

Bay Area Air Quality Management District

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Permit Evaluation and Statement of Basis for RENEWAL of

MAJOR FACILITY REVIEW PERMIT

**for
Sonoma County Central Landfill
Facility #A2254**

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Application: 13090

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Title V Statement of Basis

A. Background

The Sonoma County Central Landfill (Site #A2254) was issued a Major Facility Operating Permit (Title V Permit) on February 27, 2001. The Title V permit has since undergone two Significant Revisions and one Minor Revision and was reissued on March 29, 2004, October 3, 2005, and May 18, 2006. This application is for a permit renewal. Should the current permit expire before the renewal permit is issued, it will continue in force until the District takes final action on the renewal permit.

The 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. It is a major facility because it has the “potential to emit” more than 100 tons per year of a regulated air pollutant.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility site identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A2254.

Sonoma County has requested changes to the permit that will be discussed herein. All permit revisions are clearly shown in strikeout and underline formatting in the proposed renewal permit.

B. Facility Description

Municipal solid waste landfills generate landfill gas as a byproduct of the biodegradation of organic materials placed in the landfill. Landfill gas contains mainly methane, carbon dioxide, and small amounts of non-methane organic compounds (<1%) and sulfur compounds (<400 ppmv). Many of the non-methane organic compounds (NMOCs) found in landfill gas are precursor organic compounds (POC), and some NMOCs are hazardous air pollutants (HAP). Various local, state, and federal regulations require that landfill gas be collected and controlled to reduce POC and HAP emissions to the atmosphere. In order to meet these requirements, the Sonoma County Central Landfill (S-1) is equipped with an active landfill gas collection and control system. Under normal operating conditions the collection system operates continuously and, all of the collected landfill gas is vented to control devices. Typically the landfill gas is

vented to the (10) Internal Combustion Engines (S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, and S-14). When one or more engines are shut down, some of the collected landfill gas is vented to the A-2 Landfill Gas Flare in addition to the remaining operational engines.

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit. Routine changes to the standard permit text in Sections I “Standard Conditions”, III “Generally Applicable Requirements”, and X “Glossary” are not considered part of the Title V permit renewal process, but may be made at the discretion of the District during the term of this permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. This permit does not include Title IV or accidental release provisions.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District’s General Provisions and Permitting rules.

Changes to permit:

- The applicable dates in parts B, F, and G will be updated to reflect the issuance date of the renewal permit.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S-1).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302. There are 11 permitted sources at this facility.

Significant sources are those sources that are exempt from permitting, but have a potential to emit more than 2 tons of a “regulated air pollutant,” as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a “hazardous air pollutant,” as defined in BAAQMD Rule 2-6-210, per year. There are no “significant sources” at this facility.

The permit lists all abatement (control) devices that control permitted or significant sources at the facility. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-2). An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an abatement (or “A”) device. If the primary function of a device is a non-control function, the device is considered to be a source (or “S”).

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Changes to permit:

None.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Changes to permit:

- Table III was modified to reflect new and updated versions of Generally Applicable Requirements.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

1. District Rules
2. SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are "federally enforceable" and a "Y" (yes) indication will appear in the "Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.
3. Other District requirements, such as the Manual of Procedures, as appropriate.
4. Federal requirements (other than SIP provisions)
5. BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
6. Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Complex Applicability Determinations

Landfills and landfill gas combustion equipment are subject to BAAQMD Regulation 8, Rule 34. This regulation requires landfills with more than 1 million tons of refuse in place to collect and control the landfill gas that is generated by waste decomposition and specifies numerous operating, monitoring, and reporting requirements for subject operations. Regulation 8, Rule 34 has required that the landfill at this site be controlled by an active landfill gas collection system and a landfill gas control system since 1994.

Landfills and landfill gas combustion equipment may also be subject to either the federal New Source Performance Standards (NSPS) for Municipal Solid Waste (MSW) Landfills or the Emission Guidelines (EG) for MSW Landfills. The federal NSPS for MSW Landfills (40 CFR Part 60, Subpart WWW) applies to landfills that have had a design capacity modification after May 30, 1991. The EG for MSW Landfills (40 CFR Part 60, Subpart Cc) applies to landfills that have had no design capacity modifications since May 30, 1991 but that have accepted waste after November 8, 1987.

BAAQMD implemented the EG by amending Regulation 8, Rule 34 on October 6, 1999. Initially, Bay Area landfills were subject to the Federal Plan for MSW Landfills (40 CFR Part 62, Subpart GGG) until EPA incorporated the October 1999 amendments to Regulation 8, Rule 34 into the California State Plan for MSW Landfills (40 CFR §62.1115). On September 20, 2001, EPA amended the California State Plan to include the BAAQMD's October 1999 amendments and amended the Federal Plan to remove Bay Area landfills from the Federal Plan, effective November 19, 2001. Therefore, BAAQMD Regulation 8, Rule 34, as amended on October 6, 1999, is federally enforceable. The October 1999 amendments were adopted into the SIP, effective August 30, 2002.

Removal of Existing Requirements

Sonoma County treats the landfill gas fired in the IC Engine/Generators S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, and S-14 by compression, dewatering, and filtration down to at least 10 microns. The United States EPA has determined that this treatment meets the requirements of CFR 60.752(b)(2)(iii)(C), so the engines are not subject to the requirements of NSPS Subpart WWW "Standards of Performance for Municipal Solid Waste Landfills". (See attached letter in Appendix A; from John Brock, US EPA to Keith Foszcz, County of Sonoma)

As a result of this determination, all references to NSPS Subpart WWW will be removed from the applicable requirements for the landfill gas fired IC Engine/Generators. However, many of the BAAQMD Regulation 8, Rule 34 requirements overlap with Subpart WWW, so the net effect to the current requirements for the engines is minimal.

Changes to Monitoring Requirements

Sonoma County has requested that the following changes to monitoring be implemented into the Title V renewal permit:

Landfill Gas Sulfur Testing

Permit Condition #4044, part 7 limits the landfill gas concentration of total sulfur compounds to 1,300 ppmv. Sonoma County has been periodically monitoring total sulfur in landfill gas for approximately five years and has found it to be consistently less than 10 percent of the limit. In addition, the landfill is no longer accepting waste, so there is no reason to expect any significant changes to the sulfur content of the generated gas. Sonoma County has proposed a change of permit conditions to reduce the frequency of total sulfur monitoring from quarterly to annual.

Landfill Gas Mercury Testing

Sonoma County has requested that sampling for mercury be explicitly excluded from the annual landfill gas characterization test required by Permit Condition #4044, part 15. This condition currently states: “The landfill gas shall be analyzed for methane (CH₄), carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), and all organic compounds listed in the most recent version of EPA’s AP-42 Table 2.4-1, excluding acetone.” Since the requirement is for organic compounds only, annual mercury testing is not currently required. However, the District is not opposed to adding an explicit testing exception for mercury (and carbon monoxide) as has been done for other landfills within the BAAQMD. Since the landfill is not accepting new waste, it is expected that the current mercury concentrations in the landfill gas will remain constant or decline.

Changes to permit:

- Permit Condition #4044, part 16 will be deleted. Part 15 will be amended to require sampling for total sulfur as part of the annual landfill gas characterization. Part 15 will also be amended to explicitly exclude carbon monoxide and mercury from the annual gas characterization. These changes are reflected in Table IV-A.
- All references to 40 CFR 60, Subpart WWW will be removed from the applicable requirements for the IC Engine/Generators in Table IV-B per the US EPA’s determination that these requirements do not apply. A minor correction to the basis for Permit Condition #19933, part 4 will also be made.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

“409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and

- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.”

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

Changes to permit:

None.

VI. Permit Conditions

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for clarity and enforceability. Each permit condition is identified with a unique numerical identifier, up to five digits.

When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

All changes to existing permit conditions are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all ‘strike-out’ language will be deleted; all “underline” language will be retained, subject to consideration of comments received.

The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

BACT: This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.

Cumulative Increase: This term is used for a condition imposed by the APCO that limits a source’s operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.

Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.

PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.

TRMP: This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

Sonoma County has requested that a number of changes be made to the existing permit conditions as part of the Title V renewal. The requested changes and the District's position are as follows:

Condition #4044, Part 9

Sonoma County's Proposal:

9. The A-2 Landfill Gas Flare shall be operated as necessary to combust excess gas when one or more Internal Combustion Engines are down and whenever the flow of landfill gas exceeds the capacity of the Internal Combustion Engines in service (~~S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, and S-14~~). (basis: Regulation 8-34-301)

Sonoma County requested this change to be consistent with the wording of the condition for the IC Engine/Generators (Condition #19933, Part 2) that applies to the usage of the flare. The proposed condition language allows that it is not always necessary to run all ten engines to control all collected landfill gas. In other words, it may not be necessary to run the flare if only one or two engines are down.

District's Position:

The District is not opposed to this change of conditions.

Condition #4044, Part 14

Sonoma County's Proposal:

14. In order to demonstrate compliance with Regulation 8, Rule 34, Section 301.3 and 40 CFR 60.752(b)(2)(iii)(B), the Permit Holder shall ensure that a District approved source test is conducted annually on the Landfill Gas Flare (A-2). As a minimum, the annual source test shall determine the following:
 - a. landfill gas flow rate to the flare (dry basis);
 - b. concentrations (dry basis) of carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), methane (CH₄), total non-methane organic compounds (NMOC), and total hydrocarbons (THC) in the landfill gas;
 - c. stack gas flow rate from the flare (dry basis);
 - d. concentrations (dry basis) of CH₄, NMOC, THC, and O₂ in the flare stack gas;
 - e. the CH₄, NMOC, and THC destruction efficiencies achieved by the flare; and
 - f. the average combustion temperature in the flare during the test period.

The ~~first~~ next annual source test shall be conducted by no later than ~~October 1, 2002~~ December 16, 2005 ~~or no later than 12 months after the issue date of the MFR Permit, whichever date occurs first.~~ Subsequent source tests shall be conducted no sooner than 9 months and no later than 12 months after the previous source test. The Source Test Section of the District shall be contacted to obtain their approval of the source test

procedures at least 14 days in advance of each source test. They shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division within 60 days of the test date. (Basis: Regulations 8-34-301.3 and 8-34-412 and 40 CFR 60.752(b)(2)(iii)(B))

Sonoma County got off schedule and their 2004 source test was performed on December 16. Therefore, they requested that the due date for subsequent testing be reset.

District's Position:

In the opinion of the District, being late with a source test is not a valid reason to reset the schedule. However, since annual source testing is now ongoing, the text of this condition can be simplified. The following modification is proposed by the District:

~~The first annual source test shall be conducted by no later than October 1, 2002 or no later than 12 months after the issue date of the MFR Permit, whichever date occurs first.~~ Subsequent Annual source tests shall be conducted no sooner than 9 months and no later than 12 months after the previous source test. The Source Test Section of the District shall be contacted to obtain their approval of the source test procedures at least 14 days in advance of each source test. They shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division within 60 days of the test date.
(Basis: Regulations 8-34-301.3 and 8-34-412 and 40 CFR 60.752(b)(2)(iii)(B))

Condition #4044, Parts 15 and 16

Sonoma County's Proposal:

- *15. In order to demonstrate compliance with Part 6 and 7 above, the Permit Holder shall conduct a characterization of the landfill gas at least once per year. The landfill gas sample shall be drawn from the main landfill gas header. The landfill gas shall be analyzed for methane (CH₄), carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), total reduced sulfur content (TRS), and all organic compounds listed in the most recent version of EPA's AP-42 Table 2.4-1, excluding acetone, carbon monoxide, and mercury. All concentrations shall be reported on a dry basis. The test report shall be submitted to the Compliance and Enforcement Division within 60 days of the test date. After conducting three annual landfill gas characterization tests, the Permit Holder may request to remove specific compounds from the list of compounds to be tested for if the compounds have not been detected, have no significant impact on the cancer risk determination for the site, and have no significant impact on the hazard index determination for the site. If the Permit Holder has excluded any NPOCs from the POC emission calculations for the site, then the Permit Holder shall continue to test for these NPOCs on an annual basis. (basis: Toxic Risk Management Policy and 9-1-302)
- ~~16. In order to demonstrate compliance with Part 7 above, the Permit Holder shall measure the total sulfur content in collected landfill gas on a weekly basis using a draeger tube. The landfill gas sample shall be taken from the main landfill gas header. The Permit Holder shall follow the manufacturer's recommended procedures for using the draeger tube and interpreting the results. The Permit Holder shall conduct the first draeger tube~~

~~test no later than 3 months after the issue date of the MFR Permit and weekly thereafter. After collecting three months of landfill gas sulfur content data, the Permit Holder may reduce the sulfur content testing frequency to a monthly basis, if all tests indicate compliance with the limit specified in Part 7 above. After collecting one year of sulfur content data, the Permit Holder may reduce the sulfur content testing frequency to a quarterly basis, if all tests indicate compliance with the limit specified in Part 7 above. (basis: 9-1-302)~~

Sonoma County has proposed combining the testing requirements for sulfur (Part 16) with those of other landfill gas compounds of interest (Part 15) so that sulfur testing would be required on an annual basis rather than weekly as is currently required. The proposal also includes the exclusion of carbon monoxide and mercury from annual testing (to be consistent with the current practice of the BAAQMD for landfill facilities). Sonoma County has been periodically monitoring total sulfur in landfill gas for approximately five years and has found it to be consistently less than 10 percent of the limit. In addition, the landfill is no longer accepting waste, so there is no reason to expect any significant changes to the sulfur content of the generated gas.

District's Position:

The current requirements of Condition #4044, Part 16 allow for a gradual reduction of sulfur monitoring frequency from weekly to monthly to quarterly based on continued demonstrations of compliance with the applicable sulfur limit. However, since Sonoma County has consistently demonstrated that the sulfur content of the landfill gas is well below the applicable limit and the landfill will not be accepting new waste, an annual sulfur test is sufficient to demonstrate compliance. The District therefore recommends that Condition #4044, Part 16 be deleted and Part 15 be amended to require sampling for total sulfur as part of the annual landfill gas characterization test.

Sonoma County has requested that sampling for carbon monoxide and mercury be explicitly excluded from the annual landfill gas characterization test required by Permit Condition #4044, part 15. The District agrees that carbon monoxide should be excluded from the annual gas characterization because it is not listed as a toxic air contaminant and therefore has no impact on the cancer risk or hazard index determinations for the site. Testing for mercury, although not explicitly excluded, is not currently required because the testing requirement is for organic compounds only. However, the District is not opposed to adding an explicit testing exception for mercury (and carbon monoxide) as has been done for other landfills within the BAAQMD. Since the landfill is not accepting new waste, it is expected that the current mercury concentrations in the landfill gas will remain constant or decline.

Condition #19933, Part 4

Sonoma County's Proposal:

4. District approved flowmeters, to measure landfill gas flow into the engines, shall be installed prior to any operation and maintained in good working condition. ~~An automatically controlled landfill gas valve shall be installed, and maintained to insure that landfill gas is immediately made available for flaring to the A-2 Landfill Gas Flare when one or more of the engines are down. (basis: 8-34-301)~~

Sonoma County has stated that automatic valves are not necessary because they have ample capacity in the remaining engines, should one go down for a short period of time. If the flow of gas to the engines exceeds their capacity to combust it, gas is diverted to the flare as required by Condition #19933, Part 2. Sonoma County states that they can handle any emergency situation within one hour and prevent the release of landfill gas to the atmosphere and that automatic valves may lead to unintended venting of gas or a safety hazard, if gas diverted from an engine triggers an automatic and unsupervised startup/shutdown of the flare.

District's Position:

Although automatic valves for landfill gas fired IC engines are commonly required by District permit conditions, there is no statutory basis to support this requirement. Since Sonoma County is confident that they will comply with Regulation 8-34-301 without the use of automatic control valves, it is recommended that this requirement be removed as requested.

Condition #19933, Part 8

Sonoma County's Proposal:

Allow 60 days from the test date to submit the annual source test report for the IC Engine/Generators rather than 45.

District's Position:

This change has already been made in a previous revision.

Condition #19933, Parts 9, 10, and 11

Sonoma County's Proposal:

Delete these conditions because the EPA has determined that 40 CFR 60, Subpart WWW does not apply to the IC Engine/Generators at this facility.

District's Position:

As previously discussed, many of the BAAQMD Regulation 8, Rule 34 requirements overlap with Subpart WWW, so Parts 9, 10, and 11 of Condition #19933 are still applicable and will be retained.

Changes to permit:

- Permit Condition #4044, Part 9: Changes will be made to clarify that the flare is to be used to combust excess landfill gas whenever the capacity of in service IC engines is exceeded, regardless of the number of engines operating.
- Permit Condition #4044, Part 14: Condition language relating to the timing of annual source testing will be updated to account for the fact that annual source testing of the landfill gas flare is now ongoing.
- Permit Condition #4044, Part 15: Carbon monoxide and mercury will be explicitly excluded from annual landfill gas characterization testing because the District does not list it as a toxic air contaminant. Total sulfur will be added to the list of compounds evaluated during the annual gas characterization test.
- Permit Condition #4044, Part 16 will be deleted. The sulfur testing requirement has been moved to Part 15.

- Permit Condition #19933: All references to 40 CFR 60 Subpart WWW will be removed per the US EPA's determination that these requirements do not apply.
- The requirement for automatic valves on the landfill gas fired IC engines will be removed from Permit Condition #19933.
- Permit Condition #19933, Parts 9, 10, and 11: Sonoma County has requested that these conditions be removed per the EPA's decision to exempt the IC Engine/Generators from the requirements of 40 CFR 60, Subpart WWW. However, these conditions also pertain to applicable BAAQMD requirements (as noted in the basis for each condition), so they will be retained. The 90 day delayed applicability of Part 11 has expired and will be removed.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements. It follows that, although Title V calls for a re-examination of all monitoring, there is a presumption that these factors have been appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation. Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate.

As previously discussed, the US EPA has determined that the requirements of 40 CFR 60, Subpart WWW no longer apply to the landfill gas fired IC Engine/Generators at the facility. Therefore, these requirements will be removed from Table VII-B. Apart from this, the compliance monitoring requirements for this facility have not substantially changed from the most recently issued Title V permit. The District deems that the current monitoring is adequate to provide a reasonable assurance of compliance.

Changes to permit:

- Table VII-A: The landfill gas total sulfur content monitoring frequency will be changed from weekly to annual.
- Table VII-B: All references to 40 CFR 60, Subpart WWW will be removed based on the decision of the US EPA that these requirements do not apply to energy recovery devices being fired by “treated” landfill gas.
- Table VII-B: The landfill gas total sulfur content monitoring frequency will be changed from weekly to annual.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. The test methods are not applicable requirements unless a rule or permit condition requires ongoing testing, in which case the requirement will also appear in Section IV of the permit.

Changes to permit:

None.

D. Alternate Operating Scenarios:

As of September 1, 2005 the Sonoma County Central Landfill is no longer accepting waste, but will continue to use its facilities as a transfer station, directing solid waste to another permitted landfill outside of Sonoma County. However, if given approval, Sonoma County may resume landfilling operations during the term of the proposed renewal Title V permit. All situations requiring additional permitting by the District will be dealt with as they occur.

E. Compliance Status:

As of the date of submittal of the renewal Title V permit application (7/29/05); Sonoma County has acknowledged that they are out of compliance with applicable requirements of the permit. These requirements relate to parameter monitoring and heat input limits for the IC Engine/Generators S-4, S-5, S-6, S-7, S-9, S-10, S-11, S-12, S-13, and S-14. Sonoma County has filed permit applications as follows to put them back into compliance:

- Application #9277: Substitution of outlet oxygen content monitoring for temperature monitoring to satisfy the “Key Emission Control System Operating Parameter(s)” monitoring requirement of BAAQMD Regulation 8-34-509. Status: A Significant Permit Revision was issued to Sonoma County on October 3, 2005 to allow them make the requested monitoring changes.
- Application #9276: Correction of the heat input capacities of the IC Engine/Generators. Status: A Minor Permit Revision was issued to Sonoma County on May 18, 2006, correcting the heat capacities as requested.

Sonoma County is now in compliance with all applicable requirements of the Title V permit.

BAAQMD Compliance Review

An August 4, 2006 office memorandum from the Director of Compliance and Enforcement, to the Director of Engineering, presents a review of the compliance record of the Sonoma County Central Landfill (Site #: A2254). The Compliance and Enforcement Division staff has reviewed the records for Sonoma County for the period of August 18, 2005 through August 17, 2006. This review was initiated as part of the District evaluation of Sonoma County’s application for a

renewal Title V permit. During the period subject to review, activities known to the District include:

- Two Notices of Violation were issued during this period. Both violations were for excess NOx emissions from 2 separate landfill gas fired IC engines. Both engines have been retested and found to be back in compliance.
- The District received three air pollution complaints alleging the Sonoma County Central Landfill as the source. None of the complaints were confirmed by District inspection staff.
- No notifications for Reportable Compliance Activities were received.
- The facility is not operating under a Variance or an Order of Abatement from the District Board.

The BAAQMD Compliance and Enforcement Division has stated that ongoing compliance for this facility can be reasonably assured based on their past compliance record. A copy of this review is included in Appendix C of this Evaluation.

F. Differences between the Application and the Proposed Permit:

The renewal Title V permit application was submitted on July 29, 2005. This version is the basis for constructing the proposed Title V permit. All differences between the renewal Title V application and the proposed permit have been discussed in this Permit Evaluation and Statement of Basis.

APPENDIX A

**EPA Determination That 40 CFR 60 Subpart WWW
Does Not Apply to IC Engine/Generators**

APPENDIX B

GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

API

American Petroleum Institute

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

BARCT

Best Available Retrofit Control Technology

C5

An Organic chemical compound with five carbon atoms

C6

An Organic chemical compound with six carbon atoms

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CAPCOA

California Air Pollution Control Officers Association

CEC

California Energy Commission

CEQA

California Environmental Quality Act

CEM

A "continuous emission monitor" is a monitoring device that provides a continuous direct measurement of some pollutant (e.g. NO_x concentration) in an exhaust stream.

CFR

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO

Carbon Monoxide

CO₂

Carbon Dioxide

Cumulative Increase

The sum of permitted emissions from each new or modified source since a specified date. Used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

dscm

Dry Standard Cubic Meter

E 6, E 9, E 12

Very large or very small number values are commonly expressed in a form called scientific notation, which consists of a decimal part multiplied by 10 raised to some power. For example, 4.53 E 6 equals $(4.53) \times (10^6) = (4.53) \times (10 \times 10 \times 10 \times 10 \times 10 \times 10) = 4,530,000$. Scientific notation is used to express large or small numbers without writing out long strings of zeros.

EGT

Exhaust Gas Temperature

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District Regulations.

Federally Enforceable, FE

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60, (NSPS), Part 61, (NESHAPS), Part 63 (HAP), and Part 72 (Permits Regulation, Acid Rain), and also including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP

Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

FR

Federal Register

GDF

Gasoline Dispensing Facility

GLC

Ground level concentration.

GLM

Ground Level Monitor

grains

1/7000 of a pound

HAP

Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by both 40 CFR Part 63, and District Regulation 2, Rule 5.

H₂S

Hydrogen Sulfide

HHV

Higher Heating Value. The quantity of heat evolved as determined by a calorimeter where the combustion products are cooled to 60F and all water vapor is condensed to liquid.

LHV

Lower Heating Value. Similar to the higher heating value (see HHV) except that the water produced by the combustion is not condensed but retained as vapor at 60F.

Major Facility

A facility with potential emissions of regulated air pollutants greater than 100 tons per year, greater than or equal to 10 tons per year of any single hazardous air pollutant, and/or greater than or equal to 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity as determined by the EPA administrator.

MFR

Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Act and implemented by District Regulation 2, Rule 6.

MOP

The District's Manual of Procedures.

MSDS

Material Safety Data Sheet

MW

Megawatts

NA

Not Applicable

NAAQS

National Ambient Air Quality Standards

NESHAPS

National Emission Standards for Hazardous Air Pollutants. Contained in 40 CFR Part 61.

NMHC

Non-methane Hydrocarbons

NMOC

Non-methane Organic Compounds (Same as NMHC)

NO_x

Oxides of nitrogen.

NSPS

Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Act, and implemented by both 40 CFR Part 60 and District Regulation 10.

NSR

New Source Review. A federal program for preconstruction review and permitting of new and modified sources of air pollutants for which the District is classified "non-attainment". Mandated by Title I of the Clean Air Act and implemented by 40 CFR Parts 51 and 52 as well as District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O₂

The chemical name for naturally-occurring oxygen gas.

Offset Requirement

A New Source Review requirement to provide federally enforceable emission offsets at a specified ratio for the emissions from a new or modified source and any pre-existing cumulative increase minus any onsite contemporaneous emission reduction credits. Applies to emissions of POC, NO_x, PM₁₀, and SO₂.

Phase II Acid Rain Facility

A facility that generates electricity for sale through fossil-fuel combustion and by virtue of certain other characteristics (defined in Regulation 2, Rule 6) is subject to Titles IV and V of the Clean Air Act.

POC

Precursor Organic Compounds

PM

Total Particulate Matter

PM₁₀

Particulate matter with aerodynamic equivalent diameter of less than 10 microns

PSD

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

SCR

A "selective catalytic reduction" unit is an abatement device that reduces NOx concentrations in the exhaust stream of a combustion device. SCRs utilize a catalyst, which operates at a specific temperature range, and injected ammonia to promote the conversion of NOx compounds to nitrogen gas.

SIP

State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2

Sulfur dioxide

SO2 Bubble

An SO2 bubble is an overall cap on the SO2 emissions from a defined group of sources, or from an entire facility. SO2 bubbles are sometimes used at refineries because combustion sources are typically fired entirely or in part by "refinery fuel gas" (RFG), a waste gas product from refining operations. Thus, total SO2 emissions may be conveniently quantified by monitoring the total amount of RFG that is consumed, and the concentration of H2S and other sulfur compounds in the RFG.

SO3

Sulfur trioxide

THC

Total Hydrocarbons (NMHC + Methane)

therm

100,000 British Thermal Unit

Title V

Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC

Total Organic Compounds (NMOC + Methane, Same as THC)

TRMP

Toxic Risk Management Plan

TSP

Total Suspended Particulate

TVP

True Vapor Pressure

VOC

Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
Btu	=	British Thermal Unit
g	=	grams
gal	=	gallon
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m ²	=	square meter
min	=	minute
MM	=	million
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year

Symbols:

<	=	less than
>	=	greater than
≤	=	less than or equal to
≥	=	greater than or equal to

APPENDIX C
BAAQMD COMPLIANCE REPORT

COMPLIANCE AND ENFORCEMENT DIVISION

OFFICE MEMORANDUM

August 24, 2006

TO: BRIAN BATEMAN, DIRECTOR, ENGINEERING DIVISION 

FROM: KELLY WEE, DIRECTOR OF ENFORCEMENT 

SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

Sonoma County Central Landfill (SITE #A2254)

Background

This review was initiated as part of the District evaluation of an application by Sonoma County Central Landfill. (SCCL) for a Title V Permit renewal. It is standard practice of the Compliance and Enforcement Division to undertake a compliance record review in advance of a renewal of a Title V Permit to Operate. The purpose of this review is to assure that any non-compliance problems identified during the prior term or twelve months have been adequately addressed, or, if non-compliance persists, that a schedule of compliance is properly incorporated into the Title V permit compliance schedule. Additionally, the review checks for patterns of recurring violation that may be addressed by additional permit terms. Finally, the review is intended to recommend, if necessary, any additional permit conditions and limitations to improve compliance.

Finding

The Enforcement Division staff has commenced a review of the records for SCCL for the period of August 18, 2005 to August 17, 2006. During this review period SCCL's activities known to the District include:

The District issued 2 Notices of Violation as a result of source test conducted by Bay Area Air Quality Management District. Both violations were issued for excess NOx emissions from two separate Internal Combustion (IC) Engines (source #10 and #11) used as the primary abatement for the landfill gas collection system. Both engines were retested and returned to compliance.

The District received 3 air pollution complaints alleging SCCL as the source. None of the complaints were confirmed.

The District did not receive any notifications for Reportable Compliance Activities.

Staff reviewed Annual Compliance Certifications for August 18, 2001 to August 17, 2006 and found no on-going non-compliance and no recurring patterns of violations.

There are no enforcement agreements, open variances, or open abatement orders for SCCL.

Conclusion

The Compliance and Enforcement Division has made a determination that for the period of August 18, 2005 to August 17, 2006, all sources that were out of compliance have returned to compliance by the end of the period. The facility is currently in compliance, there is no evidence of on-going non-compliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule is necessary.

CC: Dennis Jang
Brenda Cabral
Tony Gambardella
Jeff Gove

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