Bay Area Air Quality Management District

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Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT
MINOR AND SIGNIFICANT REVISIONS

for

Browning-Ferris Industries of CA, Inc.
Facility #A2266

Facility Address:
12310 San Mateo Road
Half Moon Bay, CA 94019

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Application: 14066

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STATEMENT OF BASIS

Browning-Ferris Industries of CA, Inc.; SITE # A2266
APPLICATION # 14066

A. BACKGROUND

Browning-Ferris Industries of CA, Inc. (BFI) operates an active landfill in Half Moon Bay, CA (Site # A2266). This facility is required to have a Title V Operating Permit, because it has emissions that exceed the major facility thresholds and because it is a designated facility. This facility was initially issued a Title V permit in 2001, and this permit was last revised on May 6, 2005. Although the current MFR Permit expired on September 30, 2006, this facility submitted a timely application for permit renewal (Application # 14391) and may therefore continue to operate under the application shield (BAAQMD Regulation 2-6-407) while the District processes the renewal application.

Although the District expects to issue a proposed renewal permit soon, the District prefers to complete the permit modification procedures for Permit Application # 14066 - which was submitted to the District prior to submittal of the permit renewal application - before proposing the renewal permit for this site. Processing these applications in chronological order will allow the District to respond to the applicant's earlier request in a more timely fashion and will prevent the inconsistencies that may arise from processing applications out of order.

This Statement of Basis for Application # 14066 identifies and explains proposed revisions to the MFR Permit for Site # A2266. All proposed revisions are associated with the landfill gas collection systems for the S-1 Los Trancos Canyon Landfill. BFI requested permit revisions that will: (a) establish an alternative wellhead oxygen standard for these gas collection systems and (b) modify the descriptions of these landfill gas collection systems. The first requested change requires a significant revision of the MFR permit, while the second requested change requires a minor revision of the permit. This report presents the District's evaluation of these requested permit revisions and describes the additional permit changes that the District is proposing to ensure that this facility will continue to comply with all applicable requirements. The proposed permit is attached and clearly shows all proposed revisions in strikeout/underline format.

Site Description:

Browning-Ferris Industries of CA, Inc., a subsidiary of Allied Waste Industries, Inc., owns and operates the Ox Mountain Landfill Facility (Site # A2266) in Half Moon Bay, CA. This facility includes two adjacent disposal areas in the Los Trancos Canyon that are collectively identified as the S-1 Los Trancos Canyon Landfill. The upper canyon area has reached full capacity and has been inactive since 1995. The lower canyon area is an active Class II MSW landfill that is permitted to accept a maximum 3598 tons/day of refuse. The upper and lower canyon disposal areas are permitted to contain 22.74 million tons of decomposable waste (combined). As of December 31, 2005, the landfill contained 18.0 million tons of decomposable waste. In addition to MSW, this site is allowed to accept designated wastes including petroleum-contaminated soils.

The S-1 Los Trancos Canyon Landfill is equipped with two active landfill gas collection systems. The upper canyon collection system collects landfill gas from the inactive upper canyon disposal area, while the lower canyon collection system collects landfill gas from the newer lower canyon

disposal area. All collected landfill gas is routed to three on-site landfill gas flares (A-7, A-8, and A-9). A-7 and A-8 primarily control landfill gas from the upper canyon area, while A-9 primarily controls landfill gas from the lower canyon area. However, landfill gas from either area may be controlled by any combination of two or more flares. The combined capacity of the three flares is 246 MM BTU/hour (about 8250 scfm of landfill gas at 50% methane). For the year 2005, the three flares combined burned an average of 3582 scfm of landfill gas.

This facility also includes a Non-Retail Gasoline Dispensing Facility (S-5) and a Stockpile for Green Waste (S-3).

Minor Revision (NSR Applications # 12497 and 14976 and Title V Application # 14066):

The District has issued a Permit to Operate for numerous new landfill gas collection wells that BFI installed in 2006 pursuant to Application # 12497. The Permit to Operate Report for Application # 12497 is enclosed as Appendix A.

BFI submitted Application # 14976 to request additional modifications to the lower canyon landfill gas collection system that will extend landfill gas collection into recently filled waste areas. These modifications are intended to ensure that landfill gas in is adequately controlled such that the landfill will not have any surface emission leaks above the limit (500 ppmv as methane). The Engineering Evaluation for Application # 14976 is enclosed as Appendix B.

This Statement of Basis for Application # 14066 identifies and explains all proposed changes to the landfill gas collection systems. The collection systems are described in Permit Condition # 10164, Parts 16 and 17 and in Table II-A of the MFR Permit. These proposed modifications will require a minor revision of the current MFR permit.

Significant Revision (NSR Application # 13933 and Title V Application # 14066):

SCS Engineers, on behalf of Allied Waste Industries, Inc., submitted Application # 13933 to request a Change of Conditions that would allow an alternative standard to a Regulation 8-34-305 wellhead limit. Specifically, SCS requested to increase the oxygen content limit for thirteen landfill gas collectors (EW-1A, EW-W04, EW-W09, EW-W17, EW-W22, EW-W38, EWE-W40, EW-W41, EW-PEW-4, EW-W-1-V, EW-W-1-W, EW-W-1-X, and EW-W-2-A) from 5% by volume (8-34-305.4) to 15% by volume. SCS amended this request on March 13, 2006 by adding another twelve wells and removing one well from the table listing the wells for which an alternative wellhead standard is being requested. The revised list of wells is as follows:
EW-1A, EW-W01, EW-W04, EW-W07, EW-W09, EW-W10, EW-W13, EW-W17, EW-W21, EW-W34, EW-W38, EWE-W40, EW-W41, EW-PEW01, EW-PEW02, EW-PEW03, EW-PEW04, EW-PEW06, EW-PEW15, EW-W-1L, EW-W-1-V, EW-W-1-W, EW-W-1-X, EW-W-2-A, and HC-F06

The District has determined that the requested establishment of an alternative wellhead oxygen standard is acceptable, provided that the facility demonstrates by additional monitoring that the impacted wells are functioning properly and collecting sufficient landfill gas to prevent excesses of the surface leak limit. The District has identified permit condition revisions that are necessary to ensure compliance with the proposed new wellhead oxygen limit and other existing requirements. The District's Engineering Evaluation for Application # 13933 is attached in Appendix C.

This request includes the establishment of a site-specific standard and requires a significant revision of the Title V permit for this facility in accordance with Regulation 2-6-226.5. Application # 14066 contains the significant revision request for the Title V permit. This Statement of Basis for Application # 14066 identifies and explains all changes in applicable requirements and compliance monitoring requirements that are necessary in order to establish the proposed alternative wellhead standard in addition to the District's proposed permit condition revisions.

B. EMISSIONS

As discussed in the attached reports for Applications # 12497 and # 14976, the proposed landfill gas collection system modifications will not result in any emission increases. BFI currently vents all of the collected landfill gas to three enclosed flares (A-7, A-8, and A-9). These flares are currently collecting about 3580 cfm of landfill gas. The maximum capacity of the three flares combined is 8200 cfm of landfill gas. The new collection system equipment is expected to increase the current landfill gas flow rate by no more than 1500 scfm. The flares have sufficient capacity to handle this increased volume of landfill gas with no modifications. Therefore, these applications will not result in any emission increases.

As discussed in the Engineering Evaluation for Application # 13933, the District may establish alternatives to the wellhead standards listed in Regulation 8-34-305.1-4. The wellhead temperature (8-34-305.2), nitrogen (8-34-305.3) and oxygen (8-34-305.4) standards are intended to prevent subsurface fires and are not expected to influence surface emission leaks from the landfill. The alternative standards are intended to give additional leeway in determining the proper operating levels for an adequately functioning well.

The proper operating levels for temperature, nitrogen and oxygen may vary considerably from site to site and even well to well, depending on ambient conditions, age and depth of the refuse, compaction density, cover practices, moisture content, porosity and many other factors. However, the District has found that very high oxygen levels (above 15% by volume) are often found at wellheads that have positive pressure and/or inadequate landfill gas flow from the well. These latter conditions do often result in excess surface emission leaks from areas near the affected well, because the well is not functioning properly. In other words, very high oxygen levels are another symptom of a poorly functioning well. Therefore, the District has in the past limited the oxygen content at wells with alternative oxygen limits to no more than 15% O_2 by volume to ensure that wells with alternative oxygen limits are continuing to function properly.

SCS Engineers (BFI's consultant) has requested an alternative oxygen standard of no more than 15% O_2 by volume for 24 vertical wells and 1 horizontal collector. For this case, the establishment of alternative wellhead oxygen standards is not expected to result in any emission increases at the landfill.

C. PROPOSED MFR PERMIT MODIFICATIONS

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Title 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review, because it is a major facility as defined by BAAQMD Regulation

2-6-212.1. It is a major facility because it has the "potential to emit," as defined by BAAQMD Regulation 2-6-218, of more than 100 tons per year of a regulated air pollutant (in this case, carbon monoxide). Therefore, this facility is required to have an MFR permit pursuant to Regulation 2-6-301.

In addition, it is a designated facility as defined by BAAQMD Regulation 2-6-204. The Standards of Performance for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) require the owner or operator of a landfill that is subject to this part and that has a design capacity of greater than or equal to 2.5 million megagrams and 2.5 million cubic meters to obtain an operating permit pursuant to Part 70. This facility is subject to this NSPS because it commenced construction after May 30, 1991 and has design capacities that are larger than 2.5 million Mg and larger than 2.5 million m^3. Therefore, this facility is required to have an MFR permit pursuant to Regulation 2-6-304.

The initial MFR Permit for this facility was issued on October 1, 2001 and was revised on March 7, 2002, August 12, 2003, January 5, 2004, and May 6, 2005. In this current action, the District is proposing to establish alternative wellhead standards. Pursuant to Regulation 2-6-226.5, the establishment of or change to a case-by-case determination of any emission limit or other standard constitutes a significant revision. Since the proposed collection system modifications are neither a significant revision nor an administrative amendment, these modifications constitute a minor revision. The proposed significant and minor revisions will be handled in one action for District convenience. In accordance with Regulation 2-6-412, a significant revision requires a 30-day public comment period in addition to the standard 45-day EPA review period. The District is proposing to conduct these review periods simultaneously.

The proposed MFR permit revisions for this current action are described below.

Section I:

The District is not proposing any changes to this section.

Sections II:

The collection systems described in Table II-A will be updated to reflect actual installations and other changes that have been completed to date. These revisions were approved by the District in the Permit to Operate Report for Application # 12497. Table II-A changes are presented below.

Table II A - Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J. and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity

Table II A - Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J. and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity
1	Los Trancos Canyon Landfill: (Active Solid Waste Disposal Site with Active Gas Collection System)	Accepting MSW, agricultural waste, demolition waste, auto and tire waste, sewage sludge, and asbestos.		Max. Design Capacity (waste and cover, excluding final cover) = 49.0 E6 yd^3 (37.5 E6 m^3) Max. Waste Acceptance Rate = 3598 tons/day Max. Cumulative Waste In-Place = 22.74 million tons (20.6 million Mg)
	Upper Canyon	Vertical Wells		~~76~~89 wells
	Lower Canyon	Vertical Wells Horizontal Collectors		~~15~~48 wells 47 collectors (4 headers)
5	Non-Retail Gasoline Dispensing Facility - G# 8524 (Phase I isTwo-Point, Phase II is Vapor Balance)	1 Gasoline Nozzle 1 Gasoline Tank 2 Diesel Tanks (exempt) 2 Diesel Nozzles (exempt)	EW 4005 Above-ground Above-ground EMCO Wheaton A845 and WOG 600	10 gpm 1000 gallon capacity 1000 gallon capacity and 10,000 gallon capacity 8 gpm and 35.3 gpm
12	Stockpile of Green Waste	handling and storing yard and green waste		480 tons/day and 70,000 tons/year

Section III:

The District is not proposing any changes to this section.

Section IV:

As discussed in the Engineering Evaluation for Application # 13933, Regulation 8-34-305 states: " ... each wellhead in the gas collection system shall meet the requirements of Sections 8-34-305.1 and 305.2 and either 305.3 or 305.4, unless the operator has discovered the excess and has satisfied all of the requirements of Section 8-34-414; or the operator has received permit conditions containing alternative operating levels [emphasis added]." The underlined section is referring to the establishment of alternative wellhead limits such as the alternative wellhead oxygen standard discussed in this proposed action. The alternative standard will be identified in Condition # 10164, Part 18b. These condition changes will be identified in Table IV-A, as

indicated below. Since most wells will continue to be subject to Regulation 8-34-305 standards, these standards will remain in Table IV-A. However, the District is also proposing to add text to the Regulation 8-34-305 citation, which clarifies that an alternative wellhead oxygen standard applies to some wells.

In a like manner to District requirements, the federal NSPS requirements for MSW Landfills require subject landfill operators to comply with either oxygen or nitrogen wellhead standards but allow for the establishment of site-specific alternative operating values. The pertinent standard is 40 CFR 60.753(c), which states:

> Operate each interior wellhead in the collection system with a landfill gas temperature less than 55 °C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The owner or operator may establish a higher operating temperature, nitrogen, or oxygen value at a particular well [emphasis added]. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

Since elevated temperatures do not accompany the elevated oxygen concentrations at the wells in question, the evidence suggests that elevated oxygen levels at these wells will not cause fires. Since landfill gas is continuing to be generated in the area of these wells, the evidence suggests that elevated oxygen levels will not inhibit anaerobic decomposition. Therefore, the establishment of the higher oxygen level of 15% O_2 by volume is allowed pursuant to 40 CFR 60.753(c). The alternative oxygen limit will be identified in Condition # 10164, Part 18b. The District is proposing to add text to the 40 CFR 60.753(c) citation that clarifies that an alternative wellhead oxygen standard applies to some wells.

The proposed revisions for Table IV-A and shown below in strikeout and underline formatting.

Table IV – A
Source-Specific Applicable Requirements
S-1 LOS TRANCOS CANYON LANDFILL;
A-7 LANDFILL GAS FLARE; A-8 LANDFILL GAS FLARE; A-9 LANDFILL GAS FLARE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
...			
BAAQMD Regulation 8, Rule 34	**Organic Compounds – Solid Waste Disposal Sites (10/6/99)**		
...			
8-34-305	Wellhead Requirements	Y	
8-34-305.1	Operate Under Vacuum	Y	
8-34-305.2	Temperature < 55 °C	Y	
8-34-305.3	Nitrogen < 20% or	Y	
8-34-305.4	Oxygen < 5% (except for wells identified in Condition # 10164, Part 18b(i))	Y	

Table IV – A
Source-Specific Applicable Requirements
S-1 LOS TRANCOS CANYON LANDFILL;
A-7 LANDFILL GAS FLARE; A-8 LANDFILL GAS FLARE; A-9 LANDFILL GAS FLARE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
...			
40 CFR Part 60, Subpart WWW	**Standards of Performance for New Stationary Sources – Standards of Performance for Municipal Solid Waste Landfills (10/17/00)**		
...			
60.753(c)	Operate each wellhead at < 55 °C, and either < 20% N_2 or < than 5% O_2 (or other approved alternative levels for wells identified in Condition # 10164, Part 18b(i))	Y	
60.753(c)(1)	N_2 determined by Method 3C	Y	
60.753(c)(2)	O_2 determined by 3A and as described in (2)(i-v)	Y	
...			
BAAQMD Condition #10164			
...			
Part 18	Collection System ~~Continuous~~ Operati~~o~~ng Requirements including Alternative Wellhead Limits and Associated Monitoring Requirements (Regulations 8-34-301.3, 8-34-303, 8-34-304, and 8-34-305 and 40 CFR 60.755(a) and 60.759)	Y	
...			

Section V:

The District is not proposing any changes to this section.

Section VI:

The District is proposing to modify Condition # 10164, Parts 16-18. Part 16 identifies the upper canyon collection system description. Part 17 identifies the lower canyon collection system description and the authorized collection system modifications. Part 18b identifies the alternative wellhead oxygen limit, lists the specific wells that are subject to this limit, clarifies that wellhead repair schedules will continue to apply to wells subject to an alternative oxygen limit, and describes the additional monitoring that is required in order to ensure that the alternative wellhead oxygen limits will not result in surface emission leaks in the surrounding area. The specific proposed revisions to Condition # 10164 are shown below in strikeout and underline formatting.

Condition # 10164

For S-1 LOS TRANCOS CANYON LANDFILL; A-7 LANDFILL GAS FLARE; A-8 LANDFILL GAS FLARE; AND A-9 LANDFILL GAS FLARE:

(no changes to Parts 1-15)

16. The Permit Holder of S-1 shall have a properly operated and properly maintained landfill gas collection system in the Upper Los Trancos Canyon Fill Area. The Permit Holder shall apply for and receive an Authority to Construct from the District before implementing any changes to the Collection and Control System Design Plan. Increasing or decreasing the number of wells or collectors or significantly changing the locations, depths or lengths of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement.
    a. This gas collection system shall consist of ~~76~~89 vertical wells. (Basis: Regulations 2-1-301, 8-34-301.1, 8-34-305, and NSPS: 40 CFR 60.752(b)(2)(ii))

17. The Permit Holder of S-1 shall have a properly operated and properly maintained landfill gas collection system in the Lower Los Trancos Canyon Fill Area. The Permit Holder shall apply for and receive an Authority to Construct from the District before implementing any changes to the Collection and Control System Design Plan. Increasing or decreasing the number of wells or collectors or significantly changing the locations, depths, or lengths of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement.
    a. This gas collection system shall consist of 47 horizontal collectors (monitored at 4 headers) and ~~15~~48 vertical wells.
    ~~b. The Permit Holder has been issued an Authority to Construct for the additional landfill gas collection system components listed below. The minimum number of wells shall be installed by no later than October 26, 2005. Specific well locations, depths, and lengths of associated piping are as described in detail in Permit Application # 3221. Wells installed pursuant to Part 17b shall be added to Part 17a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415.~~
    ~~Minimum Collectors Maximum Collectors~~
    ~~3 horizontal 13 horizontal~~
    b. The Permit Holder has been issued an Authority to Construct for the additional landfill gas collection system components listed below. Specific well locations, depths, and lengths of associated piping are as described in detail in Permit Application # 14976. Wells installed pursuant to Part 17b shall be added to Part 17a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415.
    - Install 50 to 60 vertical gas collection wells.

(Basis: Regulations 2-1-301, 8-34-301.1, 8-34-305, and NSPS: 40 CFR 60.752(b)(2)(ii), 60.755(a) and 60.759)

18. Operating Requirements for Landfill Gas Collection Systems and Collection System Components:

a. The landfill gas collection systems described in parts 16a and 17a shall be operated continuously. Wells shall not be disconnected or removed, nor isolation valves shut completely off, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. (Basis: Regulation 8-34-301.1)

b. Each landfill gas collection system component listed in Parts 16a and 17a shall be operated in compliance with the wellhead limits of Regulation 8-34-305, unless an alternative wellhead limit has been approved for that component, as identified in subpart b(i), and the Permit Holder complies with all of the additional requirements for that component, as identified in subparts b(ii-vii). (Basis: Regulations 8-34-303, 8-34-304, 8-34-305, 40 CFR 60.755(a) and 60.759)

i. The nitrogen and oxygen concentration limits in Regulation 8-34-305.3 and 8-34-305.4 shall not apply to the landfill gas collection wells listed below, provided that the oxygen concentration in each of the following wells does not exceed 15% by volume.

EW-1A	EW-W01	EW-W04	EW-W07
EW-W09	EW-W10	EW-W13	EW-W17
EW-W21	EW-W34	EW-W38	EWE-W40
EW-W41	EW-PEW01	EW-PEW02	EW-PEW03
EW-PEW04	EW-PEW06	EW-PEW15	EW-W-1L
EW-W-1-V	EW-W-1-W	EW-W-1-X	EW-W-2-A
and HC-F06			

ii. The Permit Holder shall demonstrate compliance with the alternative wellhead oxygen limit in subpart b(i) by monitoring each wellhead for oxygen on a monthly basis, in accordance with the provisions of Regulations 8-34-505 and 8-34-604.

iii. All test dates, wellhead oxygen concentration data, any deviations from the subpart b(i) limit, repair actions, repair dates, re-monitoring dates and results, and compliance restoration dates shall be recorded in a District approved log and made available to District staff upon request in accordance with Regulations 8-34-34-501.4, 8-34-501.9, and 8-34-414.

iv. To demonstrate that the alternative wellhead oxygen limit in subpart b(i) will not cause surface emission leaks, the

Permit Holder shall conduct additional surface emission monitoring in the vicinity of each component listed in subpart b(i). For each component in subpart b(i), the Permit Holder shall maintain a map showing the location of the buried collection component and identifying the approximate radius of influence for the component. For each component in subpart b(i), the Permit Holder shall monitor for landfill surface emissions – in accordance with Regulations 8-34-506 and 8-34-607 – at three representative points on the landfill surface that are within the radius of influence of the component and that are not more than 15 meters from the surface location of the component. This additional surface emission monitoring shall be conducted on a monthly basis for a period of at least six consecutive months.

v. If no excesses of the Regulation 8-34-303 surface emission limit are detected in the vicinity of a component for six consecutive months, the Permit Holder may discontinue the additional monthly surface emission monitoring in the vicinity of that component and shall continue with the routine quarterly surface emission monitoring requirements in the vicinity of that component.

vi. If one or more excesses of the Regulation 8-34-303 surface emission limit are detected in the vicinity of a component during a six consecutive month period, the Permit Holder shall follow all applicable requirements for recording and reporting the excess and shall follow the Regulation 8-34-415 repair schedule for landfill surface leak excesses. The additional monthly surface emission monitoring in the vicinity of that component shall continue until either the no surface excess requirements of subpart b(v) have been achieved or the repair and compliance restoration requirements of subpart b(vii) have been satisfied.

vii. If excesses of the Regulation 8-34-303 surface emission limit are detected in the vicinity of a component for three or more monitoring events during a six consecutive month period, the subpart b(i) alternative wellhead oxygen limit shall be revoked for that component. The Permit Holder shall conduct all necessary repairs to the landfill gas collection well, to any piping associated with the well or the remote wellhead monitoring system, to valves, flanges, or other connectors, and to any test ports or other openings that are necessary to eliminate air intrusion into the well or the monitoring point, to prevent impairment of vacuum application or vacuum adjustment at the collection well,

and to restore the collection well and associated monitoring point to proper function. The Permit Holder shall complete all of the above repairs and any necessary landfill surface and shall restore compliance with the Regulation 8-34-303 surface emission limit (in the vicinity of that component) and the Regulation 8-34-305.4 wellhead oxygen concentration limit by the earlier of the following dates: (a) within 120 days of the date that the first excess was discovered if the three excess events are discovered within a single quarterly period pursuant to the re-monitoring requirements of 8-34-415 or (b) within 60 days of detection of the third excess.

(no changes to Parts 19 through 33)

Section VII:

As discussed for Section VI above, the District is proposing to add an alternative wellhead oxygen standard to Condition # 10164, Part 18b(i). Parts 18b(ii-iii) describe how compliance with this new limit shall be demonstrated using existing wellhead oxygen monitoring procedures and record keeping requirements.

In addition to these requirements, the District is proposing to add additional landfill surface monitoring requirements in the vicinity of the wells that are meeting an alternative oxygen limit in order to ensure that these wells are functioning properly and are continuing to collect sufficient landfill gas to prevent surface emission leaks. These additional monitoring requirements are identified in Part 18b(iv-vi). If excessive surface emission leaks are discovered, subpart 18b(vii) revokes the alternative wellhead oxygen limit and requires the operator to repair or replace the improperly operating well.

The proposed revisions to Table VII-A are shown below in strikeout and underline formatting. These revisions are necessary to identify the alternative wellhead oxygen limit and to identify the associated monitoring citations. The District is also proposing to clarify that some wells are subject to an alternative oxygen limit by adding text to the District and federal wellhead limit citations.

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1 LOS TRANCOS CANYON LANDFILL;
A-7 LANDFILL GAS FLARE; A-8 LANDFILL GAS FLARE; A-9 LANDFILL GAS FLARE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
…							

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1 LOS TRANCOS CANYON LANDFILL;
A-7 LANDFILL GAS FLARE; A-8 LANDFILL GAS FLARE; A-9 LANDFILL GAS FLARE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Gas Concen-trations at Wellhead	BAAQMD 8-34-305.3 or 305.4	Y		N_2 < 20% OR O_2 < 5% (Applies to all wells except for wells identified in Condition # 10164, Part 18b(i))	BAAQMD 8-34-414, 501.9 and 505.3 or 505.4	P/M	Monthly Inspection and Records
Gas Concen-trations at Wellhead	40 CFR 60.753(c)	Y		N_2 < 20% OR O_2 < 5% (Applies to all wells except for wells identified in Condition # 10164, Part 18b(i))	40 CFR 60.755(a)(5), 60.756(a)(2), and 60.758(c) and (e)	P/M	Monthly Inspection and Records
Gas Concen-trations at Wellhead	BAAQMD Condition # 10164, Part 18b(i)	Y		O_2 < 15% (Applies only to wells identified in Condition # 10164, Part 18b(i))	BAAQMD Condition # 10164, Part 18b(ii and iii)	P/M	Monthly Inspection and Records
...							
TOC	BAAQMD 8-34-303 and Condition # 10164, Part 18c(iv)	Y		Surface Leak Limit: < 500 ppmv as methane at 2 inches above surface (Applies to surface vicinity near wells identified in Condition # 10164, Part 18b(i) that are complying with an alternative wellhead oxygen standard instead of the 8-34-305.4 limit)	Condition # 10164, Part 18b(iv-vi)	P/M	Monthly Inspection with OVA of Surface (3 points within 15 m of well), Various Reinspection Times for Leaking Areas, and Records
...							

Section VIII:

The proposed new wellhead oxygen and surface leak monitoring requirements discussed in Sections VI and VII above will use existing monitoring procedures. These monitoring procedures will be cited in Table VIII as indicated below.

Table VIII
Test Methods

Applicable Requirement	Description of Requirement	Acceptable Test Methods
•••		
BAAQMD Condition # 10164, Part 18b(i)	Wellhead Oxygen	EPA Reference Method 3C, Determination of Carbon Dioxide, Methane, Nitrogen, and Oxygen from Stationary Sources
BAAQMD Condition # 10164, Part 18b(iv)	Landfill Surface Requirements	EPA Reference Method 21, Determination of Volatile Organic Compound Leaks
•••		

Section IX:

The District is not proposing any changes to this section.

Section X:

The proposed revisions presented above to Sections II, IV, VI, VII, and VIII will be summarized in the revision history section, as shown below for Application # 14066.

X. REVISION HISTORY

•••

Minor Revision (Application # 14066): [insert approval data]

- Update the landfill gas collection system description in Table II-A and in Condition # 10164, Parts 16 and 17.
- Authorize additional well installations in Condition # 10164, Part 17b.

Significant Revision (Application # 14066): [insert approval data]

- Add an alternative wellhead oxygen standard to Condition # 10164, Part 18b(i) and Table VII-A.
- Identify wells that are subject to this alternative oxygen standard in Table IV-A, Table VII-A, and Condition # 10164, Part 18b(i).
- Add monitoring and record keeping requirements and procedures for wells subject to the alternative wellhead oxygen standard and the surface vicinity near these wells to Table VII-A, Table VIII, and Condition # 10164, Part 18b(ii-vi).
- Identify criteria for revoking the alternative wellhead oxygen standard for a particular well and state corrective measures to be taken in such situations in Condition # 10164, Part 18b(vii).
- In Section X, update the revision history.

Sections XI-XII:

The District is not proposing any changes to these sections.

D. SUMMARY OF PROPOSED ACTIONS

The District recommends approval of a proposed minor and significant revisions of the MFR Permit for Site # A2266 that will:

- Update the landfill gas collection system description.
- Authorize addition well installations.
- Establish an alternative wellhead oxygen limit of 15% O_2 by volume.
- Add applicability criteria for this alternative wellhead oxygen limit.
- Identify monitoring and record keeping requirements and procedures for wells that are subject to this alternative wellhead oxygen limit.
- Add additional monitoring requirements for surface emissions in the vicinity of wells that are subject to the alternative wellhead oxygen limit.

The District recommends issuance of a public notice for this proposed significant revision of the MFR Permit for Site # A2266.

APPENDIX A

PERMIT TO OPERATE REPORT

APPLICATION # 12497

PERMIT TO OPERATE REPORT

Browning Ferris Industries of CA, Inc.; Site # A2266

APPLICATION # 12497

A. BACKGROUND

On June 17, 2005, the District issued Browning-Ferris Industries (BFI) an Authority to Construct pursuant to Application # 12497 for an expansion of the landfill gas collection system at the S-1 Ox Mountain Landfill. This Authority to Construct authorized BFI to install between 35 and 50 new vertical wells in the lower canyon area.

B. START UP DATES AND ACTUAL WELL COUNTS

On February 14, 2006, BFI notified the District that they had installed 47 wells. In April 2006, BFI clarified that only 46 wells had actually been installed and that all wells began operating on February 28, 2006. BFI also clarified that 33 wells were connected to lower canyon collection system and that 13 wells were connected to the upper canyon collection system. The new well ID numbers are identified on the as built maps submitted by BFI in April 2006.

Condition # 10164 will need to be revised to reflect the actual well installations described above and to indicate that no additional well installations are authorized pursuant to Application # 12497.

C. STATEMENT OF COMPLIANCE

Regulation 8, Rule 34:

The landfill gas collection system expansion described above was necessary to ensure compliance with the surface leak limit in Regulation 8-34-303 in existing and newly filled waste areas. All of the new vertical wells are expected to comply with the wellhead limits in Regulation 8-34-305. BFI will monitor the new wells in accordance with Regulation 8-34-505.

Federal Requirements:

NSPS for MSW Landfills: In the BAAQMD, compliance with Regulation 8, Rule 34 will ensure compliance with all applicable requirements of 40 CFR, Part 60, Subpart WWW. Specific applicable NSPS requirements are listed in the existing MFR Permit. Therefore, the installation of 46 vertical landfill gas collection wells is expected to ensure compliance with the NSPS surface leak limit. BFI is expected to comply with all applicable NSPS wellhead limits and monitoring requirements for these new wells.

NESHAPs for MSW Landfills: Any landfills that are subject to the landfill gas collection and control requirements of either the NSPS for MSW Landfills or the EG for MSW Landfills are also subject to the NESHAPs for MSW Landfills (40 CFR, Part 63, Subpart AAAA). This NESHAP requires that subject facilities prepare and implement startup, shutdown, malfunction plans (SSM Plans) and additional reporting requirements. The facility's SSM Plan will include the new gas collection system configuration. All applicable requirements are contained in the existing MFR permit, and this facility is expected to continue to comply with these requirements.

D. PERMIT CONDITION MODIFICATIONS

The District is proposing to modify Condition # 10164, Parts 16 and 17, as indicated in strikeout and underline format below, in order reflect the actual well installations reported by BFI and the completion of the Application # 12497 gas collection system expansion.

Condition # 10164

For S-1 LOS TRANCOS CANYON LANDFILL; A-7 LANDFILL GAS FLARE; A-8 LANDFILL GAS FLARE; AND A-9 LANDFILL GAS FLARE:

(no changes to Parts 1-15)

16. The Permit Holder of S-1 shall have a properly operated and properly maintained landfill gas collection system in the Upper Los Trancos Canyon Fill Area. The Permit Holder shall apply for and receive an Authority to Construct from the District before implementing any changes to the Collection and Control System Design Plan. Increasing or decreasing the number of wells or collectors or significantly changing the locations, depths or lengths of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement.
    a. This gas collection system shall consist of ~~76~~89 vertical wells.
    (Basis: Regulations 2-1-301, 8-34-301.1, 8-34-305, and NSPS: 40 CFR 60.752(b)(2)(ii))

17. The Permit Holder of S-1 shall have a properly operated and properly maintained landfill gas collection system in the Lower Los Trancos Canyon Fill Area. The Permit Holder shall apply for and receive an Authority to Construct from the District before implementing any changes to the Collection and Control System Design Plan. Increasing or decreasing the number of wells or collectors or significantly changing the locations, depths, or lengths of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement.

a. This gas collection system shall consist of 47 horizontal collectors (monitored at 4 headers) and ~~15~~48 vertical wells. The authorized number of landfill gas collection system components is the baseline count listed above plus any components added pursuant to subpart b below as evidenced by start-up notification letters submitted to the District.

~~b. The Permit Holder has been issued an Authority to Construct for the additional landfill gas collection system components listed below. Specific well locations, depths, and lengths of associated piping are as described in detail in Permit Application # 12497. Wells installed pursuant to Part 17b shall be added to Part 17a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415.~~

~~- Install a minimum of 35 up to a maximum of 50 vertical gas collection wells.~~

(Basis: Regulations 2-1-301, 8-34-301.1, 8-34-305, and NSPS: 40 CFR 60.752(b)(2)(ii), 60.755(a) and 60.759)

(no changes to Parts 18-33)

E. RECOMMENDATION

Issue a Permit to Operate subject to the revised conditions identified above for the following equipment:

S-1 Los Trancos Canyon Landfill; abated by Flares (A-7, A-8, and A-9)

signed by Carol S. Allen — September 20, 2006

By: Carol S. Allen — Date

Senior Air Quality Engineer

APPENDIX B

ENGINEERING EVALUATION

APPLICATION # 14976

ENGINEERING EVALUATION

Browning Ferris Industries of CA, Inc.; Site # A2266

APPLICATION # 14976

A. BACKGROUND

Site Description:

Browning-Ferris Industries of CA, Inc. (BFI) operates the Los Trancos Canyon Landfill Facility located on Ox Mountain in Half Moon Bay, CA. This facility includes an active landfill, three landfill gas flares, a non-retail gasoline dispensing facility (GDF), and stockpiles of green waste.

The Los Trancos Canyon Landfill (S-1) has two distinct fill areas. The upper canyon area has reached full capacity and has been inactive since 1995, while the lower canyon area is actively accepting waste (about 900,000 tons/year). The two fill areas combined contain 18 million tons of decomposable refuse (about 79% of maximum capacity). Each fill area is equipped with a landfill gas collection system, and the collected landfill gas is vented to the flares for abatement.

Current Project:

BFI submitted Application # 14976 to request an Authority to Construct for additional landfill gas collection wells. As waste filling progresses, the landfill gas collection systems needs to be expanded into the newly filled waste areas to ensure that sufficient landfill gas is collected to prevent surface leaks above the Regulation 8-34-303 limit. BFI is requesting to install a minimum of 50 and a maximum of 60 additional vertical gas collection wells. After installation of the minimum wells, BFI will balance the well field and conduct surface and wellhead monitoring to determine if any additional wells will be necessary to ensure sufficient collection of landfill gas in the recently filled waste areas.

B. EMISSIONS

As discussed above, BFI currently vents all of the collected landfill gas to three enclosed flares (A-7, A-8, and A-9). These flares are currently collecting about 3580 cfm of landfill gas. The maximum capacity of the three flares combined is 8200 cfm of landfill gas. The new collection system equipment is expected to increase the current landfill gas flow rate by no more than 1500 scfm. The flares have sufficient capacity to handle this increased volume of landfill gas with no modifications. Therefore, this application will not result in any emission increases.

C. STATEMENT OF COMPLIANCE

Regulation 2, Rule 1:

This application is for a change of permit conditions at the S-1 Los Trancos Canyon Landfill that will identify upgrades to the landfill gas collection system, which is part of the overall abatement system for the landfill. This condition change will not result in any emission increases at the

facility. The Engineering Evaluation for this application uses fixed standards and objective measurements and does not involve any element of discretion. There is no possibility that this application could result in any significant adverse environmental impact. This change of permit conditions is categorically exempt from CEQA review pursuant to Regulation 2-1-312.1 and 2-1-312.2. Therefore, no further CEQA review is required.

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

Regulation 2, Rule 2:

Since this project will not result in any increases of maximum permitted emissions from S-1, this project is not subject to New Source Review or the requirements of Regulation 2, Rule 2.

Regulation 2, Rule 5:

Since this project will not result in any increases of maximum permitted emissions from S-1, this project is not subject to New Source Review for Toxic Air Contaminants.

Regulation 2, Rule 6:

This facility is subject to BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a designated facility as defined by BAAQMD Regulation 2-6-204. Therefore, an MFR Permit is required pursuant to Regulation 2-6-304. In addition to being a designated facility, the maximum permitted CO emission rate for this site exceeds 100 tons/year of CO. Therefore, an MFR Permit is required pursuant to Regulation 2-6-301 as well.

The initial MFR Permit for this facility was issued on October 1, 2001 and was revised on March 7, 2002, August 12, 2003, January 5, 2004, May 6, 2005, and March 16, 2006. This application will require a revision of the current MFR permit to incorporate the proposed permit condition revisions. The proposed MFR permit revisions related to this application are discussed in the Statement of Basis for Application # 14066.

Regulation 8, Rule 34:

The proposed landfill gas collection system expansion is necessary to ensure compliance with the surface leak limit in Regulation 8-34-303 in newly filled waste areas. The proposed installation of at least 50 vertical wells is expected to provide sufficient gas collection in the surrounding areas. Since all landfill gas will be continuously collected and vented to approved control devices, the S-1 Los Trancos Canyon Landfill will comply with Regulation 8-34-301 and 301.1. The existing flares have sufficient capacity to handle the expected increase in landfill gas flow rate due to the new vertical wells. Since this increased flow rate will not exceed the current capacity of the flares, this increased landfill gas flow rate will not impact the flares' ability to comply with the NMOC emission limits in Regulation 8-34-301.3. The proposed vertical wells are expected to comply with the wellhead limits in Regulation 8-34-305. BFI will monitor the new wells in accordance with Regulation 8-34-505. Any wellhead excesses that are discovered will be repaired in accordance with Regulation 8-34-414. This permit application constitutes a submittal of an amended Collection and Control System Design Plan for this facility, which is required pursuant to Regulation 8-34-408.

Federal Requirements:

NSPS for MSW Landfills: In the BAAQMD, compliance with Regulation 8, Rule 34 will ensure compliance with all applicable requirements of 40 CFR, Part 60, Subpart WWW. Specific applicable NSPS requirements are listed in the existing MFR Permit. The proposed installation of 50-60 vertical landfill gas collection wells is expected to ensure compliance with the NSPS surface leak limit. BFI is expected to comply with all applicable NSPS monitoring requirements for these new wells.

NESHAPs for MSW Landfills: Any landfills that are subject to the landfill gas collection and control requirements of either the NSPS for MSW Landfills or the EG for MSW Landfills are also subject to the NESHAPs for MSW Landfills (40 CFR, Part 63, Subpart AAAA). This NESHAP requires that subject facilities prepare and implement startup, shutdown, malfunction plans (SSM Plans) and additional reporting requirements. The facility's SSM Plan will need to be updated to include the new gas collection system configuration. The revised SSM Plan should be on-site prior to initial operation of the new vertical wells. All applicable requirements are contained in the existing MFR permit, and this facility is expected to continue to comply with these requirements.

D. PERMIT CONDITION MODIFICATIONS

The District is proposing to modify Condition # 10164, as indicated in strikeout and underline format below, to allow an expansion of the gas collection system described in Part 17.

Condition # 10164

For S-1 LOS TRANCOS CANYON LANDFILL; A-7 LANDFILL GAS FLARE; A-8 LANDFILL GAS FLARE; AND A-9 LANDFILL GAS FLARE:

(no changes to Parts 1-16)

17. The Permit Holder of S-1 shall have a properly operated and properly maintained landfill gas collection system in the Lower Los Trancos Canyon Fill Area. The Permit Holder shall apply for and receive an Authority to Construct from the District before implementing any changes to the Collection and Control System Design Plan. Increasing or decreasing the number of wells or collectors or significantly changing the locations, depths, or lengths of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement.
    a. This gas collection system shall consist of 47 horizontal collectors (monitored at 4 headers) and 48 vertical wells. The authorized number of landfill gas collection system components is the baseline count listed above plus any components added pursuant to subpart b below as evidenced by start-up notification letters submitted to the District.
    b. The Permit Holder has been issued an Authority to Construct for the additional landfill gas collection system components listed below. Specific well locations, depths, and lengths of associated

piping are as described in detail in Permit Application # 14976. Wells installed pursuant to Part 17b shall be added to Part 17a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415.

- Install 50 to 60 vertical gas collection wells.

(Basis: Regulations 2-1-301, 8-34-301.1, 8-34-305, and NSPS: 40 CFR 60.752(b)(2)(ii), 60.755(a) and 60.759)

(no changes to Parts 18-33)

E. RECOMMENDATION

Issue an Authority to Construct for the following equipment modification:

S-1 Los Trancos Canyon Landfill; abated by Flares (A-7, A-8, and A-9); modification of gas collection system to install 50-60 new vertical wells.

signed by Carol S. Allen — September 20, 2006

By: Carol S. Allen, Senior Air Quality Engineer — Date

APPENDIX C

ENGINEERING EVALUATION

APPLICATION # 13933

ENGINEERING EVALUATION

Allied Waste Industries, Inc. (BFI Ox Mountain Landfill); Site # A2266

APPLICATION # 13933

A. BACKGROUND

Site Description:

Allied Waste Industries, Inc. owns and operates the BFI Ox Mountain Landfill Facility (Facility # A2266) in Half Moon Bay, CA. This facility includes two adjacent disposal areas in the Los Trancos Canyon. The upper canyon area has reached full capacity and has been inactive since 1995. The lower canyon area is an active Class II MSW landfill that is permitted to accept a maximum 3598 tons/day of refuse. The upper and lower canyon disposal areas are permitted to contain 22.74 million tons of decomposable waste (combined). As of December 31, 2005, the landfill contained 18.0 million tons of decomposable waste. In addition to MSW, this site is allowed to accept designated wastes including petroleum-contaminated soils.

The S-1 Ox Mountain Landfill is equipped with two active landfill gas collection systems. The upper canyon collection system collects landfill gas from the inactive upper canyon disposal area (76 vertical wells), while the lower canyon collection system collects landfill gas from the newer lower canyon disposal area (47 horizontal collectors and 15 vertical wells). All collected landfill gas is routed to three on-site landfill gas flares (A-7, A-8, and A-9). A-7 and A-8 primarily control landfill gas from the upper canyon area, while A-9 primarily controls landfill gas from the lower canyon area. However, landfill gas from either area may be controlled by any combination of two or more flares. The combined capacity of the three flares is 246 MM BTU/hour (about 8250 scfm of landfill gas at 50% methane). For the year 2005, the three flares combined burned an average of 3582 scfm of landfill gas.

This facility also includes a Non-Retail Gasoline Dispensing Facility (S-5) and a Stockpile for Green Waste (S-3).

Current Project:

SCS Engineers, on behalf of Allied Waste Industries, Inc., submitted Application # 13933 to request a Change of Conditions that would allow alternative standards to the Regulation 8-34-305 wellhead limits. Specifically, SCS requested to increase the oxygen content limit for thirteen landfill gas collectors (EW-1A, EW-W04, EW-W09, EW-W17, EW-W22, EW-W38, EWE-W40, EW-W41, EW-PEW-4, EW-W-1-V, EW-W-1-W, EW-W-1-X, and EW-W-2-A) from 5% by volume (8-34-305.4) to 15% by volume. SCS amended this request on March 13, 2006 by adding another twelve wells and removing one well from the table listing the wells for which an alternative wellhead standard is being requested. The revised list of wells is as follows:
EW-1A, EW-W01, EW-W04, EW-W07, EW-W09, EW-W10, EW-W13, EW-W17, EW-W21, EW-W34, EW-W38, EWE-W40, EW-W41, EW-PEW01, EW-PEW02, EW-PEW03, EW-PEW04, EW-PEW06, EW-PEW15, EW-W-1L, EW-W-1-V, EW-W-1-W, EW-W-1-X, EW-W-2-A, and HC-F06

SCS also requested that any alternative standards be listed "outside of the Title V permit". The District's procedure for granting alternative wellhead standards is to propose permit condition changes that would establish the alternative limits for specifically listed wells. All permit conditions are contained within the Title V permit. In fact, a significant revision of the Title V permit is required before any alternative wellhead standards approved by the APCO could become effective. Therefore, it is not possible to establish alternative standards "outside of the Title V permit".

The remainder of this report concerns SCS Engineers' request for an alternative wellhead limit of 15% oxygen by volume. This proposed alternative wellhead standard is discussed in more detail in the Emissions and Statement of Compliance sections of this report.

B. EMISSIONS

In accordance with Regulation 8-34-305, the District may establish alternatives to the wellhead standards listed in Regulation 8-34-305.1-4. The wellhead temperature (8-34-305.2), nitrogen (8-34-305.3) and oxygen (8-34-305.4) standards are intended to prevent subsurface fires and are not expected to influence surface emission leaks from the landfill. The alternative standards are intended to give additional leeway in determining the proper operating levels for an adequately functioning well. The proper operating levels for temperature, nitrogen and oxygen may vary considerably from site to site and even well to well, depending on ambient conditions, age and depth of the refuse, compaction density, cover practices, moisture content, porosity and many other factors. However, the District has found that very high oxygen levels (above 15% by volume) are often found at wellheads that have positive pressure and/or inadequate landfill gas flow from the well. These latter conditions do tend to result in excess surface emission leaks from areas near the affected well, because the well is not functioning properly. In other words, very high oxygen levels are another symptom of a poorly functioning well. Therefore, the District has in the past limited the oxygen content at wells with alternative oxygen limits to no more than 15% O_2 by volume to ensure that wells with alternative oxygen limits are continuing to function properly.

SCS Engineers has requested an alternative oxygen standard of 15% O_2 by volume for 24 vertical wells and 1 horizontal collector. Increasing the oxygen content limit from 5% to 15% is not expected to result in any emission increases.

C. STATEMENT OF COMPLIANCE

Regulation 2, Rule 1:

This application is for a change of permit conditions at the S-1 Ox Mountain Landfill that will not require any physical changes and that will not result in any emission increases at this facility. Therefore, this change of permit conditions is categorically exempt from CEQA review pursuant to Regulation 2-1-312.1 and 2-1-312.2, and no further CEQA review is required.

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

Regulation 2, Rule 2:

Since this project will not result in any increases of maximum permitted emissions from S-1, this project is not subject to New Source Review or the requirements of Regulation 2, Rule 2.

New Source Review for Toxic Air Contaminants:

Since this project will not result in any increases of maximum permitted emissions from S-1, this project is not subject to New Source Review for Toxic Air Contaminants.

Regulation 2, Rule 6:

This facility is subject to the Operating Permit 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, Major Facility Review because it is a designated facility as defined by BAAQMD Regulation 2-6-204. The NSPS for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) requires the owner or operator of a landfill that is subject to this part and that has a design capacity of greater than or equal to 2.5 million megagrams and 2.5 million cubic meters to obtain an operating permit pursuant to Part 70. This facility is subject to this NSPS and meets the designated facility criteria listed in 40 CFR § 60.32c(c). Therefore, a Title V permit is required pursuant to Regulation 2-6-304.

The initial MFR Permit for this facility was issued on October 1, 2001 and was revised on March 7, 2002, August 12, 2003, January 5, 2004, and May 6, 2005. This application will require a significant revision of the current MFR permit to incorporate the proposed permit condition revisions. The proposed MFR permit revisions related to this application are discussed in the Statement of Basis for Application # 14066.

Regulation 8, Rule 34:

Regulation 8-34-305 states:

> **8-34-305** **Wellhead Requirements:** Effective July 1, 2002 and except as provided in Sections 8-34-119 or 120, each wellhead in the gas collection system shall meet the requirements of Sections 8-34-305.1 and 305.2 and either 305.3 or 305.4, unless the operator has discovered the excess and has satisfied all of the requirements of Section 8-34-414; or the operator has received permit conditions containing alternative operating levels:
>
> 305.1 Each wellhead shall operate under a vacuum (negative pressure); and
>
> 305.2 The landfill gas temperature in each wellhead shall be less than 55° C (131° F); and either
>
> 305.3 The nitrogen concentration in each wellhead shall be less than 20% by volume; or
>
> 305.4 The oxygen concentration in each wellhead shall be less than 5% by volume.

While Regulation 8-34-305.4 establishes a default wellhead oxygen (O_2) limit of 5% by volume, the preamble states that compliance with this limit may be demonstrated by meeting permit conditions containing alternative operating levels. The proposed permit conditions will establish an alternative operating level of 15% O_2 by volume for twenty-five wells (about 18% of the total number of collection components). This elevated oxygen level is not expected to cause fires or to inhibit anaerobic decomposition. The permit holder will be required to demonstrate compliance with this alternative standard in accordance with Regulation 8-34-505, which requires monthly monitoring of all landfill gas wells for gauge pressure, temperature, and oxygen content.

Regulation 8-34-414 identifies a repair schedule that should be followed if an excess of a Regulation 8-34-305 wellhead limit is discovered. Permit conditions will clarify that this repair schedule should also be followed if an excess of the alternative oxygen concentration limit is discovered. However, the District notes that a potential conflict exists in the language of Sections 414.3 and 414.4. Section 414.3 states that the gas collection system shall be expanded, if the wellhead excess cannot be repaired within 15 days of the date that the excess was first discovered. In some cases, a landfill gas collection system expansion is not the appropriate way to bring collection system wells back into compliance with applicable wellhead standards. This is especially true for excesses of temperature limits or oxygen concentration limits. If fire is the suspected cause of a temperature excess, the appropriate response would be to temporarily disconnected the well from vacuum and extinguish the fire. For some cases where an excess of the wellhead oxygen concentration limit has been detected, expanding the gas collection system could introduce more air into the wells and could exacerbate the problem. For many cases of wellhead oxygen concentration excesses, the appropriate corrective action is to repair or replace the particular well, monitoring point, or landfill surface near this well/monitoring point. Such corrective actions could return the well to compliant status, but would not constitute an "expansion" of the gas collection system. Due to the logistics of the necessary repair or replacement activities, it may not be possible to complete all necessary corrective actions within 15 days. For wells subject to alternative wellhead oxygen limits that require a corrective action pursuant to Section 414.3, the landfill gas collection system does not need to be "expanded" to correct the wellhead excess, if other corrective actions can be completed within the time period allowed pursuant to Section 414.4.

Although SCS Engineers has requested an alternative wellhead oxygen concentration limit of 15% by volume, the data submitted with this permit application shows that some of these wells have had numerous instances of oxygen concentrations measuring above 15% O_2. Because of these very high oxygen readings, the District is concerned that some of these wells or the associated piping and monitoring equipment have vacuum system leaks that may be impairing the proper functioning of these wells and that may lead to surface emission excesses. To ensure that approving elevated oxygen levels at these wells will not result in emission increases, the District recommends that surface emission monitoring frequency be increased in the vicinity of these wells. The specific proposed surface emission monitoring procedures for these wells are described in detail in the Permit Conditions section of this report.

Federal Requirements:

NSPS for MSW Landfills: In the BAAQMD, compliance with Regulation 8, Rule 34 will ensure compliance with all applicable requirements of 40 CFR, Part 60, Subpart WWW. Specific applicable NSPS requirements are listed in the existing MFR Permit. The pertinent standard is 40 CFR 60.753(c), which states:

> Operate each interior wellhead in the collection system with a landfill gas temperature less than 55 °C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The owner or operator may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

As with Regulation 8-34-305, the NSPS allows for the establishment of alternative wellhead standards. These alternative standards must be approved by the administrator, which in this case is the District, prior to implementation. The MFR Permit review and approval process constitutes approval by the administrator of an alternative standard for 40 CFR 60.753(c). EPA will also have the opportunity to review the District's proposed alternative standards pursuant to the MFR Permit review process. The facility is expected to continue to comply with all applicable NSPS monitoring and record keeping requirements for the five affected wellheads including: 40 CFR 60.755(a)(5), 60.756(a)(2), and 60.758(e).

NESHAPs for MSW Landfills: Any landfills that are subject to the landfill gas collection and control requirements of either the NSPS for MSW Landfills or the EG for MSW Landfills are also subject to the NESHAPs for MSW Landfills (40 CFR, Part 63, Subpart AAAA). This NESHAP requires that subject facilities prepare and implement startup, shutdown, malfunction plans (SSM Plans) and additional reporting requirements. All applicable requirements are contained in the existing MFR permit. This facility is expected to continue to comply with these requirements.

D. PERMIT CONDITION REVISIONS

The District is proposing to modify Condition # 10164, Part 18 by adding subparts a and b, as indicated below. Part 18, subpart b identifies the applicable regulation for wellhead limits and authorizes an alternative oxygen concentration limit for the 25 collection wells listed in subpart b(i). Subparts b(ii) and b(iii) describe the monitoring and record keeping requirements that should be used to demonstrate compliance with this alternative wellhead oxygen concentration limit. These requirements are the same as the monitoring and record keeping requirements that apply to all wellheads. Subpart b(iii) also indicates that the Regulation 8-34-414 repair schedule for wellhead excess may be used, if an excess of the alternative wellhead oxygen concentration limit is discovered. The Statement of Compliance Section contains additional discussion about appropriate corrective actions that may be taken in conjunction with the use of this repair schedule.

As discussed in the Statement of Compliance Section, the District is concerned that some of the wells that will be subject to an alternative wellhead oxygen concentration limit may have vacuum leaks within the buried piping. These vacuum leaks may be severe enough to impair the proper functioning of these wells. Allowing a higher oxygen concentration limit for these wells could mask this problem and potentially lead to surface emission excesses. To ensure that allowing a 15% O_2 limit at these wells will not result in surface emission excesses, the District is recommending that the facility conduct additional surface emission monitoring in the vicinity of any wells with this alternative oxygen limit. This additional surface emission monitoring is only required, if the facility opts to use the Part 18b(i) alternative wellhead oxygen concentration limit instead of Regulation 8-34-305.4. Part 18b(iv) describes the locations, frequency, duration, and testing procedures for this proposed additional surface emission monitoring requirement. Subpart b(v) identifies the criteria that must be satisfied in order to discontinue this additional surface emission monitoring. Subparts b(vi) and b(vii) describe procedures that should be followed, if surface emission excesses are detected in the vicinity of the wells that are subject to the alternative oxygen limit. Subpart b(vii) also describes the criteria under which the alternative oxygen limit will be revoked and identifies the appropriate corrective actions that should be taken to bring this facility back into compliance with the Regulations 8-34-303 surface emission limit and the Regulation 8-34-305.4 wellhead oxygen concentration limit.

Condition # 10164

For S-1 LOS TRANCOS CANYON LANDFILL, A-7 LANDFILL GAS FLARE, A-8 LANDFILL GAS FLARE, AND A-9 LANDFILL GAS FLARE:

(no changes to Parts 1-17)

18. Operating Requirements for Landfill Gas Collection Systems and Collection System Components:
    a. The landfill gas collection systems described in Parts 16a and 17a shall be operated continuously. Wells shall not be disconnected or removed, nor isolation valves shut completely off, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. (Basis: Regulation 8-34-301.1)
    b. Each landfill gas collection system component listed in Parts 16a and 17a shall be operated in compliance with the wellhead limits of Regulation 8-34-305, unless an alternative wellhead limit has been approved for that component, as identified in subpart b(i), and the Permit Holder complies with all of the additional requirements for that component, as identified in subparts b(ii-vii). (Basis: Regulations 8-34-303, 8-34-304, 8-34-305, 40 CFR 60.755(a) and 60.759)
        i. The nitrogen and oxygen concentration limits in Regulation 8-34-305.3 and 8-34-305.4 shall not apply to the landfill gas collection wells listed below, provided that the oxygen concentration in each of the following wells does not exceed 15% by volume.

EW-1A	EW-W01	EW-W04	EW-W07
EW-W09	EW-W10	EW-W13	EW-W17
EW-W21	EW-W34	EW-W38	EWE-W40
EW-W41	EW-PEW01	EW-PEW02	EW-PEW03
EW-PEW04	EW-PEW06	EW-PEW15	EW-W-1L
EW-W-1-V	EW-W-1-W	EW-W-1-X	EW-W-2-A
and HC-F06			

ii. The Permit Holder shall demonstrate compliance with the alternative wellhead oxygen limit in subpart b(i) by monitoring each wellhead for oxygen on a monthly basis, in accordance with the provisions of Regulations 8-34-505 and 8-34-604.

iii. All test dates, wellhead oxygen concentration data, any deviations from the subpart b(i) limit, repair actions, repair dates, re-monitoring dates and results, and compliance restoration dates shall be recorded in a District approved log and made available to District staff upon request in accordance with Regulations 8-34-34-501.4, 8-34-501.9, and 8-34-414.

iv. To demonstrate that the alternative wellhead oxygen limit in subpart b(i) will not cause surface emission leaks, the Permit Holder shall conduct additional surface emission monitoring in the vicinity of each component listed in subpart b(i). For each component in subpart b(i), the Permit Holder shall maintain a map showing the location of the buried collection component and identifying the approximate radius of influence for the component. For each component in subpart b(i), the Permit Holder shall monitor for landfill surface emissions – in accordance with Regulations 8-34-506 and 8-34-607 – at three representative points on the landfill surface that are within the radius of influence of the component and that are not more than 15 meters from the surface location of the component. This additional surface emission monitoring shall be conducted on a monthly basis for a period of at least six consecutive months.

v. If no excesses of the Regulation 8-34-303 surface emission limit are detected in the vicinity of a component for six consecutive months, the Permit Holder may discontinue the additional monthly surface emission monitoring in the vicinity of that component and shall continue with the routine quarterly surface emission monitoring requirements in the vicinity of that component.

vi. If one or more excesses of the Regulation 8-34-303 surface emission limit are detected in the vicinity of a component during a six consecutive month period, the Permit Holder shall follow all applicable requirements for recording and reporting the excess and shall follow the Regulation 8-34-415 repair schedule for landfill surface leak excesses. The additional monthly surface emission monitoring in the vicinity of that component shall continue until either the no surface excess requirements of subpart b(v) have been achieved or the repair and compliance restoration requirements of subpart b(vii) have been satisfied.

vii. If excesses of the Regulation 8-34-303 surface emission limit are detected in the vicinity of a component for three or more monitoring events during a six consecutive month period, the subpart b(i) alternative wellhead oxygen limit shall be revoked for that component. The Permit Holder shall conduct all necessary repairs to the landfill gas collection well, to any piping associated with the well or the remote wellhead monitoring system, to valves, flanges, or other connectors, and to any test ports or other openings that are necessary to eliminate air intrusion into the well or the monitoring point, to prevent impairment of vacuum application or vacuum adjustment at the collection well, and to restore the collection well and associated monitoring point to proper function. The Permit Holder shall complete all of the above repairs and any necessary landfill surface and shall restore compliance with the Regulation 8-34-303 surface emission limit (in the vicinity of that component) and the Regulation 8-34-305.4 wellhead oxygen concentration limit by the earlier of the following dates: (a) within 120 days of the date that the first excess was discovered if the three excess events are discovered within a single quarterly period pursuant to the re-monitoring requirements of 8-34-415 or (b) within 60 days of detection of the third excess.

(no changes to Parts 19-33)

E. RECOMMENDATION

Issue a Change of Permit Conditions for the following equipment:

S-1 Los Trancos Canyon Landfill; abated by Flares (A-7, A-8, and A-9):

signed by Carol S. Allen — August 29, 2006

By: Carol S. Allen — Date

Senior Air Quality Engineer