

Bay Area Air Quality Management District

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**Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT
ADMINISTRATIVE AMENDMENT**

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

Facility Address:

12310 San Mateo Road
Half Moon Bay, CA 94019

Mailing Address:

12310 San Mateo Road
Half Moon Bay, CA 94019

Application Engineer: Carol Allen
Site Engineer: Carol Allen

Application: 19939

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STATEMENT OF BASIS

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

APPLICATION # 19939

Major Facility Review Permit: Administrative Amendment

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 municipal solid waste landfill, a non-retail gasoline dispensing facility (GDF), stockpiles for green waste, and three enclosed flares. The landfill is equipped with continuously operating landfill gas collection and control systems. Until recently, all of the collected landfill gas was vented to an on-site control system consisting of the three enclosed flares, which are fired exclusively on landfill gas. As discussed below, this site now has an off-site control option for the collected landfill gas.

An independently owned and operated company, Ameresco Half Moon Bay LLC (Site # B7040), recently installed a landfill gas fired energy plant on BFI property that includes six landfill gas fired lean-burn internal combustion engines. This Ameresco site also has a landfill gas pre-treatment system. Waste gases from this pre-treatment system are abated by a small enclosed landfill gas fired flare. A separate Title V permit application has been submitted for this new energy plant (Application # 21226).

Current Project:

Application # 19939 involves Administrative Amendments to the Title V Permit for Site # A2266. The District is proposing to make a number of non-substantive revisions to the permit conditions for the landfill (S-1), the non-retail gasoline dispensing facility (S-5), and the green waste stockpiles (S-12) that will incorporate the new control option for the landfill, update landfill gas collection system descriptions, clarify various landfill gas concentration limits, and add detail to several existing source testing requirements. In addition to permit condition revisions, the District is changing the responsible official, updating a number of regulatory amendment dates, adding new non-federally enforceable BAAQMD rules, and correcting regulatory citations throughout the permit. The permit condition revisions and regulatory updates are discussed in detail in Section C.

B. EMISSIONS

As explained below, this Administrative Amendment will not result in any emission increases. The proposed condition revisions will not allow the increase of any emission limits and will not change any other data (such as throughput rate limits, emission factors, concentrations, or control efficiency standards) that has been used to establish maximum permitted emission levels for a source or abatement device at this site. The regulatory updates will not affect any of the currently applicable limits either.

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As discussed in the Engineering Evaluation for Application # 20027, adding an off-site landfill gas control option for the landfill will not result in any changes to the current maximum permitted emission levels for the landfill or any other devices on the BFI site. All emission increases for the off-site landfill gas fired engines, the gas pretreatment system, and the waste gas flare have been attributed to Site #B7040. In fact, since the new energy plant will receive most of the landfill gas collected from S-1, BFI's actual combustion related emissions are expected to decrease substantially compared to the emissions during the last few years.

As explained in the Permit to Operate Report for Application # 15190, the flares have sufficient excess capacity to handle all of the additional landfill gas that may be collected as a result of the landfill gas collection system alterations completed to date. Therefore, this action will not require any changes to the existing permit limits for the flares.

The clarifications that are being made to the landfill gas TRS and TAC concentration limits will not increase any specific concentration limits. These clarifications will not allow any increase in annual SO₂ or TAC emission levels for the flares or for the landfill. Therefore, the proposed revisions to Condition #10164 will not result in any emission increases for this site.

The proposed changes to the permit conditions for the non-retail gasoline dispensing facility do not impact the gasoline throughput limit and will not allow any emission increases for S-5.

For the S-12 Stockpiles, the only permit changes involve the correction of a regulatory citation.

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 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.

In addition to being a designated facility, the maximum permitted CO emission rate for this site exceeds 100 tons/year of CO. Therefore, a Title V 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 renewed on October 1, 2007. The permit was last revised on October 20, 2009.

This application will require a revision of the current MFR permit to incorporate the proposed permit condition revisions and regulatory updates. In accordance with Regulation 2-6-201, the proposed changes may be accomplished as an administrative amendment to the permit, because the changes primarily affect the descriptions of applicable requirements. The changes will add detail but do not substantively affect the underlying requirements. The proposed changes to monitoring requirements describe the procedures to be used in more detail and add missing calculation procedures but do not change any of the monitoring frequencies. The proposed

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changes will also correct typographical errors, regulatory citation numbers, and regulatory amendment dates, but none of these changes affect the actual limit or monitoring requirement that the source is subject to. Therefore, these changes will be processed as an Administrative Amendment of the Title V permit.

The proposed MFR permit revisions related to this application are described below. Brief descriptions of the District's regulatory amendments that are being included in this Title V permit amendment are provided below followed by a discussion of the specific changes to each section of the Title V permit.

Summary of District Regulatory Amendments:

- The District amended BAAQMD Regulation 1 on July 9, 2008. This amendment date will be updated in Section I-A, Table III, and Table IV-A of the Title V permit.
- The District amended BAAQMD Regulation 2, Rule 1 on March 4, 2009. This amendment date will be updated in Section I-A and Table III of the Title V permit.
- In December 2007, the District renumbered Regulation 6 as Regulation 6, Rule 1. The requirements did not change – only the citation number changed. The District is proposing to correct the regulatory citations for these particulate matter requirements throughout this Title V permit - in Tables III, IV-A, IV-C, VII-A, VII-C, and VIII and in the bases of several permit conditions: Condition #10164 (Part 4) Condition #16315 (Parts 2 and 7).
- On July 1, 2009, the District amended Regulation 8, Rule 3. This new BAAQMD rule is being added to Table III of the permit.
- BAAQMD has a non-federally enforceable new source review program for toxic air contaminants. The toxic NSR program requirements were initially implemented through the District's Toxic Risk Management Policy (TRMP). In 2005, the District replaced the TRMP with BAAQMD Regulation 2, Rule 5. The District adopted amendments to Regulation 2, Rule 5 on January 6, 2010. The District is proposing to replace current permit references to the TRMP with a citation of BAAQMD Regulation 2, Rule 5 (or the specifically applicable section: 2-5-302). These regulatory citation corrections occur in Tables IV-A and IV-B and Conditions #7523 and #10164, Parts 22, 23, and 31. An explanation about this change is also being added to the Section XI Glossary.

Title Page:

The District is changing the Responsible Official for this site to Rick King, General Manager.

Section I:

The District is updating the regulatory amendment dates for BAAQMD Regulation 1 and BAAQMD Regulation 2, Rule 1.

Section II:

The District is updating the description of the landfill gas collection system pursuant to landfill gas collection well start-up notifications received in 2008 through 2010. These changes are also reflected in revisions to Condition # 10164, Part 17. See Appendix B for additional details.

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Section III:

In Table III Generally Applicable Requirements, the District is updating regulatory amendment dates for: BAAQMD Regulation 1; BAAQMD Regulation 2, Rules 1 and 5; California Health and Safety Code Title 17, Section 931115; 40 CFR Part 61, Subpart A; and 40 CFR Part 82, Subpart F.

The District is also adding the renumbered particulate rule (BAAQMD Regulation 6, Rule 1) to Table III and is separately identifying the SIP version of this rule (SIP Regulation 6) in Table III. Likewise, the District is adding a new non-federally enforceable rule (BAAQMD Regulation 8, Rule 3) to Table III and is correcting the reference to the current federally enforceable version of this rule (SIP Regulation 8, Rule 3) in Table III.

Section IV:

In Table IV-A, the District is updating regulatory amendment dates and correcting regulatory citations for BAAQMD Regulation 1; BAAQMD Regulation 6, Rule 1; SIP Regulation 6; 40 CFR Part 60, Subpart A; 40 CFR Part 63, Subpart A; and Condition #10164, Parts 4, 22, 23, and 31).

The District is also providing more detail about approved landfill gas control options for this site. In particular, 40 CFR Part 60.752(b)(2)(iii), which is included in the current Title V permit, states: "Route all the collected gas to a control system that complies with the requirements in either paragraph (b)(2)(iii) (A), (B) or (C) of this section." The District only included sub-paragraph (B) in the current Title V permit, because this site was previously sending all of its collected landfill gas to enclosed flares. The District is now adding the following citation to Table IV-A: 40 CFR Part 60.752(b)(2)(iii)(C). Sub-paragraph (C) will specifically allow the landfill to route collected landfill gas to a treatment system that processes the collected gas for subsequent sale or use, and it requires that any atmospheric vent from the gas treatment system meet either the requirements for open flares contained in paragraph (A) or the requirements for enclosed combustion devices contained in paragraph (B). The existing landfill gas filtering and de-watering processes constitute "treatment" pursuant to 40 CFR Part 60.752(b)(2)(iii)(C). Since this existing treatment system has no atmospheric vents, there are no new applicable requirements associated with the use of sub-paragraph (C) as a control option for this landfill.

In Table IV-B, the District is correcting a regulatory citation for Condition # 7523.

The District is adding BAAQMD Regulation 6, Rule 1 and SIP Regulation 6 to Table IV-C and is correcting associated citations in the condition bases.

Section V:

The District is not proposing any changes to this Section.

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Section VI:

The District is proposing a number of non-substantive revisions to the permit conditions for the landfill (S-1), the non-retail gasoline dispensing facility (S-5), and the green waste stockpiles (S-12). The reasons for the specific permit condition changes for each source are discussed below in the order that the conditions appear in the Title V permit. For clarity, the discussions about the changes to the two condition numbers that apply to S-5 (#7523 and #16516) have been combined below.

Conditions # 7523 and # 16516 for S-5 Non-Retail Gasoline Dispensing Facility – G # 8524:

The District recently updated its standard permit conditions for non-retail gasoline dispensing facilities to correct regulatory citations and to clarify source test procedures. The District is proposing to modify the text of Conditions #7523 and #16516 in BFI's Title V permit so that it is consistent with the District's new standard condition language for these types of sources. The proposed changes add detail to explain source test notification and reporting requirements but do not alter the currently applicable gasoline throughput limit or impact the frequency or methodology for the required source test.

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:

Part 4: The District is correcting a particulate regulation citation in the basis of this part.

Part 17: The District is proposing to update the description of the landfill gas collection system in Part 17 to include previously authorized alterations that have been completed since the Title V renewal permit was issued in October 2007. The Permit to Operate report for this project is attached in Appendix B. The collection system description in Table II-A is also being updated to incorporate these alterations.

Part 19: BFI requested Title V permit revisions that would enable BFI to use the new off-site energy facility (Site # B7040) as a control option for landfill gas collected from the Los Trancos Canyon Landfill. On March 4, 2009, the District approved revisions to Condition #10164 (Part 19) pursuant to Application #20027 that allowed BFI to vent collected gas to Site #B7040. The Engineering Evaluation for this application is attached in Appendix A. For this Title V permit amendment, the District is proposing to incorporate the District approved revision to Part 19 and is proposing to add the related NSPS control option, 40 CFR Part 60.752(b)(2)(iii)(C), to Table IV-A.

Parts 21, 22, 31:

During a recent annual source test for this site, BFI realized that the landfill gas TRS and TAC concentration limits were not specific enough and could be interpreted in several ways. The District agreed that TRS and TAC concentration limits and monitoring procedures needed additional explanation. The District is proposing modifications to Condition #10164 (Parts 21, 22, and 31) to clarify these concentration limits, sampling locations, testing requirements, and calculation procedures. The changes to the limit description will also be reflected in Table VII-A.

Parts 22, 23, 31:

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In the bases of these three parts, the District is replacing references to the District's Toxic Risk Management Policy with the correct citation from the District's new toxic NSR rule: Regulation 2, Rule 5: Section 301 for TBACT requirements and Section 302 for project risk related limits. Regulation 2, Rule 5 was amended on January 6, 2010. This amendment removed several chlorofluorocarbons from the toxic NSR program, because these compounds do not have approved health effects values. Consequently, the District is removing these chlorofluorocarbon compounds from the Part 31 testing requirements for this site. An explanation about this change is also being added to the Glossary.

Conditions # 16315 for S-3 Stockpiles of Green Waste:

Parts 2 and 7:

The District is correcting the particulate regulation citations in the bases of these parts.

Section VII:

In Table VII-A, the District is correcting the particulate regulation citations and is clarifying that the TRS and TAC concentration limits identified in Table VII-A are average limits, which are calculated from the measured concentrations as described in Condition # 10164, Part 31.

The District is correcting the particulate regulation citations in Table VII-C.

Section VIII:

The District is correcting the particulate regulation citations in Table VIII.

Section IX:

The District is not proposing any changes to this Section.

Section X:

A summary of these permit amendments is being added to the Section X Revision History: Administrative Amendments for Application # 19939.

Section XI:

Text is being added to the Glossary term TRMP to explain that this policy was replaced by BAAQMD Regulation 2, Rule 5.

D. SUMMARY OF PROPOSED ACTIONS

The District is approving an administrative amendment of the MFR Permit for Site # A2266 that will:

- Change the Responsible Official.
- Correct amendment dates in Section I.A.
- Correct or clarify citations in Tables II-A, III, IV-A, IV-B, IV-C, VII-A, VII-C, and VIII.
- Make non-substantive revisions to Conditions # 7523, # 10164, # 16316, and # 16516.
- Update the Section X Revision History.
- Amend a term in the Section XI Glossary.

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APPENDIX A

ENGINEERING EVALUATION

APPLICATION # 20027

Engineering Evaluation
for
Landfill Gas Control System Changes
at S-1 Los Trancos Canyon Landfill
Browning Ferris Industries of CA, Inc.; PLANT # 2266
APPLICATION # 20027

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. As required by District and federal regulations, the active landfill is equipped with landfill gas collection and control systems to reduce the organic compound and toxic air contaminant emissions from the landfill. All collected landfill gas is currently controlled by the three on-site enclosed flares.

Ameresco Half Moon Bay LLC (Plant # 17040, Site # B7040) is constructing a landfill gas to energy facility in Half Moon Bay that will use landfill gas collected from the Los Trancos Canyon Landfill as fuel for up to six IC engines. Siloxanes and many of the organic compounds in the collected landfill gas will be removed from the gas (prior to combustion in the engines) by the TSA gas clean-up process. Organic compound emissions from the TSA process will be abated by a small enclosed flare. This flare will also be fired on landfill gas collected the Los Trancos Canyon Landfill. Construction of the Ameresco facility is nearly complete.

Current Project:

The permit conditions for the S-1 Los Trancos Canyon Landfill currently identify the three on-site flares (A-7, A-8, and A-9) as the only approved landfill gas control devices for S-1. BFI is requesting that these permit conditions be revised to allow venting of gas to the Ameresco facility (six engines and flare) as an approved control option for the S-1 Los Trancos Canyon Landfill.

B. EMISSIONS

The proposed condition change will result in lower landfill gas combustion rates at the BFI flares (A-7, A-8, and A-9). Since these flares will continue to function as back-up control devices for this landfill, BFI is not requesting any changes to the emission limits for these flares. Therefore, this application will not result in any emission increases at the BFI facility (Plant # 2266).

All emission increases associated with burning landfill gas at the Ameresco facility were discussed in detail in the engineering reports for Application # 12649.

APPENDIX A: Engineering Evaluation for Application # 20027

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 with Gas Collection System that involves no physical alterations of the gas collection system or the landfill. The condition changes will simply allow the use of new control devices that were approved through other permit applications. The proposed condition change does not result in any emission increases at this site. Therefore, this application is categorically exempt from CEQA review pursuant to Regulation 2-1-312.2. In addition, the Engineering Evaluation for this application uses fixed standards and objective measurements and does not involve any element of discretion. Consequently, 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 the landfill (S-1) or flares (A-7, A-8, or A-9), this project is not subject to New Source Review or the requirements of Regulation 2, Rule 2. No new BACT, Offset or PSD requirements will apply.

New Source Review for Toxic Air Contaminants:

This application does not result in any increases of Toxic Air Contaminants (TACs). Therefore, NSR for TACs is not triggered, and no new T-BACT requirements will apply.

Regulation 2, Rule 6:

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act (40 CFR, Part 70) and BAAQMD Regulation 2, Rule 6, Major Facility Review (MFR), because it is a major facility for CO emissions and also because it is a designated facility (since it is subject to the NSPS for MSW Landfills). Therefore, this facility is required to have an MFR permit pursuant to Regulations 2-6-301 and 2-6-304.

The initial MFR Permit for this facility was issued on October 1, 2001, it underwent six revisions during 2002 and 2007, and it was renewed on October 1, 2007. This application will require an administrative amendment of the current MFR permit to incorporate the proposed permit condition revisions. The proposed MFR permit revisions related to Application # 20027 will be discussed in the Statement of Basis for the administrative permit amendment under Application # 19939.

Regulation 8, Rule 34:

BFI's Los Trancos Canyon Landfill (S-1) is subject to Regulation 8, Rule 34. Regulation 8-34-301 requires that landfill gas be collected and processed through emission control systems that comply with 8-34-301.1 (continuous operation) and 8-34-301.2 (component leak limit) and either 8-34-301.3 (NMOC emission limits for flares) or 8-34-301.4 (NMOC emission limits for other control devices). The proposed permit condition revisions will not affect compliance with 8-34-301.1 or 8-34-301.2. The proposed condition revisions will allow the use of an off-site flare and off-site engines. Since the Ameresco flare will comply with 8-34-301.3, and the Ameresco engines will comply with 8-34-301.4, venting collected landfill gas to the Ameresco facility will continue to ensure compliance with Regulation 8-34-301.

The S-1 Los Trancos Canyon Landfill is also subject to Regulation 8-34-303, which limits leaks on the surface of the landfill to less than 500 ppmv as methane. This site has generally been complying with the surface leak requirements. The gas quality requirements for the Ameresco facility engines are not expected to require any significant changes to the gas collection procedures for the landfill. Thus, venting gas to the off-site engines is not expected to adversely impact the landfill's ability to comply with the 8-34-303 surface leak limit.

APPENDIX A: Engineering Evaluation for Application # 20027

Federal Requirements:

NSPS for MSW Landfills: The S-1 Los Trancos Canyon Landfill is subject to the New Source Performance Standards (NSPS) for Municipal Solid Waste (MSW) Landfills, 40 CFR, Part 60, Subpart WWW. This regulation limits surface leaks to 500 ppmv as methane (40 CFR 60.753(d)). It requires that a gas collection system be installed and operated in each area or cell, where MSW has been in place for two years or longer. The gas collection system must be designed with a sufficient density of collectors to prevent surface leaks. Gas wells and other collectors must be installed and operated in accordance with an approved collection system design plan. Collected gases must be routed to an approved control system meeting the requirements of 40 CFR 60.752(b)(2)(iii)(A, B, or C). The current control systems (three on-site enclosed flares) meet the requirements of 40 CFR 60.752(b)(2)(iii)(B). The proposed condition changes will allow the use of off-site control systems. When the collected landfill gas is routed off-site, BFI will comply with 40 CFR 60.752(b)(2)(iii)(C) by routing the gases to a treatment system that processes the gas for subsequent sale or use. This additional control option will be added to the MFR permit.

NESHAPs for MSW Landfills: This landfill is also subject to the NESHAPs for MSW Landfills (40 CFR, Part 63, Subpart AAAAA). This NESHAP requires that subject facilities implement startup, shutdown, malfunction plans (SSM Plans) and comply 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 revise Condition # 10164, Part 19, as shown below in strike through and underline formatting. BFI is currently collecting an average of 3900 scfm of landfill gas. Consequently, the text in Part 19 that refers to control options when the gas collection rate is less than 2012 scfm is now obsolete and will be removed. The gas collection rate must be sufficient to ensure compliance with the applicable Regulation 8-34 and NSPS Subpart WWW surface leak limits (500 ppmv of THC expressed as methane) at all times. The proposed revisions to Part 19 will allow BFI to vent collected landfill gas to the Ameresco facility and will identify the specific Ameresco equipment that landfill gas may be delivered to.

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 1-18

19. All collected landfill gas shall be abated by the on-site Landfill Gas Flares (A-7, A-8, or A-9) or shall be vented off-site to the Ameresco Half Moon Bay LLC facility (Site # B7040). Landfill gas may be vented to any combination of the approved control devices (the three on-site flares, the off-site flare, and the six off-site IC engines), provided that a sufficient amount of landfill gas is collected at all times to prevent violation of the applicable landfill surface leak limits. ~~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 performed in compliance with Regulation 8, Rule 34, Sections 113, 116, 117, or 118 and for~~

Deleted: A minimum of one landfill gas flare shall be used to control landfill gas collected from the upper canyon area. A minimum of one landfill gas flare shall be used to control landfill gas collected from the lower canyon area, provided that the total landfill gas collection rate (averaged over the previous three months and excluding shut-down time) is not more than 2012 scfm, expressed as landfill gas with 50% methane (dry basis) at 70 degrees F and 1 atmosphere. If this total average landfill gas collection rate is more than 2012 scfm, a minimum of two flares shall be used to control landfill gas collected from the lower canyon area.

APPENDIX A: Engineering Evaluation for Application # 20027

inadvertent component or surface leaks that do not exceed the limits specified in 8-34-301.2 or 8-34-303.

(Basis: Regulations 8-34-301 and 8-34-303 and 40 CFR Parts 60.752(b)(2)(ii-iii) and 60.753(d-f))

No Changes to Parts 20-33

E. RECOMMENDATION

Issue a Change of Conditions (Condition # 10164) for the following equipment.

S-1 Los Trancos Canyon Landfill with Landfill Gas Collection System:

By: signed by Carol S. Allen
Carol S. Allen
Senior Air Quality Engineer

3/3/2009
Date

APPENDIX B

PERMIT TO OPERATE REPORT

APPLICATION # 15190

Permit to Operate Report
for
Landfill Gas Collections System Alterations
at S-1 Los Trancos Canyon Landfill
Browning Ferris Industries of CA, Inc.; PLANT # 2266
APPLICATION # 15190

A. BACKGROUND

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 up to 835,000 tons/year of waste. The two fill areas combined contain 20.6 million tons of decomposable refuse as of 12-31-2009 (about 91% of maximum capacity). As the final filling stages progress, the two fill areas will join into a single contiguous landfill. Each fill area is equipped with an active landfill gas collection system. These collection systems may also be joined together in the future if necessary for optimization of gas collection rates.

The collected landfill gas is vented to either the Ameresco Half Moon Bay landfill gas energy plant (Plant # 17040, which includes six landfill gas fired IC engines and one landfill gas/waste gas fired flare) or to one or more of the three on-site landfill gas flares (A-7, A-8, or A-9).

This application concerns alterations to the landfill gas collection systems. As of September 13, 2007, the gas collection systems for the Los Trancos Canyon Landfill consisted of 145 vertical wells and a system of horizontal collectors with 16 monitoring points. In addition, the District had authorized the site to install up to 62 new vertical wells and 5 new horizontal collectors and had authorized the decommissioning of 15 vertical wells and 5 horizontal collectors. After September 2007, BFI notified the District (notification dates were 4/22/2008, 10/7/2008, 6/9/2009, and 4/27/2010) that a total of 46 new vertical wells had been installed at this site. BFI also identified several errors on the earlier maps. BFI submitted corrected maps in April 2010 with revised well identification numbers. This site is now equipped with 193 vertical wells and 16 monitoring points for horizontal collectors based on the April 27, 2010 correspondence from BFI's consultant. A summary of the gas collection system components is presented in Table 1.

APPENDIX B: Permit to Operate Report for Application # 15190

Table 1. Landfill Gas Collection System Components Installed as of June 2009

Vertical Wells	Horizontal Collectors				
EW-W01	EW-W44	EW-85	EW-125	EW-1A	EW-W-1-A
EW-W02	EW-W45	EW-86	EW-126	EW-1B	EW-W-2-A
EW-W03	EW-W46	EW-87	EW-127	EW-1C	EW-W-3-A
EW-W04	EW-W47	EW-88	EW-128	EW-1D	EW-W-4-A
EW-W05	EW-W48	EW-89	EW-129	EW-1E	EW-HOR
EW-W06	EW-W49	EW-90	EW-130	EW-W-1-F	HC-650-1
EW-W07	EW-W50	EW-91	EW-131	EW-W-1-G	HC-650-2
EW-W08	EW-51	EW-92	EW-132	EW-W-1-H	HC-650-3
EW-W09	EW-52	EW-93	EW-133A	EW-W-1-I	HC-650-4
EW-W10	EW-53	EW-94	EW-133B	EW-W-1-J	HC-650-5
EW-W12	EW-54	EW-95	EW-134A	EW-W-1-K	HC-F01
EW-W13	EW-55	EW-96	EW-134B	EW-W-1-L	HC-F02
EW-W15	EW-56	EW-97	EW-135	EW-W-1-M	HC-F03
EW-W16	EW-57	EW-98	EW-136	EW-W-1-N	HC-F04
EW-W17	EW-58	EW-99	EW-137A	EW-W-1-O	HC-F05
EW-W18	EW-59	EW-100	EW-137B	EW-W-1-P	HC-F06
EW-W19	EW-60	EW-101	EW-138	EW-W-1-Q	
EW-W20	EW-61	EW-102	EW-139A	EW-W-1-R	
EW-W21	EW-62	EW-103	EW-139B	EW-W-1-S	
EW-W22	EW-63	EW-104	EW-140A	EW-W-1-T	
EW-W23	EW-64	EW-105	EW-140B	EW-W-1-U	
EW-W24	EW-65	EW-106	EW-141	EW-W-1-V	
EW-W25	EW-66	EW-107	EW-142	EW-W-1-W	
EW-W26	EW-67	EW-108	EW-143	EW-W-1-X	
EW-W27	EW-69	EW-109	EW-144A	EW-PEW01	
EW-W28	EW-70	EW-110	EW-144B	EW-PEW02	
EW-W29	EW-71	EW-111	EW-145	EW-PEW03	
EW-W31	EW-72	EW-112	EW-146	EW-PEW04	
EW-W32	EW-73	EW-113	EW-147A	EW-PEW05	
EW-W33	EW-74	EW-114	EW-147B	EW-PEW06	
EW-W34	EW-75	EW-115	EW-148	EW-PEW07	
EW-W35	EW-76	EW-116	EW-149	EW-PEW08	
EW-W36	EW-77	EW-117	EW-150	EW-PEW09	
EW-W37	EW-78	EW-118		EW-PEW10	
EW-W38	EW-79	EW-119		EW-PEW11	
EW-W39	EW-80	EW-120		EW-PEW12	
EW-W40	EW-81	EW-121		EW-PEW13	
EW-W41	EW-82	EW-122		EW-PEW14	
EW-W42	EW-83	EW-123		EW-PEW15	
EW-W43	EW-84	EW-124		EW-PEW30	
40	40	40	33	40	16

* Highlighted wells were installed between September 2007 and June 2009.

The District is proposing to issue the final Permit to Operate for the landfill gas collection system described above. Authority to Construct #15190 expired on June 19, 2009. However, the District has changed the approval procedures for these types of landfill gas collection system alterations. Such requests will now be handled as a Change of Permit Conditions with no expiration date for the authorized alterations. Sites will

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only need to apply for a Change of Conditions when the site runs out of the authorized number of wells or collectors that may be installed or decommissioned. Well counts and changes to the authorized alterations will be made by the District administratively after receiving start-up and or shut-down notifications from the site. For the S-1 Los Trancos Canyon Landfill, which was authorized to install up to 62 new vertical wells and actually installed 46 wells between September 2007 and June 2009, the remaining number of authorized well installations is: 16 new vertical wells. The previously authorized alterations (decommission up to 15 vertical, install up to 5 horizontal collectors, and decommission up to 5 horizontal collectors) remain in effect with no changes.

B. STATEMENT OF COMPLIANCE

Regulation 8, Rule 34

The Los Trancos Canyon Landfill's Active Landfill with Gas Collection System (S-1) is expected to comply with Regulation 8 Rule 34 Section 301 by:

- (a) continuously operating the gas collection system (193 vertical wells and 16 horizontal collectors),
- (b) having no leaks (exceeding 1000 ppmv) from the gas collection system, and
- (c) and continuously venting all of the collected gases to either on-site or off-site control devices.

A comparison of the 2009 landfill gas collection rate (3349 scfm of landfill gas at about 53% methane) to the 2009 projected landfill generation rate (6616 scfm of landfill gas at 50% methane) indicates that BFI is collecting about 54% of the methane that the landfill is expected to be generating. Although this gas collection system (GCS) capture efficiency is lower than the target GCS gas capture efficiency of 75%, it appears to be adequate since no prevalent surface emission leaks have been observed. The LANDGEM program may be overestimating the gas generation potential for this site, since the annual average rainfall in Half Moon Bay is 28 inches (just over the non-arid threshold of 25 inches per year). If the arid area methane generation rate constant ($k=0.02$) is used instead of $k=0.04$ (for areas with more than 25 inches/year of rainfall), the projected gas generation rate for 2009 drops to 4145 scfm and the capture rate increases to 86%.

The S-1 Los Trancos Canyon Landfill is also subject to 8-34-303, which limits leaks on the surface of the landfill to less than 500 ppmv as methane. The collection system alterations completed pursuant to this application are intended to prevent surface emission leaks greater than this standard. BFI has not found any wide spread or non-repairable surface emission leaks above this standard in the last few years.

Since the measured gas collection rate is adequate and surface leaks have not been detected, the gas collection system appears to be functioning properly.

C. PERMIT CONDITIONS

The following permit condition revisions are necessary to reflect the landfill gas collection system alterations that have been completed to date. As discussed previously, the remaining approved collection system alterations now have no expiration date.

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

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17. The Permit Holder of S-1 shall have a properly operated and properly maintained landfill gas collection system in both the Lower and Upper Canyon Fill Areas. (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)
- a. The authorized number of landfill gas collection system components is the baseline count listed below plus any components installed and minus any components decommissioned pursuant to subpart 17b, as evidenced by start-up and decommissioning notification letters submitted to the District.
- ~~193~~ vertical wells
 - 16 monitoring points for horizontal collectors
- b. The Permit Holder has been authorized to perform the landfill gas collection system alterations listed below pursuant to Permit Application # 15190. All collection system alterations shall comply with subparts 17b(i-vii) below. 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.
- i. The authorized collection system alterations are:
- Install up to ~~16~~ vertical gas collection wells.
 - Permanently decommission up to 15 vertical wells
 - Install up to 5 horizontal collectors
 - Permanently decommission up to 5 horizontal collectors
- ii. The Permit Holder shall apply for and receive a Change of Conditions from the District before implementing any changes to the landfill gas collection system described in subpart 17a other than those allowed by subpart 17b(i). Installing, decommissioning, and relocating vertical wells and horizontal collectors are alterations that are subject to this requirement, unless this change constitutes a replacement as defined in subpart 17b(iii) below.

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- iii. Replacement of landfill gas collection system components with identical or functionally equivalent components will not be deemed an alteration and will not be subject to the Authority to Construct requirement under the following circumstances. If a well or collector will be shut down and replaced by a new well or collector in essentially the same location as the old component and this decommission/installation will be accomplished in accordance with Regulations 8-34-117 and 8-34-118, then this activity shall be considered a component replacement that is not subject to the Authority to Construct requirement. For each individual well or collector replacement, this subpart authorizes a maximum vacuum disconnection time of five consecutive days for compliance with Regulation 8-34-117.5. The disconnected component and the new component shall not be counted toward the subpart 17b(i) limits; the numbers of replacement wells and replacement collectors are not limited. Alterations, repairs, or replacements of non-perforated piping sections (such as risers, laterals, or header pipes), piping connectors, or valves are not subject to the Authority to Construct requirement.
- iv. At least three days prior to initiating operation of a well or collector installed pursuant to subpart 17b, the Permit Holder shall submit a start-up notice to the District that contains the component ID number for each new well or collector and the anticipated initial start-up date for each new component.
- v. For each well or collector that is permanently decommissioned after June 19, 2007, the Permit Holder shall submit a decommissioning notice to the District within no later than three working days after the component was disconnected from vacuum system. This decommissioning notice shall contain the component ID for each well or collector that was decommissioned, the date and time that each component was disconnected from the vacuum system, and the reason the component was decommissioned.
- vi. Within six months of installing a new component or permanently decommissioning an existing component, the Permit Holder shall prepare an updated map of the landfill gas collection system that identifies the ID numbers and locations of all operable wells and collectors. On this map or in accompanying documentation, the Permit Holder shall summarize all component changes that were made since the last map was prepared. The previous collection system map, the updated collection system map, and the component change summary shall be provided to District staff upon request.
- vii. If the Permit Holder has a net reduction (number of decommissioned components minus the number of installed components) of more than five components within a 120-day period, the Permit Holder shall submit a more comprehensive decommissioning notice to the District. In addition to the information required by subpart 17b(v), this comprehensive decommissioning notice shall include the maps and documentation required by subpart 17b(vi), shall identify all component changes that have occurred but that are not included on the most recently updated map, shall identify any components that are temporarily disconnected from vacuum pursuant to subpart 18c, shall provide estimated vacuum reconnection dates for these components, shall include a list of all well installations that are expected to occur

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within the next 120 days, and shall discuss the reasons why this reduction in gas collection components is not expected to result in surface emission leaks. Upon request, the Permit Holder shall provide wellhead monitoring data, surface leak monitoring data, records of repair attempts made to date, and other information to support the need for a net collection component reduction of more than five wells. The District may require additional surface monitoring to verify that this net component reduction is not causing landfill surface leaks. The District will notify the Permit Holder in writing of any additional surface monitoring that is required pursuant to this subpart.

No Changes to Parts 18-33

D. RECOMMENDATION

Issue a Permit to Operate for the gas collection system described below subject to the revised Condition # 10164.

S-1 Los Trancos Canyon Landfill with Gas Collection System including: 193 vertical wells and 16 horizontal collectors.

By: signed by Carol S. Allen
Carol S. Allen
Principal Air Quality Engineer

5-6-2010
Date