BAAQMD Regulation 8-34-411 shall be submitted in two semi-annual increments. The reporting periods and report submittal due dates for the Regulation 8-34-411 report shall be synchronized with the reporting periods and report submittal due dates for the semi-annual MFR Permit monitoring reports that are required by Section I.F. of the MFR Permit for this site. (basis: Regulation 8-34-411 and 40 CFR Part 63.1980(a))
17. The gas collection system operating requirements listed below shall replace the well head requirements identified in Regulation 8-34-305.2 through 8-34-305.4 for the specified wells and collectors. All wells and collectors remain subject to the Regulation 8-34-305.1 requirement to maintain vacuum at each well head.
 - a. The Regulation 8-34-305.2 temperature limit shall not apply to the Wells 36 through 39, 43 through 44, 45, 51, 52, 53, 56, 57, 58, 59, 60, 64, 65, 66, 74, 75, 76, 77, 78, 79, 80, 81, 86, and 87 and any other wells for which the District has approved a higher operating temperature value, provided that the landfill gas temperature at each of the identified wells (except Wells 56, 75, and 80) does not exceed 145 degrees F (63 degrees C) and that the temperature at Wells 56, 75, and 80 does not exceed 156 degrees F (69 degrees C).
 - b. The owner/operator shall demonstrate compliance with the alternative wellhead landfill gas temperature limit in 17(a) above by monitoring the temperature of each wellhead on a monthly basis, in accordance with Regulation 8-34-505.
 - c. All records to demonstrate compliance with Part 17(a) and all applicable sections of BAAQMD Regulation 8, Rule 34 shall be recorded in a District-approved log and made available to District staff upon request in accordance with Regulation 8-34-501.4, 501.9, and 414.
 - d. If the temperatures measured at any of the Part 17(a) wells are found to exceed the temperature limit in Part 17(a), the owner/operator shall take all measures necessary to investigate the possibility of subsurface fires, including landfill gas testing for carbon monoxide (CO) on those landfill gas collection wells in Part 17(a) that exceed the operating temperature limit. If a fire is suspected, the owner/operator shall employ all means as appropriate to extinguish the fire, repair the well(s), and bring the well(s) back into service according to Section 8-34-414.(basis: Regulations 8-34-301.2, 8-34-303, and 8-34-305)
18. If any other well has a temperature of 131 degrees F or higher, the owner/operator may elect to add this component to the list of alternative temperature limit wells in Part 17 if all of the following requirements are met:
 - a. The wellhead temperature does not exceed 145 degrees F.
 - b. The carbon monoxide (CO) concentration in the wellhead gases does not exceed 500 ppmv.
 - c. The component does not exceed any wellhead limit other than temperature and had no excesses of wellhead limits (other than temperature) during the past 120 days prior to adding this component to the list in this subpart, unless the excess is positive pressure at the well from the well vacuum being reduced to eliminate any potential over pull that could contribute to a landfill fire.
 - d. Prior to adding a component to the list in Part 17, the owner/operator shall monitor the gas in the wellhead for CO concentration at least two times, with no

- more than 15 days between tests. CO monitoring shall continue on a monthly basis, or more frequently if required below, until the owner/operator is allowed to discontinue CO monitoring per subpart e(ii)(3).
- e. The owner/operator shall comply with all applicable monitoring and recordkeeping requirements below:
- i. The owner/operator shall demonstrate compliance with the alternative wellhead temperature limit by monitoring and recording the temperature of the landfill gas in the wellhead on a monthly basis, in accordance with Regulations 8-34-501.4, 8-34-501.9, and 8-34-505.
 - ii. If the temperature of the landfill gas in the wellhead exceeds 140 degrees F, the owner/operator shall investigate the possibility of a subsurface fire at the wellhead by monitoring CO concentration in the wellhead gases and by searching for smoke, smoldering odors, combustion residues, and other fire indicators in the wellhead and in the landfill area near the wellhead. Within 5 days of triggering a fire investigation, the owner/operator shall measure the CO concentration in the landfill gas at the wellhead using a portable CO monitor, CO Draeger tube, or an EPA-approved test method. CO monitoring shall continue according to the frequency specified below:
 1. If the CO concentration is greater than 500 ppmv, the owner/operator shall immediately take all steps necessary to prevent or extinguish the subsurface fire, including disconnecting the well from the vacuum system if necessary. If the well is not disconnected from the vacuum system or upon reconnecting the well to the vacuum system, the owner/operator shall monitor the well for CO concentration, wellhead temperature, and other fire indicators on at least a weekly basis until CO concentration drops to 500 ppmv or less.
 2. If the CO concentration is less than or equal to 500 ppmv but great than 100 ppmv, the owner/operator shall monitor for CO concentration at least twice per month (not less than once every 15 days) until the CO concentration drops to 100 ppmv or less. Wellhead temperature and other fire indicators shall be evaluated at each of these semi-monthly monitoring events.
 3. If the CO concentration is less than or equal to 100 ppmv, the owner/operator shall monitor for CO concentration on a monthly basis. CO monitoring may be discontinued if three consecutive CO measurements are 100 ppmv or less and the wellhead temperature during each of these three monitoring events is 140 degrees F or less. If the component has three or more CO measurement of 100 ppmv or less but the wellhead temperature was greater than 140 degrees F, the owner/operator must receive written approval from the District before discontinuing the monthly CO monitoring at that component.
 - iii. The owner/operator shall record the dates and results of all monitoring events required by this subpart in a District-approved log. If subpart 18e(ii) or 18e(ii)(1) applies, the owner/operator shall also record all actions taken to prevent or extinguish the fire.
- f. Within 30 days of adding a component to the list in this subpart, the owner/operator shall notify the District in writing that the operator is requesting to add the component to the list of alternative temperature limit wells. This notification shall include the well ID number, a map of the collection system to identify the location of the well, and the dates and results of all monitoring

- conducted on the well to verify that the above requirements have been satisfied.
- g. If the Regulation 8-34-414 repair schedule has been invoked for the wellhead temperature excess and the owner/operator has met the requirement in Sections 414.1 and 414.2, then compliance with the requirements of the subpart shall be deemed an acceptable resolution of the wellhead temperature excess in lieu of the collection system expansion specified in Section 414.3 and 414.4.
(basis: Regulation 8-34-305)

19. The leachate collection system operating requirements listed below shall replace the operating requirements identified in Regulation 8-34-301.1, 8-34-305.1, 8-34-305.3, and 8-34-305.4 for the leachate collection risers (LCRs) LR-04 and any other LCRs for which the District has approved for inclusion in Part 19. All LCRs remain subject to the landfill gas temperature limit in Regulation 8-34-305.2.
- a. The Regulation 8-34-305.3 and 8-34-305.4, the nitrogen and oxygen content limits, shall not apply, provided that each LCR is operated at a oxygen concentration not to exceed 15% by volume.
- b. If compliance with Part 19(a) requires turning off the vacuum to a LCR, the Regulation 8-34-301.1 continuous operation and 8-34-305.1 negative pressure requirement shall not apply if the owner/operator ensures the pressure at the affected LCR does not exceed 0.5 inches water column. This allowance for less than continuous operation will expire on October 30, 2013, unless the owner/operator requests renewal of this provision pursuant to Regulation 8-34-404 and the District approves the request.
- c. The owner/operator shall demonstrate compliance with the oxygen content limit in 19(a) alternative wellhead pressure limit in 19(b) by installing and maintaining a District-approved vacuum/pressure gauge at each LCR and by monitoring and recording the oxygen content and pressure at each affected LCR on a monthly basis, in accordance with Regulation 8-34-501 and 8-34-505.
- d. The owner/operator may elect to add additional LCRs to these alternate operating conditions by notifying the District in writing of this request, with identification of the LCR ID number(s) and submittal of the information required by Regulation 8-34-404.
- e. All records to demonstrate compliance with Part 19 and all applicable sections of BAAQMD Regulation 8, Rule 34 shall be recorded in a District-approved log and made available to District staff upon request for at least 5 years from date of entry.
(basis: Regulations 8-34-305, 8-34-404, 8-34-414, 8-34-501.4, and 8-34-501.9)

- *20. Total reduced sulfur compounds in the collected landfill gas shall be monitored as a surrogate for monitoring sulfur dioxide in control system's exhaust. The concentration of total reduced sulfur compounds in the collected landfill gas shall not exceed 330 ppmv (dry) expressed as hydrogen sulfide based on a methane concentration of 40% in the landfill gas or the equivalent emission rate of 0.069 lbs of sulfur per MMBtu. In order to demonstrate compliance with this part, the owner/operator shall test collected landfill gas on an annual basis. The landfill gas sample shall be taken from the main landfill gas header. The owner/operator shall either test the gas for total reduced sulfur compounds (carbon disulfide, carbonyl sulfide, dimethyl sulfide, hydrogen sulfide, ethyl mercaptan, and methyl mercaptan) using District approved methods (MOP, Volume III, Methods 5, 25, or 44) or test the gas for hydrogen sulfide using a draeger tube and following the manufacturer's recommended procedures for using the draeger tube and interpreting the results. If the draeger tube method is used, the measured hydrogen sulfide concentration shall be multiplied by 1.2 to obtain the total reduced sulfur concentration. (Basis: Regulation 9-1-302, PTE limit for 2-2-303)

RECOMMENDATION

Issue a Change of Permit condition for the following source S-1:

For: S-1 Kirby Canyon MSW Landfill – Waste Decomposition Process; Equipped with Landfill Gas Collection System; abated by A-12, Enclosed Landfill Gas Flare with Condensate Injection System; S-22 Kirby Canyon MSW Landfill – Waste and Cover Material Dumping; and S-23 Kirby Canyon MSW Landfill – Excavating, Bulldozing, and Compacting Activities

SIGNED BY IRMA SALINAS

By: Irma Salinas
Senior Air Quality Engineer

MEMO
Sept 11, 2012

The facility requested that we modify condition #20 as they wanted it to be more flexible. We have included a revised spreadsheet along with the revised condition #20 that will now be incorporated into the application. This revised condition will supercede the previous condition modification.

9/3/12

District Proposed Revisions to Condition # 25301, Part 20.

- *20. Sulfur dioxide emissions from the A-12 Landfill Gas Flare shall not exceed the Regulation 9-1-302 exhaust concentration limit of 300 ppmv of SO₂ (dry basis) and sulfur dioxide emissions from A-12 shall not exceed 94.9 tons per year. The owner/operator shall demonstrate compliance with these limits by meeting the following requirements.
- a. Total reduced sulfur compounds in the collected landfill gas shall be monitored as a surrogate for monitoring the sulfur dioxide concentration in the exhaust from A-12. The concentration of total reduced sulfur compounds in the collected landfill gas shall not exceed 860 ppmv (dry basis) expressed as hydrogen sulfide
 - b. If the concentration of total reduced sulfur compounds in the collected landfill gas exceeds 210 ppmv (dry basis) expressed as hydrogen sulfide, the permit holder shall demonstrate that emissions from A-12 have not exceeded the annual sulfur dioxide emission limit specified above using a District approved emissions calculation procedure. If the concentration of total reduced sulfur compounds is 210 ppmv or less, no emission calculation demonstration is required.
 - c. In order to demonstrate compliance with this part, the owner/operator shall test collected landfill gas on an annual basis. The landfill gas sample shall be taken from the main landfill gas header. The owner/operator shall either test the gas for total reduced sulfur compounds (carbon disulfide, carbonyl sulfide, dimethyl sulfide, hydrogen sulfide, ethyl mercaptan, and methyl mercaptan) using District approved methods (MOP, Volume III, Methods 5, 25, or 44) or test the gas for hydrogen sulfide using a draeger tube and following the manufacturer's recommended procedures for using the draeger tube and interpreting the results. If the draeger tube method is used, the measured hydrogen sulfide concentration shall be multiplied by 1.2 to obtain the total reduced sulfur concentration.
- (Basis: Regulation 9-1-302 and 2-1-403)

ENGINEERING EVALUATION
KIRBY CANYON RECYCLING & DISPOSAL PLANT #1812
APPLICATION #24246

BACKGROUND

This facility requested a change in condition for S-1 condition # 1437 part 14 and part 18. Part 14 is for an increase in the rolling landfill gas (LFG) condensate throughput limit from 1.5 million to 2.0 million gallons per year that is diverted to flare A-12 for destruction. The injection rate into the facility has not changed, the facility is only requesting that the annual allowance be increased. Part 18, is requesting that the higher operating value (HOV) be increased from 140 °F to 145 °F for the temperature increase in the wellheads. The District is able to increase the condensate leachate that is treated through the flare as the facility is still in compliance with the permit conditions. However the District will not be able to modify the temperature change because this level has been established by the United States Fire Administration, document titled "Landfill Fires their magnitude, characteristics and Mitigation" May 2002/FA-225.

Therefore, part 18 will not be modified.

EMISSIONS- no significant increase in emissions- as condensate that is diverted to Flare is destroyed. Emissions from flare are well below the trigger levels and does not exceed permit conditions. In addition, the Flare A-12 has a condition limit for its heating value that it can not exceed per part 8 in a 12 month period. Facility is in compliance and will remain in compliance with the increase in condensate that is diverted to the flare for destruction.

CUMULATIVE INCREASE - None

STATEMENT OF COMPLIANCE

Regulation 2, Rule 1 (CEQA and Public Notice Requirements)

This application is for a change of permit conditions at S-1. The permit condition revisions will not result in any significant emission increases at this facility. There is no possibility that the proposed permit condition revisions could have any significant impact on the environment. Therefore, this proposed change of permit condition is categorically exempt from CEQA review pursuant to Regulation 2-1-312.1 and 2-1-312.11. No further CEQA review is required.

The project is over 1000 feet from the nearest school and is not subject to the public notification requirements of Regulation 2-1-412.

Regulation 2, Rule 2 (NSR)

Facility is not subject to the following: Regulation 2-2-301 (BACT), Regulation 2-2-303 Offset Requirements- no increase in emissions.

Regulation 2, Rule 5 (Toxic NSR)

Not applicable as there was no increase in emissions for this source.

Regulation 2, Rule 6 (Major Facility Review)

Major Facility Review, Regulation 2, Rule 6

This facility is subject to MFR Permit requirements pursuant to Regulation 2-6-301, because it has the potential to emit more than 100 tons per year of any regulated air pollutant (CO and PM10). It is also subject to MFR Permit requirements pursuant to Regulation 2-6-304, because it is a designated facility that is subject to the requirements of 40 CFR, Part 60, Subpart WWW. As a designated facility, this facility was required to obtain a Title V Federal Operating Permit. The requirements of this program have been codified in District Regulation 2, Rule 6.

The facility was issued the initial Title V permit on May 29, 2002. The permit has undergone five revisions since issuance. The most recent Title V renewal was March 2, 2012. This evaluation report serves as the statement of basis for the MFR permit renewal.

Regulation 6, "Particulate Matter and Visible Emissions"

Facility is expected to comply with Section 310.

The facility is expected to comply with Regulation 8, Rule 34, Section 301.

This application was for a change of condition. The flare is expected to comply with these limits, which will be included in the permit conditions and enforced through a minimum temperature limit. The facility is also in compliance with landfill surface requirements.

Regulation 9, Rule 1, "Inorganic Gaseous Pollutants – Sulfur Dioxide"

The flare will be subject to Regulation 9, Rule 1, Section 9-1-301 and Section 9-1-302. Section 9-1-302 limits sulfur dioxide emissions to no more than 300 ppmv in the exhaust.

Compliance with the TRS content of less than 1208 ppmv therefore ensures compliance with the limit in Section 9-1-302. Compliance with the 300 ppmv SO₂ exhaust limit Section 9-1-301 is expected to ensure compliance with the ground level concentration limits in Section 9-1-301 of 0.5 ppm continuously for 3 minutes, 0.25 ppm averaged over 60 minutes, and 0.05 ppm averaged over 24 hours. .

Regulation 9, Rule 2, "Inorganic Gaseous Pollutants – Hydrogen Sulfide"

The ground level concentration limit on hydrogen sulfide in Section 9-2-301 is 0.06 ppm averaged over 3 minutes or 0.03 ppm averaged over 60 minutes. Hydrogen sulfide is generally identified by its characteristic rotten egg smell and can be detected by its odor at concentrations as low as 0.0005 ppmv. Therefore, H₂S emissions are usually detected by smell well before the concentrations approach the limits in Section 9-2-301. Hydrogen sulfide complaints are rarely received in association with Bay Area landfills, therefore area monitoring to demonstrate compliance with this rule has not been required.

40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS):

Subpart A, Standards of Performance for New Stationary Sources – General Provisions

Subpart Cc, Standards of Performance for New Stationary Sources – Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

40 CFR Part 60, Subpart Cc, Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills applies to MSW landfills that have had no design capacity modification since May 30, 1991, but that have accepted waste since November 8, 1987. This facility began accepting waste in July 1986 and facility is currently subject to the EG requirements. The District's Regulation 8, Rule 34 has been approved in the state plan for implementation of the EG requirements. Therefore, the facility is currently subject to the EG, which is enforced through compliance with District Regulation 8, Rule 34. See the discussion of Rule 8-34 requirements above.

Subpart A, Standards of Performance for New Stationary Sources – General Provisions

Subpart WWW, Standards of Performance for New Stationary Sources –Municipal Solid Waste Landfills

Subpart WWW applies to municipal solid waste landfills that commenced construction, reconstruction, or modification or began accepting waste on or after May 30, 1991. For the purposes of Subpart WWW, modification is defined as

"an increase in the permitted volume design capacity of the landfill by either horizontal or vertical expansion based on its permitted design capacity as of May 30, 1991. Modification does not occur until the owner or operator commences construction on the horizontal or vertical expansion."

The proposed change of condition at this site will not become subject to Subpart WWW due to the these changes.

**40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAPs):
Subpart M, National Emission Standard for Asbestos**

Subpart M applies to a number of asbestos related operations and handling activities, including active waste disposal sites that receive asbestos-containing waste material from sources subject to §61.149 (asbestos mills), 61.150 (manufacturing, fabricating, demolition, renovation, and spraying operations, and/or 61.155 (operations that convert asbestos-containing material into asbestos-free material). Asbestos-containing waste material is defined to include filters from control devices, friable asbestos waste, and bags or other packaging contaminated with commercial asbestos. This site accepts only non-friable asbestos and is therefore not subject to Subpart M.

**40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories/Maximum Achievable Control Technology (MACT) Standards:
Subpart A, National Emission Standards for Hazardous Air Pollutants – General Provisions
Subpart AAAA, National Emission Standards for Hazardous Air Pollutants – Municipal Solid Waste Landfills**

Subpart AAAA applies to municipal solid waste landfills that have accepted waste since November 8, 1987 or have additional capacity to accept waste and that meets any of the following:

- The landfill is a major source as defined in 40 CFR Part 63.2 of Subpart A (has the potential to emit, considering controls, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants);
- The landfill is co-located with a major source as defined in 40 CFR Part 63.2 of Subpart A; or
- The landfill is area source with a design capacity of 2.5 million megagrams and 2.5 million cubic meters or more and which has estimated uncontrolled non-methane organic compound emissions of 50 megagrams or more, as calculated according to Part 60, Subpart WWW.

This site is actively accepting waste and has a design capacity greater than 2.5 million cubic meters and is therefore subject to this regulation. This regulation requires subject landfills to meet the requirements of 40 CFR Part 60, Subpart Cc or WWW (addressed above). In addition, subject facilities are required to develop, maintain, and comply with a written startup, shutdown, and malfunction (SSM) plan per §63.1960 and Subpart A of this part. §63.1980 of the rule also requires semiannual submittal of the reports required by 40 CFR 60.757(f) (instead of annually). Table 1 requires compliance with certain sections of 40 CFR Part 63, Subpart A which are mirrored in 40 CFR Part 60, Subpart A and the following sections of 40 CFR Part 63, Subpart A:

- §63.5(b), Requirements for existing, newly constructed, and reconstructed sources: This application does not constitute reconstruction of the affected source.
- §63.6(e), Operation and maintenance requirements: This section requires operation of the affected source in a manner consistent with safety and good control practices for minimizing emissions, including during any periods of startup, shutdown, or malfunction. The facility is expected to continue to comply with these requirements.
- §63.10(b)(2)(i) – (v), General recordkeeping requirements: This section requires maintenance of records pertaining to startup, shutdown, and malfunction of the source, as well as maintenance on control and monitoring equipment. This must include all information necessary to demonstrate compliance with the SSM plan and documentation of actions taken that are different from the procedures in the SSM plan. The facility is expected to continue to comply with these requirements.
- §63.10(d)(5), General reporting requirements: Periodic reports of actions taken in compliance with the SSM plan must be reported if there was an exceedance of an emission limit. These reports must be submitted semiannually. If there was an exceedance of an emission limit and the actions taken are inconsistent with the SSM plan, an immediate report is required. The report must include a summary of the actions taken, must be reported within 2 working days, and a summary must follow within 7 working days after the event ends. The facility is expected to continue to comply with these requirements.

40 CFR Part 70, State Operating Permit Programs (Title V):

This facility is a designated facility, as it is currently subject to the requirements of 40 CFR Part 70. As a designated facility, this facility is subject to the requirements of 40 CFR Part 70. The requirements of this program have been codified in District Regulation 2, Rule 6. See discussion of Rule 2-6 above.

Recommendations

Recommend that a Change of Condition be issued to the following source:

For: S-1 Kirby Canyon MSW Landfill – Waste Decomposition Process; Equipped with Landfill Gas Collection System; abated by A-12, Enclosed Landfill Gas Flare with Condensate Injection System; S-22 Kirby Canyon MSW Landfill – Waste and Cover Material Dumping; and S-23 Kirby Canyon MSW Landfill – Excavating, Bulldozing, and Compacting Activities

Permit Condition #1437 Part 14 will be modified to increase the total gas condensate injection into abatement device A-12 Flare.

- *14. The landfill gas condensate injection rate into the flare shall not exceed 5 gallons per minute. Total landfill gas condensate injection throughput shall not exceed 2,000,000 gallons during any consecutive twelve-month period. The owner/operator may submit a written petition to the District to increase the landfill gas condensate injection rate subject to current District-approved source test results. (basis: Regulation 2-5-302)

SIGNED BY IRMA SALINAS

Irma Salinas
Senior Air Quality Engineer

Engineering Evaluation Report

Kirby Canyon Landfill, P#1812
910 Coyote Creek Golf Drive, Morgan Hill
Application #27005

Background

Kirby Canyon Landfill (KCL) is an active Class III municipal solid waste landfill operated by Waste Management of California. The facility opened July 1986 and accepts non-hazardous residential, commercial, industrial, and inert wastes. The site has a total permitted area of 827 acres and is located 15 miles south of downtown San Jose, adjacent to US Highway 101. It is equipped with an active gas collection and system, including 36 vertical gas collection wells and an enclosed flare. The permitted waste disposal footprint is 311 acres, with a design capacity of 36.4 million cubic yards (20.5 million tons). The site reported approximately 15.05 million tons of waste in place as of June 2006 and estimates a closure date of June 2018.

Under this application KCL has proposed to reduce flare heat input from 149 MMBtu/hour to 124.17 MMBtu/hr capacity flare so that emissions are not increased from changing the emissions limit of NOX of 0.05 lbm/MMBtu to 0.06 lbm/MMBtu. The flare had been replaced under A/N 15617. The facility was able to meet current BACT requirements, but has decided that since the actual operational capacity of the flare is less than what was proposed under A/N 15617, emissions of the flare can be reduced to meet RACT requirements and still be below the facility-wide NOX potential to emit (PTE) threshold limit of 35 tons/year (tpy). Facility has requested that conditions #8 and 10 be revised.

This application is for reduction of heat input of flare and change of condition for NOX.

A-12, Landfill Gas Flare with Condensate Injection System, 4500 scfm landfill gas capacity and 5 gallons per minute maximum condensate injection rate, 124.166 MMBtu/hr

Emission Calculations- will result in a reduction in emissions as the heat input has been reduced emission factors from other compounds will remain the same.

NOx Emission Factor:

The facility has requested to change the NOx emission rate of 0.05 lb/MMBtu to the proposed RACT limit of 0.06 /MMBtu.

CO Emission Factor: No change in CO calculations- same as in the previous A/N 15617.

The applicant has requested that a higher CO emission rate of 0.3 lbs/MMBtu be used in the evaluation of maximum emissions from this flare, as the operating temperature at maximum design capacity must be maintained below the high temperatures that produce higher NOx emissions. At flow rates nearing the flare design capacity, the CO emissions can approach 0.3 lbs/MMBtu. This higher emission rate will therefore be used in the emission calculations below.

SO2 Emission Factors: No change in SO2 calculations -same as in the previous revised A/N 21156.

Sulfur dioxide emissions are dependent on the levels of sulfur compounds present in the landfill gas and landfill condensate. The landfill gas analysis performed for this site in December 2002 showed a total reduced sulfur concentration of 43.2 ppmv. The limit from part 20 is 210 ppm of TRS at 25% CH4, which results in an SO2 emission rate of 0.14 lbs SO2/MM Btu. The higher concentration will be used to calculate the SO2 emission rate:

$$(210e-6 \text{ lb-mole S/lb-mole gas})(\text{lb-mole SO}_2/\text{lb-mol S})(64 \text{ lbs SO}_2/\text{lb-mol SO}_2)(\text{lb-mol gas}/386 \text{ scf})/(248.469 \text{ Btu/scf}) = 1.4e-7 \text{ lb SO}_2/\text{Btu gas} = 0.14 \text{ lbs SO}_2/\text{MMBtu}$$

PM Emission Factors: - no change- same as in A/N 15617.

EPA's AP-42, Compilation of Air Pollutant Emission Factors, Table 2.4-5 "Emission Rates for Secondary Compounds Exiting Control Devices" specifies a PM emission factor of 17 lbs/million dscf methane. The

landfill gas (LFG) at the facility has a maximum methane content of 60%, and at standard conditions, 60% methane landfill gas will have a higher heating value of 596 Btu/scf. Therefore, the AP-42 emission factor is equivalent to
 $(17 \text{ lbs PM}/1\text{e}6 \text{ dscf methane})(0.6 \text{ dscf methane}/\text{scf LFG})(1\text{e}6 \text{ scf LFG}/596 \text{ MMBtu}) = 0.017 \text{ lb/MMBtu}$

From A/N 15617: Calculations are the following: Assuming continuous use of the flare at the maximum capacity and a maximum condensate injection of 1.5 million gallons/year, the secondary pollutant emissions from A-12 will be:

NOx = $(0.05 \text{ lb/MMBtu})(149 \text{ MMBtu/hr})(24 \text{ hr/day})(365 \text{ days/yr}) = 65,262 \text{ lbs/yr} = 32.631 \text{ tpy}$
 CO = $(0.3 \text{ lb/MMBtu})(149 \text{ MMBtu/hr})(24 \text{ hr/day})(365 \text{ days/yr}) = 391,572 \text{ lbs/yr} = 195.786 \text{ tpy}$
 SO2 = $(0.14 \text{ lb/MMBtu})(149 \text{ MMBtu/hr})(24 \text{ hr/day})(365 \text{ days/yr}) = 18,2733.6 \text{ lbs/yr} = 91.367 \text{ tpy}$
 PM = $(0.017 \text{ lb/MMBtu})(149 \text{ MMBtu/hr})(24 \text{ hr/day})(365 \text{ days/yr}) = 22,189 \text{ lbs/yr} = 11.095 \text{ tpy}$

Reduction in heat input from Flare- revised Calculations based on heat input value of 124.166 MM Btu/hr

NOx = $(0.06 \text{ lb/MMBtu})(124.166 \text{ MMBtu/hr})(24 \text{ hr/day})(365 \text{ days/yr}) = 65,261.65 \text{ lbs/yr} = 32.631 \text{ tpy}$
 CO = $(0.3 \text{ lb/MMBtu})(124.166 \text{ MMBtu/hr})(24 \text{ hr/day})(365 \text{ days/yr}) = 326,308.25 \text{ lbs/yr} = 163.154 \text{ tpy}$
 SO2 = $(0.14 \text{ lb/MMBtu})(124.166 \text{ MMBtu/hr})(24 \text{ hr/day})(365 \text{ days/yr}) = 15,2277.18 \text{ lbs/yr} = 76.139 \text{ tpy}$
 PM = $(0.017 \text{ lb/MMBtu})(124.166 \text{ MMBtu/hr})(24 \text{ hr/day})(365 \text{ days/yr}) = 18,490.801 \text{ lbs/yr} = 9.245 \text{ tpy}$

Reduction Change in Emissions

Compound	Current- Tons/yr	New PTE – Tons/yr	Difference – Tons/yr
NOX	32.631	32.631	0.0
CO	195.786	163.154	-32.632
SO2	91.367	76.1394	-15.228
PM	11.095	9.245	-1.849

PTE for SO2 based on condition #20- no change < 95 tons/yr.

STATEMENT OF COMPLIANCE

Regulation 2, Rule 1 (CEQA and Public Notice Requirements)

This application is for a change of permit conditions at S-1. The permit condition revisions will not result in any significant emission increases at this facility. There is no possibility that the proposed permit condition revisions could have any significant impact on the environment. Therefore, this proposed change of permit condition is categorically exempt from CEQA review pursuant to Regulation 2-1-312.1 and 2-1-312.11. No further CEQA review is required.

The project is over 1000 feet from the nearest school and is not subject to the public notification requirements of Regulation 2-1-412.

Regulation 2, Rule 2 (NSR)

Per Regulation 2, Rule 2, Section 112, BACT review does not apply to emissions of secondary pollutants that are the direct result of operation of an abatement device that complies with the BACT or BARCT requirements for the control of another pollutant. Facility is not subject to NSR as there is no increase in emissions from source S-1 that is abated by A-12. Facility is not subject to the following: Regulation 2-2-301 (BACT), Regulation 2-2-302 and 303 Offset Requirements- not applicable as there will be no increase in PTE emissions of SO2 and there is no increase in NOx emissions.

This application was for a change of condition of NOx and the facility has reduced the flare heat input value so that NOX emissions remain the same.

This facility does not result in SO₂ emissions exceeding 40 tons/year for a major facility. Therefore PSD for SO₂ is not applicable. Sections 2-2-304 do not apply.

Regulation 2, Rule 5 (Toxic NSR)

Not applicable as there was no increase in emissions for this source. This application is only for a condition limit of NO_x to meet BARCT and facility has reduced heat input value so emissions are not increased.

Regulation 2, Rule 6 Major Facility Review

This facility is subject to the operating requirements of Title V of the Federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2 Rule 6 because it is a designated and major facility defined by the BAAQMD Regulation 2, Rule 6, Section 204, Regulation 2-6-304 and Regulation 2-6-212. The facility has been issued a Title V permit. The modification of permit conditions will require a minor revision to the MFR Permit pursuant to Regulation 2-6-201. This application serves as the Statement of Basis for the minor MFR permit revision.

Regulation 6, "Particulate Matter and Visible Emissions"

Facility is expected to comply with Section 310.

The facility is expected to comply with Regulation 8, Rule 34, Section 301.

This section requires the flare to meet a non-methane organic compound (NMOC) destruction efficiency of at least 98% by weight or meeting an outlet NMOC concentration of less than 30 ppmv, dry as methane, corrected to 3% oxygen. The flare is expected to comply with these limits, which will be included in the permit conditions and enforced through a minimum temperature limit. The facility is also in compliance with landfill surface requirements.

Regulation 9, Rule 1, "Inorganic Gaseous Pollutants – Sulfur Dioxide"

The flare will be subject to Regulation 9, Rule 1, Section 9-1-301 and Section 9-1-302. Section 9-1-302 limits sulfur dioxide emissions to no more than 300 ppmv in the exhaust.

Compliance with the SO₂ concentration limit for the existing flare can be established through a surrogate maximum limit of 860 ppmv of total reduced sulfur (TRS) content in the landfill gas based on permit condition #20. Facility can easily comply with 9-1-302

Compliance with the 300 ppmv SO₂ exhaust limit Section 9-1-301 is expected to ensure compliance with the ground level concentration limits in Section 9-1-301 of 0.5 ppm continuously for 3 minutes, 0.25 ppm averaged over 60 minutes, and 0.05 ppm averaged over 24 hours. .

Regulation 9, Rule 2, "Inorganic Gaseous Pollutants – Hydrogen Sulfide"

The ground level concentration limit on hydrogen sulfide in Section 9-2-301 is 0.06 ppm averaged over 3 minutes or 0.03 ppm averaged over 60 minutes. Hydrogen sulfide is generally identified by its characteristic rotten egg smell and can be detected by its odor at concentrations as low as 0.0005 ppmv. Therefore, H₂S emissions are usually detected by smell well before the concentrations approach the limits in Section 9-2-301. Hydrogen sulfide complaints are rarely received in association with Bay Area landfills, therefore area monitoring to demonstrate compliance with this rule has not been required.

40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS):

Subpart A, Standards of Performance for New Stationary Sources – General Provisions

Subpart Cc, Standards of Performance for New Stationary Sources – Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills

40 CFR Part 60, Subpart Cc, Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills applies to MSW landfills that have had no design capacity modification since May 30, 1991, but that have

accepted waste since November 8, 1987. This facility began accepting waste in July 1986 and facility is currently subject to the EG requirements. The District's Regulation 8, Rule 34 has been approved in the state plan for implementation of the EG requirements. Therefore, the facility is currently subject to the EG, which is enforced through compliance with District Regulation 8, Rule 34. See the discussion of Rule 8-34 requirements above.

Subpart A, Standards of Performance for New Stationary Sources – General Provisions
Subpart WWW, Standards of Performance for New Stationary Sources –Municipal Solid Waste Landfills

Subpart WWW applies to municipal solid waste landfills that commenced construction, reconstruction, or modification or began accepting waste on or after May 30, 1991. For the purposes of Subpart WWW, modification is defined as

“an increase in the permitted volume design capacity of the landfill by either horizontal or vertical expansion based on its permitted design capacity as of May 30, 1991. Modification does not occur until the owner or operator commences construction on the horizontal or vertical expansion.”

The proposed change of condition at this site will not affect the permitted design capacity of the landfill, therefore this site will not become subject to Subpart WWW due to these changes.

40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAPs):

Subpart M, National Emission Standard for Asbestos

Subpart M applies to a number of asbestos related operations and handling activities, including active waste disposal sites that receive asbestos-containing waste material from sources subject to §61.149 (asbestos mills), 61.150 (manufacturing, fabricating, demolition, renovation, and spraying operations, and/or 61.155 (operations that convert asbestos-containing material into asbestos-free material). Asbestos-containing waste material is defined to include filters from control devices, friable asbestos waste, and bags or other packaging contaminated with commercial asbestos. This site accepts only non-friable asbestos and is therefore not subject to Subpart M.

40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories/Maximum Achievable Control Technology (MACT) Standards:

Subpart A, National Emission Standards for Hazardous Air Pollutants – General Provisions

Subpart AAAA, National Emission Standards for Hazardous Air Pollutants – Municipal Solid Waste Landfills

Subpart AAAA applies to municipal solid waste landfills that have accepted waste since November 8, 1987 or have additional capacity to accept waste and that meets any of the following:

- The landfill is a major source as defined in 40 CFR Part 63.2 of Subpart A (has the potential to emit, considering controls, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants);
- The landfill is co-located with a major source as defined in 40 CFR Part 63.2 of Subpart A; or
- The landfill is area source with a design capacity of 2.5 million megagrams and 2.5 million cubic meters or more and which has estimated uncontrolled non-methane organic compound emissions of 50 megagrams or more, as calculated according to Part 60, Subpart WWW.

This site is actively accepting waste and has a design capacity greater than 2.5 million cubic meters and is therefore subject to this regulation. This regulation requires subject landfills to meet the requirements of 40 CFR Part 60, Subpart Cc or WWW (addressed above). In addition, subject facilities are required to develop, maintain, and comply with a written startup, shutdown, and malfunction (SSM) plan per §63.1960 and Subpart A of this part. §63.1980 of the rule also requires semiannual submittal of the reports required by 40 CFR 60.757(f) (instead of annually). Table 1 requires compliance with certain sections of 40 CFR Part 63, Subpart A which are mirrored in 40 CFR Part 60, Subpart A and the following sections of 40 CFR Part 63, Subpart A:

- §63.5(b), Requirements for existing, newly constructed, and reconstructed sources: This application does not constitute reconstruction of the affected source.
- §63.6(e), Operation and maintenance requirements: This section requires operation of the affected source in a manner consistent with safety and good control practices for minimizing emissions, including during any periods of startup, shutdown, or malfunction. The facility is expected to continue to comply with these requirements.

- §63.10(b)(2)(i) – (v), General recordkeeping requirements: This section requires maintenance of records pertaining to startup, shutdown, and malfunction of the source, as well as maintenance on control and monitoring equipment. This must include all information necessary to demonstrate compliance with the SSM plan and documentation of actions taken that are different from the procedures in the SSM plan. The facility is expected to continue to comply with these requirements.
- §63.10(d)(5), General reporting requirements: Periodic reports of actions taken in compliance with the SSM plan must be reported if there was an exceedance of an emission limit. These reports must be submitted semiannually. If there was an exceedance of an emission limit and the actions taken are inconsistent with the SSM plan, an immediate report is required. The report must include a summary of the actions taken, must be reported within 2 working days, and a summary must follow within 7 working days after the event ends. The facility is expected to continue to comply with these requirements.

40 CFR Part 70, State Operating Permit Programs (Title V):

This facility is a designated facility, as it is currently subject to the requirements of 40 CFR Part 70. As a designated facility, this facility is subject to the requirements of 40 CFR Part 70. The requirements of this program have been codified in District Regulation 2, Rule 6. See discussion of Rule 2-6 above.

PERMIT CONDITIONS

Condition #25301

For: S-1 Kirby Canyon MSW Landfill – Waste Decomposition Process; Equipped with Landfill Gas Collection System; abated by A-12, Enclosed Landfill Gas Flare with Condensate Injection System; S-22 Kirby Canyon MSW Landfill – Waste and Cover Material Dumping; and S-23 Kirby Canyon MSW Landfill – Excavating, Bulldozing, and Compacting Activities

1. The owner/operator shall comply with the following waste acceptance and disposal limits and shall obtain the appropriate New Source Review permit, if one of the following limits is exceeded:
 - a. Except for temporary emergency situations approved by the Local Enforcement Agency, the total waste accepted and placed at the landfill shall not exceed 2600 tons in any day. (Basis: Regulation 2-1-301)
 - b. The total cumulative amount of all decomposable materials placed in the landfill shall not exceed 19.84 million tons. Exceedance of the cumulative tonnage limit is not a violation of the permit and does not trigger the requirement to obtain a New Source review permit, if the operator can, within 30 days of the date of discovery of the exceedance, provide documentation to the District demonstrating, in accordance with BAAQMD Regulation 2-1-234.3, that the limit should be higher. (Basis: Regulation 2-1-234.3)
 - c. The maximum design capacity of the landfill (total volume of all wastes placed in the landfill) shall not exceed 36.40 million cubic yards. (Basis: Regulation 2-1-301)
2. Handling Procedures for Soil Containing Volatile Organic Compounds
 - a. The procedures listed below in subparts b-l do not apply if the following criteria are satisfied. However, the record keeping requirements in subpart m, below, are applicable.
 - i. The owner/operator has appropriate documentation demonstrating that either the organic content of the soil or the organic concentration above the soil is below the “contaminated” level (as defined in Regulation 8, Rule 40, Sections 205, 207, and 211). The handling of soil containing VOCs in concentrations below the “contaminated” level is subject to Part 3 below.
 - ii. The owner/operator has no documentation to prove that soil is not contaminated, but source of the soil is known and there is no reason to

- suspect that the soil might contain organic compounds.
- b. The owner/operator shall provide verbal notification to the Compliance and Enforcement Division of the owner/operator's intention to accept contaminated soil at the facility at least 24 hours in advance of receiving the contaminated soil. The owner/operator shall provide an estimate of the amount of contaminated soil to be received, the degree of contamination (range and average VOC Content), and the type or source of contamination.
 - c. Any soil received at the facility that is known or suspected to contain volatile organic compounds (VOCs) shall be handled as if the soil were contaminated, unless the owner/operator receives test results proving that the soil is not contaminated. To prove that the soil is not contaminated, the owner/operator shall collect soil samples in accordance with Regulation 8-40-601 within 24 hours of receipt of the soil by the facility. The organic content of the collected soil samples shall be determined in accordance with Regulation 8-40-602.
 - i. If these test results indicate that the soil is still contaminated or if the soil was not sampled within 24 hours of receipt by the facility, the owner/operator must continue to handle the soil in accordance with the procedures set forth in subparts e-1, below, until the soil has completed treatment or has been placed in a final disposal location and adequately covered. Storing soil in a temporary stockpile or pit is not considered treatment. Co-mingling, blending, or mixing of soil lots is not considered treatment.
 - ii. If these test results indicate that the soil – as received at the facility – has an organic content of 50 ppmw or less, then the soil is no longer contaminated and shall be handled in accordance with the procedures in Part 3 instead of Part 2, subparts e-l.
 - d. Any contaminated soil received at the facility shall be clearly identified as contaminated soil, shall be handled in accordance with subparts e-l. below, and shall be segregated from non-contaminated soil. Contaminated soil lots may not be co-mingled, blended, or otherwise mixed with non-contaminated soil lots prior to treatment, reuse, or disposal. Mixing soil lots in an attempt to reduce the overall concentration of the contaminated soil or to circumvent any requirements or limits is strictly prohibited.
 - e. On-site handling of contaminated soil shall be limited to no more than 2 on-site transfers per soil lot. For instance, unloading soil from off-site transport vehicles into a temporary storage pile is 1 transfer. Moving soil from a temporary storage to a staging area is 1 transfer. Moving soil from a temporary storage pile to a final disposal site is 1 transfer. Moving soil from a staging area to a final disposal site is 1 transfer. Therefore, unloading soil from off-site transport into a temporary storage pile and then moving the soil from that temporary storage pile to the final disposal site is allowed. Unloading soil from off-site transport into a staging area and then moving the soil from that staging area to the final disposal site is allowed. However, unloading soil from off-site transport to a temporary storage pile, moving this soil to a staging area, and then moving the soil again to a final disposal site is 3 on-site transfers and is not allowed.
 - f. If the contaminated soil has an organic content of less than 500 ppmw, the contaminated soil shall be treated, deposited in a final disposal site, or transported off-site for treatment within 90 days of receipt at the facility.
 - g. If the contaminated soil has an organic content 500 ppmw or more, the contaminated soil shall be treated, deposited in a final disposal site, or transported off-site for treatment within 45 days of receipt at the facility.
 - h. All active storage piles shall meet the requirements of Regulation 8-40-304 by using water sprays, vapor suppressants or approved coverings to minimize emissions. The exposed surface area of any active storage pile (including the active face at a landfill) shall be limited to 6000 ft². The types of storage piles that may become subject to these provisions include (but are not limited to) truck unloading areas, staging areas, temporary stockpiles, soil on

- conveyors, bulldozers or trucks, the active face of a landfill, or other permanent storage pile at the final disposal location.
- i. All inactive storage piles shall meet the requirements of Regulation 8-40-305 including the requirement to cover contaminated soil during periods of inactivity longer than one hour. The types of storage piles that may become subject to these provisions include (but are not limited to) soil on trucks or other on-site equipment, staging areas, temporary stockpiles, and the permanent storage pile at the final disposal location. District approved coverings for inactive storage piles include continuous heavy-duty plastic sheeting (in good condition, joined at the seams, and securely anchored) or encapsulating vapor suppressants (with re-treatment as necessary to prevent emissions).
 - j. The owner/operator must:
 - i. Keep contaminated soil covered with continuous heavy-duty plastic sheeting (in good condition, joined at the seams, and securely anchored) whenever soil is to be stored in temporary stockpiles or during on-site transport in trucks. Soil in trucks shall not be left uncovered for more than 1 hour.
 - ii. Establish a tipping area for contaminated soils near the active face that is isolated from the tipping area for other wastes.
 - iii. Spray contaminated soil with water or vapor suppressant immediately after dumping the soil from a truck at the tipping area.
 - iv. Ensure that all contaminated soil is transferred from the tipping area to the active face immediately after spraying with water or vapor suppressant.
 - v. Ensure that contaminated soil in the tipping area is not disturbed by subsequent trucks. Trucks shall not drive over contaminated soil in the tipping area or track contaminated soil out of the tipping area on their wheels.
 - vi. Spray contaminated soil on the active face with water or vapor suppressant (to keep the soil visibly moist) until the soil can be covered with an approved covering.
 - vii. Limit the area of exposed soil on the active face to no more than 6000 ft².
 - viii. Ensure that contaminated soil spread on the active face is completely covered on all sides with one of the following approved coverings: at least 6 inches of clean compacted soil, at least 12 inches of compacted garbage, or at least 12 inches of compacted green waste.
 - ix. Ensure that covering of soil on the active face is completed within one hour of the time that the soil was first dumped from a truck at the tipping area.
 - k. Contaminated soil shall not be used as daily, intermediate, or final cover material for landfill waste operations unless the requirements of Regulation 8, Rule 40, Sections 116 or 117 have been satisfied.
 - l. Contaminated soil is considered to be a decomposable solid waste pursuant to Regulation 8, Rule 34. All contaminated soil disposed of at a site shall be included in any calculations of the amount of decomposable waste in place that are necessary for annual reporting requirements or for purposes of 8-34-111 or 8-34-304.
 - m. The owner/operator shall keep the following records for each lot of soil received, in order to demonstrate on-going compliance with the applicable provisions of Regulation 8, Rule 40.
 - i. For all soil received by the facility (including soil with no known contamination), record the arrival date at the facility, the soil lot number, the amount of soil in the lot, the organic content or organic concentration of the lot (if known), the type of contamination (if any), and keep copies of any test data or other information that documents whether the soil is contaminated (as defined in 8-40-205) or not contaminated, with what, and by how much.

- ii. If the soil is tested for organic content after receipt by the facility, record the sampling date, test results, and the date that these results were received.
- iii. For all on-site handling of contaminated soil, use a checklist or other approved method to demonstrate that appropriate procedures were followed during all on-site handling activities. One checklist shall be completed for each day and for each soil lot (if multiple lots are handled per day).
- iv. For soil aerated in accordance with 8-40-116 or 117 record the soil lot number, the amount of soil in the lot, the organic content, the final placement date, the final placement location, and describe how the soil was handled or used on-site.
- v. For final disposal at a landfill, record on a daily basis the soil lot number, the amount of soil placed in the landfill, the disposal date, and the disposal location.

All records shall be retained for at least 5 years from the date of entry and shall be made available for District inspection upon request.

(basis: Regulations 8-40-301, 8-40-304 and 8-40-305)

- 3. Low VOC soil (soil that contains 50 ppmw or less of VOC) is not considered to be "contaminated soil" and may be used as daily, intermediate, or final cover material for landfill waste operations if the organic concentration above the soil does not exceed 50 ppmv (expressed as methane, C1). To demonstrate compliance with this requirement, each lot of soil to be used as cover material shall be randomly screened for VOC surface emissions (in such a manner as to be representative of the entire lot) using the testing procedures outlined in Regulation 8-40-604. The owner/operator shall keep the following records for each lot of soil subject to this requirement:
 - e. The soil lot number as established in part 2m.i. (above).
 - f. The time and date of the soil screening.
 - g. The name and affiliation of the person performing the monitoring.
 - h. The results of the screening and an acknowledgement that the procedures outlined in Regulation 8-40-604 were used.

Soil presumed to be low VOC soil that is found to have a surface VOC concentration greater than 50 ppmv as described above shall be considered contaminated soil and will be subject to the requirements of part 2 of these conditions. (basis: Regulations 2-1-403, 8-40-205, 8-40-604)

- 4. Water and/or dust suppressants shall be applied to all unpaved roadways, active soil removal, and fill areas as necessary to prevent visible particulate emissions. Paved roadways shall be kept sufficiently clear of dirt and debris to prevent visible particulate emissions from vehicle traffic or wind. (basis: Regulations 2-1-403, 6-1-301, and 6-1-305)
- 5. All collected landfill gas shall be vented to properly operating Landfill Gas Flare (A-12). Raw landfill gas shall not be vented to the atmosphere, except for unavoidable landfill gas emissions that occur during collection system installation, maintenance, or repair that is performed in compliance with Regulation 8, Rule 34, Sections 113, 116, 117, or 118 and for component or surface leaks that do not exceed the limits specified in 8-34-301.2 or 8-34-303.(basis: Regulation 8-34-301)
- 6. The owner/operator shall apply for and receive a Change of Conditions from the District before altering the landfill gas collection system described in Parts 6a-b below. Increasing or decreasing the number of wells or collectors, changing the length of collectors, or changing the locations of wells or collectors are alterations that are subject to this requirement. The authorized number of landfill gas collection system and leachate collection system components is the baseline count listed below, plus any components added and minus any components decommissioned pursuant to Part 6b, as evidenced by start-up/shutdown notification letters submitted to the District

- a. The owner/operator has been issued a Permit to Operate for the landfill gas collection system and leachate collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in Permit Applications #2232, #7835, #11730, #17016, and #21786.

	Current
Total Number of Vertical Landfill Gas Extraction Wells:	53
Total Number of Horizontal Landfill Gas Trench Collectors:	0
Total Number of Leachate Collection Wells:	1

- b. The owner/operator is authorized to make the landfill gas collection system and leachate collection system component alterations listed below. Specific details regarding well alterations are described in Permit Application #23446.

	Minimum	Maximum
Install new Vertical Gas Extraction Wells:	0	50
Replace Vertical Gas Extraction Wells:	0	103
Decommission Vertical Gas Extraction Wells:	0	40
Install new Horizontal Trench Collectors	0	5
Decommission Horizontal Trench Collectors	0	2
Install new Leachate Cleanout Risers	0	15
Decommission Leachate Cleanout Risers	0	8

Wells installed, relocated, replaced, or shutdown pursuant to Part 6b shall be added to or removed from Part 6a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415. The owner/operator shall maintain records of the decommissioning date for each well that is shutdown and the initial operation date for each new or relocated well.

(basis: Regulations 2-1-301, 8-34-301.1, 8-34-303, 8-34-304, 8-34-305)

7. The landfill gas collection system described in Part 6a shall be operated continuously as defined in Regulation 8-34-219, except for leachate collection wells that are specifically allowed to operate less than continuously pursuant to Part 19. Wells shall not be shut off, disconnected or removed from operation without written authorization from the APCO, unless the owner/operator complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118 and Condition #1437, Part 19. (basis: Regulation 8-34-301.1)
8. The owner/operator shall ensure that the heat input to the A-12 Landfill Gas Flare does not exceed ~~3,576-2980~~ million Btu per day and does not exceed ~~4,305,240-1,087,700~~ million Btu per year. In order to demonstrate compliance with this part, the owner/operator shall calculate and record, on a monthly basis, the maximum daily and total monthly heat input to the flare based on: (a) the landfill gas flow rate recorded pursuant to part 15h, (b) the average methane concentration in the landfill gas measured in most recent source test, and (c) a high heating value for methane of 1013 BTU per cubic foot at 60 degrees F. (basis: Regulation 2-1-301)
9. The minimum combustion zone temperature of the Flare A-12 shall be determined by the results of the most recent source test in which compliance with all applicable requirements was demonstrated. The minimum combustion zone temperature shall be 1428 degrees F, which was determined from the average temperature measured during the complying source test on 1/20/09 minus 50 degrees F. Once the minimum temperature has been established, it shall be maintained during all periods of flare operation. Compliance with the temperature limit shall be based on a 3-hour averaging period. Under no circumstances shall the minimum flare temperature be less than 1,400 degrees F. Based on the results of required source testing of the flare, the APCO may add an explicit temperature limit to the conditions for the Flare A-12 in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415. (Basis: Regulations 2-5-302 and 8-34-301.3)

10. The owner/operator shall ensure that emissions of Nitrogen Oxides (NO_x) from the Flare A-12 do not exceed 0.050.06 pounds per million BTU (calculated as NO₂). (basis: RACT)
11. The owner/operator shall ensure that emissions of Carbon Monoxide (CO) from the Flare A-12 do not exceed 0.3 pounds per million BTU. (basis: RACT).
12. To demonstrate compliance with Regulation 8, Rule 34, Sections 301.3 and 412, and the above requirements, the owner/operator shall ensure that a District approved source test is conducted on the Landfill Gas Flare (A-12) within 90 days of startup, followed by annual source tests thereafter. The owner/operator shall obtain prior approval from the Source Test Manager for the location of sampling ports and source testing procedures. The startup and annual source tests shall determine the following:
 - a. landfill gas flow rate to the flare (dry basis);
 - b. concentrations (dry basis) of carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), methane (CH₄), and total non-methane organic compounds (NMOC) in the landfill gas;
 - c. stack gas flow rate from the flare (dry basis);
 - d. concentrations (dry basis) of nitrogen oxides (NO_x), carbon monoxide (CO), CH₄, NMOC, SO₂, and O₂ in the flare stack gas;
 - e. the NMOC destruction efficiency achieved by the flare; and
 - f. the average combustion temperature in the flare during the test period.Annual source tests shall be conducted no later than 12 months after the previous source test. The Source Test Section of the District shall be contacted to obtain approval of the source test procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division and to the Source Test Section within 60 days of the test date. (basis: RACT, Regulations 2-1-301, 2-5-302, 8-34-301.3, 8-34-412, and 9-1-302)
13. The owner/operator shall conduct a characterization of the landfill gas concurrent with the annual source test required by part 12 above. The landfill gas sample shall be drawn from the main landfill gas header. In addition to the compounds listed in part 12b, the landfill gas shall be analyzed for all the compounds listed in the most recent version of EPA's AP-42 Table 2.4-1 excluding acetone, carbon monoxide, and mercury. All concentrations shall be reported on a dry basis. The test report shall be submitted to the Compliance and Enforcement Division within 60 days of the test date. After conducting three annual landfill gas characterization tests, the owner/operator may request to remove specific compounds from the list of compounds to be tested for if the compounds have not been detected, have no significant impact on the cancer risk determination for the site, and have no significant impact on the hazard index determination for the site. (basis: Regulations 2-5-302 and 8-34-412)
- *14. The landfill gas condensate injection rate into the flare shall not exceed 5 gallons per minute. Total landfill gas condensate injection throughput shall not exceed 2,000,000 gallons during any consecutive twelve-month period. The owner/operator may submit a written petition to the District to increase the landfill gas condensate injection rate subject to current District-approved source test results. (basis: Regulation 2-5-302)
15. To demonstrate compliance with the above conditions, the owner/operator shall maintain the following records in a District approved logbook.
 - a. The total amount of municipal solid waste received at S-1 recorded on a daily basis. A summary of the daily waste acceptance records for each calendar month.
 - b. For each area or cell that is not controlled by a landfill gas collection system, a record of the date that waste was initially placed in the area or cell. The cumulative amount of waste placed in each uncontrolled area or cell recorded on a monthly basis.

- c. If the owner/operator plans to exclude an uncontrolled area or cell from the collection system requirement, the owner/operator shall also record the types and amounts of all non-decomposable waste placed in the area and the percentage (if any) of decomposable waste placed in the area.
- d. Low VOC soil screening data, pursuant to part 3.
- e. The dates, locations, and frequency per day of all watering activities on unpaved roads or active soil or fill areas. The dates, locations, and type of any dust suppressant applications. The dates and description of all paved roadway cleaning activities. All records shall be summarized monthly.
- f. The initial operation date for each new landfill gas well and collector.
- g. An accurate map of the landfill that indicates the locations of all refuse boundaries and the locations of all wells and collectors (using unique identifiers) that are required to be operating continuously pursuant to part 6a. Any areas containing only non-decomposable waste shall be clearly identified. This map shall be updated at least once a year to indicate changes in refuse boundaries and to include any newly installed wells and collectors.
- h. The operating times and the landfill gas flow rate to the A-12 Landfill Gas Flare recorded on a daily basis. A monthly summary of the heat input to A-12, pursuant to part 8 shall be calculated and recorded.
- i. Continuous records of the combustion zone temperature for the A-12 Landfill Gas Flare during all hours of operation.
- j. Records of all test dates and test results performed to maintain compliance with parts 12 and 13 above or any applicable rule or regulation.
- k. Records of landfill gas condensate injection throughput and the duration of the injection recorded daily.

All records shall be maintained on site or shall be made readily available to District staff upon request for at least 5 years from the date of entry. These recordkeeping requirements do not replace the recordkeeping requirements contained in any applicable rules or regulations.

(basis: Cumulative Increase, 2-1-301, 2-6-501, 6-1-301, 6-1-305, 8-2-301, 8-34-301, 8-34-304, 8-34-501, and 9-1-302)

- 16. The annual report required by BAAQMD Regulation 8-34-411 shall be submitted in two semi-annual increments. The reporting periods and report submittal due dates for the Regulation 8-34-411 report shall be synchronized with the reporting periods and report submittal due dates for the semi-annual MFR Permit monitoring reports that are required by Section I.F. of the MFR Permit for this site. (basis: Regulation 8-34-411 and 40 CFR Part 63.1980(a))
- 17. The gas collection system operating requirements listed below shall replace the well head requirements identified in Regulation 8-34-305.2 through 8-34-305.4 for the specified wells and collectors. All wells and collectors remain subject to the Regulation 8-34-305.1 requirement to maintain vacuum at each well head.
 - a. The Regulation 8-34-305.2 temperature limit shall not apply to the Wells 36 through 39, 43 through 44, 45, 51, 52, 53, 56, 57, 58, 59, 60, 64, 65, 66, 74, 75, 76, 77, 78, 79, 80, 81, 86, and 87 and any other wells for which the District has approved a higher operating temperature value, provided that the landfill gas temperature at each of the identified wells (except Wells 56, 75, and 80) does not exceed 145 degrees F (63 degrees C) and that the temperature at Wells 56, 75, and 80 does not exceed 156 degrees F (69 degrees C).
 - b. The owner/operator shall demonstrate compliance with the alternative wellhead landfill gas temperature limit in 17(a) above by monitoring the temperature of each wellhead on a monthly basis, in accordance with Regulation 8-34-505.
 - c. All records to demonstrate compliance with Part 17(a) and all applicable sections of BAAQMD Regulation 8, Rule 34 shall be recorded in a District-approved log and made available to District staff upon request in accordance with Regulation

8-34-501.4, 501.9, and 414.

- d. If the temperatures measured at any of the Part 17(a) wells are found to exceed the temperature limit in Part 17(a), the owner/operator shall take all measures necessary to investigate the possibility of subsurface fires, including landfill gas testing for carbon monoxide (CO) on those landfill gas collection wells in Part 17(a) that exceed the operating temperature limit. If a fire is suspected, the owner/operator shall employ all means as appropriate to extinguish the fire, repair the well(s), and bring the well(s) back into service according to Section 8-34-414.

(basis: Regulations 8-34-301.2, 8-34-303, and 8-34-305)

18. If any other well has a temperature of 131 degrees F or higher, the owner/operator may elect to add this component to the list of alternative temperature limit wells in Part 17 if all of the following requirements are met:
 - a. The wellhead temperature does not exceed 145 degrees F.
 - b. The carbon monoxide (CO) concentration in the wellhead gases does not exceed 500 ppmv.
 - c. The component does not exceed any wellhead limit other than temperature and had no excesses of wellhead limits (other than temperature) during the past 120 days prior to adding this component to the list in this subpart, unless the excess is positive pressure at the well from the well vacuum being reduced to eliminate any potential over pull that could contribute to a landfill fire.
 - d. Prior to adding a component to the list in Part 17, the owner/operator shall monitor the gas in the wellhead for CO concentration at least two times, with no more than 15 days between tests. CO monitoring shall continue on a monthly basis, or more frequently if required below, until the owner/operator is allowed to discontinue CO monitoring per subpart e(ii)(3).
 - e. The owner/operator shall comply with all applicable monitoring and recordkeeping requirements below:
 - i. The owner/operator shall demonstrate compliance with the alternative wellhead temperature limit by monitoring and recording the temperature of the landfill gas in the wellhead on a monthly basis, in accordance with Regulations 8-34-501.4, 8-34-501.9, and 8-34-505.
 - ii. If the temperature of the landfill gas in the wellhead exceeds 140 degrees F, the owner/operator shall investigate the possibility of a subsurface fire at the wellhead by monitoring CO concentration in the wellhead gases and by searching for smoke, smoldering odors, combustion residues, and other fire indicators in the wellhead and in the landfill area near the wellhead. Within 5 days of triggering a fire investigation, the owner/operator shall measure the CO concentration in the landfill gas at the wellhead using a portable CO monitor, CO Draeger tube, or an EPA-approved test method. CO monitoring shall continue according to the frequency specified below:
 1. If the CO concentration is greater than 500 ppmv, the owner/operator shall immediately take all steps necessary to prevent or extinguish the subsurface fire, including disconnecting the well from the vacuum system if necessary. If the well is not disconnected from the vacuum system or upon reconnecting the well to the vacuum system, the owner/operator shall monitor the well for CO concentration, wellhead temperature, and other fire indicators on at least a weekly basis until CO concentration drops to 500 ppmv or less.
 2. If the CO concentration is less than or equal to 500 ppmv but great than 100 ppmv, the owner/operator shall monitor for CO concentration at least twice per month (not less than once every 15 days) until the CO concentration drops to 100 ppmv or less.

- Wellhead temperature and other fire indicators shall be evaluated at each of these semi-monthly monitoring events.
3. If the CO concentration is less than or equal to 100 ppmv, the owner/operator shall monitor for CO concentration on a monthly basis. CO monitoring may be discontinued if three consecutive CO measurements are 100 ppmv or less and the wellhead temperature during each of these three monitoring events is 140 degrees F or less. If the component has three or more CO measurement of 100 ppmv or less but the wellhead temperature was greater than 140 degrees F, the owner/operator must receive written approval from the District before discontinuing the monthly CO monitoring at that component.
 - iii. The owner/operator shall record the dates and results of all monitoring events required by this subpart in a District-approved log. If subpart 18e(ii) or 18e(ii)(1) applies, the owner/operator shall also record all actions taken to prevent or extinguish the fire.
 - f. Within 30 days of adding a component to the list in this subpart, the owner/operator shall notify the District in writing that the operator is requesting to add the component to the list of alternative temperature limit wells. This notification shall include the well ID number, a map of the collection system to identify the location of the well, and the dates and results of all monitoring conducted on the well to verify that the above requirements have been satisfied.
 - g. If the Regulation 8-34-414 repair schedule has been invoked for the wellhead temperature excess and the owner/operator has met the requirement in Sections 414.1 and 414.2, then compliance with the requirements of the subpart shall be deemed an acceptable resolution of the wellhead temperature excess in lieu of the collection system expansion specified in Section 414.3 and 414.4.
(basis: Regulation 8-34-305)
19. The leachate collection system operating requirements listed below shall replace the operating requirements identified in Regulation 8-34-301.1, 8-34-305.1, 8-34-305.3, and 8-34-305.4 for the leachate collection risers (LCRs) LR-04 and any other LCRs for which the District has approved for inclusion in Part 19. All LCRs remain subject to the landfill gas temperature limit in Regulation 8-34-305.2.
- a. The Regulation 8-34-305.3 and 8-34-305.4, the nitrogen and oxygen content limits, shall not apply, provided that each LCR is operated at a oxygen concentration not to exceed 15% by volume.
 - b. If compliance with Part 19(a) requires turning off the vacuum to a LCR, the Regulation 8-34-301.1 continuous operation and 8-34-305.1 negative pressure requirement shall not apply if the owner/operator ensures the pressure at the affected LCR does not exceed 0.5 inches water column. This allowance for less than continuous operation will expire on October 30, 2013, unless the owner/operator requests renewal of this provision pursuant to Regulation 8-34-404 and the District approves the request.
 - c. The owner/operator shall demonstrate compliance with the oxygen content limit in 19(a) alternative wellhead pressure limit in 19(b) by installing and maintaining a District-approved vacuum/pressure gauge at each LCR and by monitoring and recording the oxygen content and pressure at each affected LCR on a monthly basis, in accordance with Regulation 8-34-501 and 8-34-505.
 - d. The owner/operator may elect to add additional LCRs to these alternate operating conditions by notifying the District in writing of this request, with identification of the LCR ID number(s) and submittal of the information required by Regulation 8-34-404.
 - e. All records to demonstrate compliance with Part 19 and all applicable sections of BAAQMD Regulation 8, Rule 34 shall be recorded in a District-approved log and made available to District staff upon request for at least 5 years from date of

entry.
(basis: Regulations 8-34-305, 8-34-404, 8-34-414, 8-34-501.4, and 8-34-501.9)

- *20. Sulfur dioxide emissions from the A-12 Landfill Gas Flare shall not exceed the Regulation 9-1-302 exhaust concentration limit of 300 ppmv of SO₂ (dry basis) and sulfur dioxide emissions from A-12 shall not exceed 94.9 tons per year. The owner/operator shall demonstrate compliance with these limits by meeting the following requirements.
- a. Total reduced sulfur compounds in the collected landfill gas shall be monitored as a surrogate for monitoring the sulfur dioxide concentration in the exhaust from A-12. The concentration of total reduced sulfur compounds in the collected landfill gas shall not exceed 860 ppmv (dry basis) expressed as hydrogen sulfide
 - b. If the concentration of total reduced sulfur compounds in the collected landfill gas exceeds 210 ppmv (dry basis) expressed as hydrogen sulfide, the permit holder shall demonstrate that emissions from A-12 have not exceeded the annual sulfur dioxide emission limit specified above using a District approved emissions calculation procedure. If the concentration of total reduced sulfur compounds is 210 ppmv or less, no emission calculation demonstration is required.
 - c. In order to demonstrate compliance with this part, the owner/operator shall test collected landfill gas on an annual basis. The landfill gas sample shall be taken from the main landfill gas header. The owner/operator shall either test the gas for total reduced sulfur compounds (carbon disulfide, carbonyl sulfide, dimethyl sulfide, hydrogen sulfide, ethyl mercaptan, and methyl mercaptan) using District approved methods (MOP, Volume III, Methods 5, 25, or 44) or test the gas for hydrogen sulfide using a draeger tube and following the manufacturer's recommended procedures for using the draeger tube and interpreting the results. If the draeger tube method is used, the measured hydrogen sulfide concentration shall be multiplied by 1.2 to obtain the total reduced sulfur concentration.
- (Basis: Regulation 9-1-302 and 2-1-403)

RECOMMENDATION

Issue a Change of Permit condition for the following source S-1:

For: S-1 Kirby Canyon MSW Landfill – Waste Decomposition Process; Equipped with Landfill Gas Collection System; abated by A-12, Enclosed Landfill Gas Flare with Condensate Injection System; S-22 Kirby Canyon MSW Landfill – Waste and Cover Material Dumping; and S-23 Kirby Canyon MSW Landfill – Excavating, Bulldozing, and Compacting Activities

SIGNED BY IRMA SALINAS

By: Irma Salinas
Senior Air Quality Engineer

Engineering Evaluation Report

Kirby Canyon Recycling and Disposal Facility, P#1812
910 Coyote Creek, Morgan Hill
Application #25763

Background

Waste Management (“Applicant”) has applied for Authorities to Construct and Permits to Operate and Green Waste and Wood Waste Stockpile and a Construction and Demolition (C&D) Debris Stockpile at the Kirby Canyon Landfill, located at 910 Coyote Creek Road, in Morgan Hill (Plant #1812).

Customers will unload the green waste, wood waste, and C&D materials into a designated staging area. The materials will be watered as necessary, then loaded into a mobile shredder, shredded, and unloaded back into stockpiles. The processed material will either be dispersed onsite as alternative daily cover or transported offsite for other uses. The Applicant has proposed a maximum green and wood waste stockpile size of 2,500 tons with a maximum annual throughput of 250,000 tons per year and a maximum C&D stockpile size of 2500 tons with a maximum annual throughput of 104,000 tons per year. Materials added to and removed from the stockpile will be unloaded and loaded during the site’s operational hours, not to exceed 12 hours per day.

S-24, Construction & Demolition Debris Stockpile, 104,000 tons per year, maximum throughput

S-25, Green and Wood Waste Stockpile, 250,000 tons per year, maximum throughput

At this time, the Applicant has submitted only an application for the proposed stockpiles, and not the portable/mobile diesel engine and shredder that will be used to process the stockpiled material, which is registered under the state’s portable equipment registration program. The District has been working with other air Districts in California to clarify the circumstances under which portable equipment registered under the state’s portable equipment registration program (PERP) becomes subject to District stationary source permit requirements. As this policy is not yet final, this application will evaluate only the material handling emissions associated with the proposed stockpiles.

These recycling operations which use PERP-registered equipment to process the materials have been permitted at a number of local landfills. At the time that District’s permitting policy has been finalized, the landfills with these operations will be contacted to apply for District permits for the PERP-registered equipment, if so required. The Applicant has been informed that, a District permit may be required for the processing equipment once the District’s permitting policy for PERP equipment has been finalized.

Emission Calculations

Particulate emissions will be generated from the unloading, storage, processing, re-loading, and distribution of the processed material onsite. The emission calculations for the stockpile operations include three handling/transfer steps for the material –the initial unloading of the material at the site, the loading of the processed product to be distributed onsite or for transport offsite, and the final unloading for use as alternative daily cover onsite. Not all of the material will be used onsite as alternative daily cover; some material will only undergo 2 transfers, so 3 transfers will estimate worst-case emissions.

Note that the emissions from loading of the material into the mobile shredder, shredding, and unloading of the processed material back into stockpiles are associated with the mobile shredding operation, which is not being permitted at this time. In addition, emissions from the mobile shredder travelling across unpaved surfaces have not been calculated under this application. If a District permit is required of the PERP equipment, the emissions from the processing and handling steps, vehicular emission from travel of the mobile shredder onsite, as well as the diesel engine used to power this equipment, will be assessed under a separate application.

The PM10 emissions for this project have been based on emission factors from EPA’s AP-42, Compilation of Air Pollution Emission Factors, 5th Edition, Chapter 13.2.4, Aggregate Handling and Storage Piles. The green waste, wood waste, and C&D debris will be composed of mixed materials, which is expected to result in lower emissions than the AP-42 aggregate handling emission factors have estimated. Moisture contents of 0.7% for the C&D waste and 3.4% for green and wood waste were used in the AP-42 equation to estimate the emission factors.

The annual emissions have been calculated based on the Applicant’s proposed annual limit of 250,000 tons of green/wood waste and 104,000 tons C&D waste per year. Maximum daily handling (total acceptance, removal, transfer) limits of 4500 tons of green/wood waste and 500 tons C&D waste were used to estimate daily emissions for the Best Available Control Technology analysis. No emissions for increased vehicle traffic have been assessed, since the initial drop off of the material, reloading, and delivery to the working face of the landfill are part of standard landfill operations. Emissions from wind erosion are expected to be insignificant. The particulate emission calculations are shown in the attached spreadsheet and summarized in Table 1 below.

**Table 1
 Particulate Matter Project Emissions**

	Emission Factor (lbs/ton)	Number of Transfers	Annual Emissions (lbs/yr)	Maximum Daily Emissions (lbs/day)
S-24 PM10	0.006172	3	1925.8	9.3
S-24 PM2.5	0.000935	3	291.6	1.4
S-25 PM10	0.000675	3	506.5	9.1
S-25 PM2.5	0.000102	3	76.7	1.4
Total PM10			2432.3	
Total PM2.5			368.3	

Cumulative Increase

The District tracks increases in emissions from each facility. These cumulative emissions were reset on April 5, 1991 for all facilities. The post-project cumulative increase for this facility consists of the emissions listed under the current Plant #1812, shown below, as well as the increase in particulate emissions from this project.

**Table 2
 P#1812, Cumulative Emission Increases Since 4/5/91**

Pollutant	Existing, tpy	Increase, tpy	New, tpy
PM10	5.597	1.216	6.813

Compliance Determination

Regulation 1, "General Provisions and Definitions"

The facility is subject to Regulation 1, Section 301, which prohibits discharge of air contaminants resulting in public nuisance. The emissions from the project are not expected to be significant, therefore the operation is not expected to be the source of dust complaints.

Public Notice Requirements, Regulation 2, Rule 1

The public notification requirements of Regulation 2-1-412 apply to modifications which result in an increase in toxic air contaminant or hazardous air contaminant emission at facilities within 1,000 feet of the boundary of a K-12 school. The applicant has reported no K-12 school within that radius of this facility, and the District’s database confirms that there are no K-12 schools located within 1 mile from the facility (5,280 feet). Therefore, the public notice requirements do not apply.

California Environmental Quality Act (CEQA) Requirements, Regulation 2, Rule 1

District Regulation 2, Rule 1, Section 310 specifies that all proposed new and modified sources subject to District permit requirements must be reviewed in accordance with CEQA requirements except for ministerial projects or projects exempt from CEQA under Section 2-1-312. This project is considered to be ministerial and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 11.7, which addresses emissions and permit conditions for bulk unloading and loading and storage piles.

Best Available Control Technology (BACT) Requirements, Regulation 2, Rule 2

Reasonably Available Control Technology (RACT) Requirements, Regulation 2, Rule 2

Per Regulation 2, Rule 2, BACT is triggered when the maximum emissions from a source are 10 lbs per day or more. The maximum daily PM10 and PM2.5 emissions from this operation were estimated by the estimated quantity of material that may be delivered, transferred onsite, or transferred offsite in one day. Based on a daily rates of 4,500 tons of green/wood waste per day and 500 tons C&D waste per day, the daily PM10 emissions from S-24 and S-25 do not exceed 10 lbs/day. Therefore, BACT review is not triggered.

Emission Offsets and Prevention of Significant Deterioration (PSD), Regulation 2, Rule 2

Emission offset requirements for PM10 are defined in Regulation 2, Rule 2, Section 303. PM10 offsets are required for emission increases in excess of 1.0 ton per year since April 5, 1991 at a major facility. A major facility of regulated air pollutants is defined as a facility that has the potential to emit 100 tons per year or more of a regulated air pollutant. For fugitive emissions of regulated air pollutants, only the fugitive emissions from facility categories listed in 40 CFR Part 70.2 are included in determining whether the facility is a major facility. Landfills are not listed as a facility category for which fugitive emissions are included in the major facility determination.

The existing sources at this site include the landfill, a portable diesel engine, and the landfill gas flare. All of these sources emit PM10, however the emissions from the landfill and the proposed stockpiles are fugitive emissions. The potential non-fugitive PM10 emissions from the facility are summarized in Table 3, below. Since this site does not have potential non-fugitive emissions of 100 tons per year or more of PM10, this facility is not a major facility for PM10. Therefore, PM10 emission offsets are not required.

**Table 3
P#1812, Non-Fugitive PM10 Potential to Emit**

Source/AD	Capacity	EF Basis	PTE, tpy
S-8, Portable Diesel IC Engine for Air Compressor	80 bhp	specific	1.85
A-12, Landfill Gas Flare	149 MMBtu/hr	general	3.55
Facility Total			5.40

Health Risk Assessment Requirements, Regulation 2, Rule 5

The District's regulation concerning toxic air contaminant emissions is codified in Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants (TAC). All TAC emissions from new and modified sources are subject to risk assessment review, if the resulting emissions of any individual TAC exceed either the acute or chronic emission thresholds defined in Table 2-5-1.

No TAC emissions are expected from the green/wood waste stockpiles. The TAC emissions from the proposed C&D stockpile operation will depend on the composition of the material accepted. Estimated emissions for a stockpile at a recycling operation at another landfill operation recently has shown that TAC emissions could potentially exceed the risk screening trigger levels in Regulation 2, Rule 5 (for

crystalline silica and trace metals, arsenic, beryllium, cadmium, chromium, lead, manganese, mercury, nickel, selenium) if concrete and asphalt are a significant portion of the accepted material.

The Applicant has indicated that the stockpile and recycling operation at this site will not contain significant levels of concrete or asphalt. The Applicant has estimated that approximately 200 tons per year of concrete/asphalt may end up in the stockpile, and even at a level of 35,000 tons per year of concrete/asphalt, the TAC emissions would not exceed the risk screening trigger levels in Regulation 2, Rule 5.

Since the Applicant has stated that TAC emissions from this operation will not exceed the defined trigger levels in Table 2-5-1, a permit condition will be included that prohibits acceptance of materials containing TACs which may cause emissions to exceed the screening levels in Regulation 2, Rule 5. No health risk screening analysis is required at this time.

Major Facility Review, Regulation 2, Rule 6

40 CFR Part 70, State Operating Permit Programs (Title V):

This facility is a designated facility, as it is currently subject to the requirements of 40 CFR Part 60. The requirements of this program have been codified in District Regulation 2, Rule 6. As a designated facility, this facility was required to obtain a Title V Federal Operating Permit.

The facility was issued the initial Title V permit on July 10, 2003 and underwent several revisions. The permit was renewed on March 2, 2012. The addition of the proposed stockpile operations to the Title V permit is considered a minor revision, which will be processed under Application #21161.

Regulation 6, Rule 1, “Particulate Matter – General Requirements”

The green and wood waste and C&D stockpiles are subject to the particulate emission and opacity standards in Regulation 6, Rule 1. Section 6-1-301 limits visible emissions, which may not be as dark or darker than No. 1 on the Ringelmann Chart, for more than 3 minutes in any hour. Section 6-1-305 prohibits emissions of visible particles from causing a public nuisance. The emissions from the proposed handling and storage of these materials are not expected exceed the opacity standard or violate the public nuisance prohibition since watering will be used to control emissions.

Section 6-1-311 limits particulate emissions based on processing rates. Since the processing of the construction and demolition materials will be performed by portable equipment, which is not being permitted under this application, this section does not apply.

40 CFR Part 60 - Standards of Performance

40 CFR Part 63 - National Emission Standards for Hazardous Air Pollutants

There are a number of federal regulations that apply to manufacturing or processing of various products (portland cement, asphalt, non-metallic mineral products) but these regulations do not apply to the recycling of these products, so do not apply to the proposed stockpiles.

Permit Condition #25872

The following conditions will limit the green and wood waste and construction and demolition debris stockpiles to the parameters represented in the application, which were used to estimate emissions from the proposed operation.

Plant #1812, Kirby Canyon Recycling and Disposal Facility
S-24, Construction & Demolition Debris Stockpile, 104,000 tons per year, maximum throughput
S-25, Green and Wood Waste Stockpile, 250,000 tons per year, maximum throughput

1. The owner/operator shall ensure that no more than 104,000 tons of construction and demolition debris is accepted at S-24 in any consecutive 12-month period.
(basis: Cumulative Increase)
2. The owner/operator shall ensure that the total amount of construction and demolition debris added to S-24 and removed from S-24 for use onsite or removal from the site does not exceed 500 tons each day. This daily limit does not include removal of construction and demolition debris from S-24 and addition back to S-24 for the purpose of processing (crushing/grinding).
(basis: Limit to avoid BACT)
3. The owner/operator shall ensure that no more than 250,000 tons of combined green waste and wood waste debris is accepted at S-25 in any consecutive 12-month period.
(basis: Cumulative Increase)
4. The owner/operator shall ensure that the total amount of combined green waste and wood waste added to S-25 and removed from S-25 for use onsite or removal from the site does not exceed 4,500 tons per day. This daily limit does not include removal of green waste and wood waste from S-25 and addition back to S-25 for the purpose of processing (crushing/grinding).
(basis: Limit to avoid BACT)
5. The owner/operator shall ensure that the construction and demolition debris accepted at S-24 does not contain more than 35,000 tons per year of concrete and asphalt or any hazardous waste, regulated asbestos containing materials, or any other materials that will result in emissions of toxic air contaminants in excess of an acute or chronic trigger level identified in Regulation 2, Rule 5, Table 2-5-1, during handling or recycling of these materials.
(basis: District Regulation 2, Rule 5)
6. The owner/operator shall maintain the following records:
 - a. On a daily basis: Amount of green and wood waste accepted at and removed from S-25; the amount of construction and demolition debris accepted at and removed from S-24; the amount of concrete and asphalt in the construction and demolition debris accepted at S-24.
 - b. On a daily basis: Amount green and wood waste processed at S-25 and used as alternate daily cover; and the amount of construction and demolition debris processed at S-24 and used as alternate daily cover.
 - c. On a monthly basis: Separate totals of the amount of green and wood waste; the amount of construction and demolition debris; and the amount of concrete and asphalt accepted, processed, and used as alternate daily cover shall be totalled at the end of each month for the prior month and the monthly sums totalled for the previous 12-month period.The owner/operator shall maintain all records in a District-approved log. The owner/operator shall retain the records for five years from the date of entry and make them available for inspection by District staff upon request. These record-keeping requirements shall not replace the record-keeping requirements contained in any applicable District Regulations.
(basis: Cumulative Increase)

Recommendations

I recommend waiving the Authorities to Construct and issuing Permits to Operate for the following operations:

S-24, Construction & Demolition Debris Stockpile, 104,000 tons per year, maximum throughput

S-25, Green and Wood Waste Stockpile, 250,000 tons per year, maximum throughput

SIGNED BY TAMIKO ENDOW

Tamiko Endow
Air Quality Engineer

Date