Bay Area Air Quality Management District

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Permit Evaluation
and
Statement of Basis
for
RENEWAL of

MAJOR FACILITY REVIEW PERMIT

for

Shoreline Amphitheatre
Facility #A2561

Facility Address:
One Amphitheatre Parkway
Mountain View, CA 94043

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Mountain View, CA 94043

Application Engineer: Carol Allen
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Application: 17057

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TITLE V STATEMENT OF BASIS

Shoreline Amphitheatre; PLANT # A2561

APPLICATION # 17057

A. BACKGROUND

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 Emission Guidelines for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart Cc) require the owner or operator of a landfill that is subject to this part and that has a design capacity of greater than or equal to 2.5 million mega grams and 2.5 million cubic meters to obtain an operating permit pursuant to Part 70. As discussed in more detail below in Section C.IV. of this report, this facility is subject to these emission guidelines and meets the designated facility criteria listed in 40 CFR § 60.32c(c). Therefore, this facility is required to have an MFR permit pursuant to Regulation 2-6-304.

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 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 A2561.

This facility received its initial Title V permit on June 13, 2003. The permit was revised on October 7, 2003. This application is for a permit renewal and also incorporates a minor revision of the permit. Although the current permit expired on May 31, 2008, it continues in force until the District takes final action on the permit renewal. The standard sections of the permit have been upgraded to include new standard language used in all Title V permits. The proposed renewal permit clearly shows all proposed changes to the permit in strikeout/underline format.

B. FACILITY DESCRIPTION

The Shoreline Amphitheatre (Facility # A2561) is located in the City of Mountain View, east of Highway 101, near Shoreline Boulevard. This facility is owned and operated by Live Nation. This site includes the Landfill and Gas Collection System (S-1), a Carbon Adsorption System (A-1), a Landfill Gas Flare (A-2), and a Diesel Engine for an Emergency Standby Generator (S-3).

The Shoreline Amphitheatre was constructed on top of a small portion of the closed Vista Landfill (542,000 yd^3 or 414,400 m^3). The remaining portion of the Vista Landfill (5,167,900 yd^3 or 3,951,100 m^3) is owned and operated by the City of Mountain View (Facility # A2740). Waste acceptance ceased at the Vista Landfill more than 20 years ago. Although the portion of the Vista Landfill that is controlled by Shoreline Amphitheatre is less than the size thresholds (2.5 million m^3 and 2.5 million Mg) that trigger the Title V permitting requirements pursuant to 40 CFR § 60.32c(c), these size thresholds apply to all solid waste disposal sites located on contiguous property. Since the Vista Landfill, the 544 Acre Landfill, and the Crittenden Landfill are located on contiguous property, the combined size of these three landfills was used to determine Title V applicability for these landfills. The combined size of the three contiguous landfills is 18.2 million yd^3 (13.9 million m^3) and 13.1 million tons (11.9 million Mg). Therefore, a Title V Permit is required for all three landfills. This permit describes the requirements that apply to the Vista Landfill and all equipment that is owned and operated by Shoreline Amphitheatre (Facility # A2561). The Title V permit for the City of Mountain View (Facility # A2740) describes the requirements for the Vista Landfill, the 544 Acre Landfill, the Crittenden Landfill, and all gas collection and control equipment owned and operated by the City of Mountain View.

As required by various local, state, and federal regulations, the landfill at this site is equipped with a continuously operated active landfill gas collection system. Landfill gas collection systems are perforated pipes that are buried in the refuse at numerous locations. For active collection systems, the perforated pipes are connected to blowers by solid pipes (referred to as laterals and headers). The blowers maintain a vacuum in the buried refuse and draw landfill gas into the perforated pipes. Shoreline Amphitheatre's gas collection system consists of a total of 61 collection components (35 horizontal collectors and 26 vertical wells). These components collect landfill gas from the portion of the Vista Landfill that is located directly below the lawn seating area of the Shoreline Amphitheatre. In accordance with a less than continuous operation petition that was granted by the District in 2006, individual collectors and wells may be disconnected from the vacuum system if the methane concentration at the wellhead is less than 20% CH_4. However, at least 20 collection system components must remain under vacuum at all times.

Collected landfill gas is typically vented to the A-2 Landfill Gas Flare. This flare destroys most of the methane, precursor organic compounds, non-precursor organic compounds, and toxic compounds in the landfill gas, but also produces secondary combustion pollutants including: nitrogen oxides, carbon monoxide, sulfur dioxide, particulate matter, formaldehyde, and hydrogen chloride.

The A-2 Landfill Gas Flare must be shut down occasionally for inspection and maintenance and may periodically be shut down due to upset conditions or a breakdown. For most landfills, the gas collection system is shut down whenever the control system is not functioning, because the District prohibits facilities that are subject to BAAQMD Regulation 8, Rule 34 from venting raw landfill gas to the atmosphere. For this facility, however, the landfill gas collection system must be operated continuously whenever the Shoreline Amphitheatre is occupied, in order to protect patrons from potential landfill gas exposure and fire hazards. Therefore, collected landfill gas must be vented to an alternative control device, whenever A-2 is not operating and the Shoreline Amphitheatre is occupied. The alternative control device is the A-1 Carbon Adsorption System. The permit conditions for this facility require collected landfill gas to be vented to the A-1 Carbon Adsorption System, whenever the A-2 Landfill Gas Flare is not operating and also allow collected landfill gas to be vented to A-1 and A-2 in series.

This facility also has a Diesel Engine for an Emergency Standby Generator (S-3) that provides minimal power to amphitheatre operations in the event of a power failure.

All emission increases for this facility were discussed in detail in the Statement of Basis for the Title V permit revision that was issued in 2003. The current facility wide maximum potential emission rates for each source are summarized in Table 1.

Table 1. Maximum Potential Emissions for Site # A2561

Device Number and Description	Emissions (tons/year)				
	CO	PM_{10}	NO_x	POC	SO_2
S-1 Landfill				0.09	
S-3 Diesel Engine	0.03	0.01	0.15	0.01	0.00
A-1 Carbon Adsorption System					
A-2 Landfill Gas Flare	3.18	0.27	1.91	0.01	0.21
Facility Wide Permitted Emissions	3.21	0.28	2.06	0.11	0.21

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. 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.

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.

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, Section I:

- The District is updating the dates of adoption and approval of rules in Standard Condition 1.A.
- The District is adding a recently adopted toxic NSR rule: BAAQMD Regulation 2, Rule 5 "New Source Review for Toxic Air Contaminants" to Standard Condition 1.A. However, this rule is not federally enforceable.
- The District is adding the following language to Standard Condition I.B.1: "If the permit renewal has not been issued by [5th anniversary of issuance date], but a complete application for renewal has been submitted in accordance with the above deadlines, the existing permit will continue in force until the District takes final action on the renewal application." This is the "application shield" pursuant to BAAQMD Regulation 2-6-407.
- The basis for Standard Condition I.B.11 is being amended by adding "Regulation 2-6-409.20" to conform to changes in Regulation 2, Rule 6.
- The following language is added as Standard Condition I.B.12: "The permit holder is responsible for compliance, and certification of compliance, with all conditions of the permit, regardless whether it acts through employees, agents, contractors, or subcontractors. (Regulation 2-6-307)." The purpose is to reiterate that the Permit Holder is responsible for ensuring that all activities at the facility comply with all applicable requirements.
- The District is correcting errors in the bases for Standard Conditions I.E.2 and I.F by deleting "Regulation 3;" from these bases.
- The District is clarifying the certification period in Standard Condition I.G by changing it from "June 1st to May 31st" to "June 1st through May 31st".

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., S24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

Significant sources are those sources that have a potential to emit of 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. This facility has no unpermitted significant sources.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in the abatement device table but will have an "S" number. 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.

There are no differences in the equipment list between the time that the facility was originally issued a Title V permit (June 2003) and the permit proposal date. However, the minimum combustion zone temperature limit for the flare is being updated in Tables II-B and VII-A. This temperature limit revision is discussed in detail in Section C.VI. of this Statement of Basis.

Changes to Permit, Section II:

- The District is updating the minimum combustion zone temperature limit for the A-2 Flare in Table II-B.

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.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered ***significant sources*** pursuant to the definition in BAAQMD Rule 2-6-239. This facility has no unpermitted significant sources.

Changes to Permit, Section III:

- The District is adding language to Section III to clarify that this section contains requirements that may apply to temporary sources. This provision allows contractors that have "portable" equipment permits that require them to comply with all applicable requirements to work at the facility on a temporary basis, even if the permit does not specifically list the temporary source. Examples are temporary sand-blasting, wood chipping, or soil-vapor extraction equipment.
- The District is adding EPA's website address for the SIP standards to Section III.
- For Table III, the District is amending dates of adoption or approval of the rules, correcting the "federal enforceability" status for these rules, and adding or deleting rules and standards to conform to current practice. The rules that are being amended, added, or removed are listed below:
    - Regulation 1, General Provisions and Definitions
    - Regulation 2, Rule 1, Permits – General Requirements
    - Regulation 2, Rule 5, Permits – New Source Review of Toxic Air Contaminants
    - Regulation 6, Rule 1, Particulate Matter – General Requirements
    - Regulation 8, Rule 2, Organic Compounds – Miscellaneous Operations
    - Regulation 8, Rule 3, Organic Compounds – Architectural Coatings
    - Regulation 8, Rule 4, Organic Compounds – General Solvent and Surface Coating Operations
    - Regulation 8, Rule 15, Organic Compounds – Emulsified and Liquid Asphalts
    - Regulation 8, Rule 16, Organic Compounds – Solvent Cleaning Operations
    - Regulation 8, Rule 40, Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks
    - Regulation 8, Rule 47, Organic Compounds – Air Stripping and Soil Vapor Extraction Operations
    - Regulation 9, Rule 1, Inorganic Gaseous Pollutants – Sulfur Dioxide
    - Regulation 9, Rule 2, Inorganic Gaseous Pollutants – Hydrogen Sulfide
    - California Health and Safety Code, Section 41750 et seq., Portable Equipment
    - California Code of Regulations, Title 17, Section 93115 et seq., Airborne Toxic Control Measure for Stationary Compression Ignition Engines
    - California Code of Regulations, Title 17, Section 93116 et seq., Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater
    - EPA Regulation 40 CFR Part 61, Subpart A, National Emission Standards for Hazardous Air Pollutants – General Provisions.

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:

- District Rules
- 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.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- 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:

The landfill at this site is subject to BAAQMD Regulation 8, Rule 34, because the Vista Landfill accepted waste within the last 30 years and the contiguous landfills contained in the permits for Site # A2740 and A2561 contain more than 1,000,000 tons of decomposable refuse. These contiguous landfills are also subject to the EG for MSW Landfills (40 CFR, Part 60, Subpart Cc) and the NESHAP for MSW Landfills (40 CFR, Part 63, Subpart AAAA), because (1) the landfills commenced construction before May 30, 1991, (2) the landfills have accepted waste after November 8, 1987, (3) the landfills have a design capacity of greater than 2.5 million cubic meters and greater than 2.5 million megagrams, and (4) the uncontrolled NMOC generation rate from the three landfills combined exceeds 50 Mg/year.

The diesel fired compression ignition engine (S-3) that powers an emergency standby generator at this site is not subject to the NSPS for Compression Ignition Internal Combustion Engines (40 CFR, Part 60, Subpart IIII) pursuant to 40 CFR Part 60.4200(a)(2), because this engine commenced construction before July 11, 2005.

Sources at Title V facilities may be subject to the Compliance Assurance Monitoring (CAM) requirements in 40 CFR, Part 64. A source must meet all of the three criteria specified in 40 CFR Part 64.2(a)(1-3) in order for CAM to apply. First, the source must be subject to an emission limit for a regulated air pollutant other than an exempt limitation. Second, the source must use a control device to achieve compliance with this emission limitation. Third, the pre-controlled emissions of the specific pollutant being controlled must be greater than the major facility emissions threshold for that pollutant.

At this facility, the landfill and its related emission control devices (S-1, A-1, and A-2) are exempt from the first CAM applicability criteria, 40 CFR Part 64.2(a)(1), pursuant to 40 CFR Part 64.2(b)(1)(i), because the landfill and landfill gas control systems are subject to the EG and NESHAP requirements identified above, and these EG and NESHAP standards were adopted pursuant to Sections 111 and 112 of the Clean Air Act after November 15, 1990. Since the applicable EG and NESHAP requirements contain adequate monitoring provisions, additional compliance assurance monitoring is not necessary. In addition, the pre-control emissions of precursor organic compounds from the landfill are less than the major facility emissions threshold of 100 tons of POC per year. Thus, S-1 does not meet the third CAM applicability criteria from 40 CFR Part 64.2(a)(3). Since the landfill and its related control devices do not satisfy all three CAM applicability criteria, CAM does not apply to S-1, A-1 or A-2.

The S-3 Diesel Engine at this facility has federally enforceable emission limits for particulate matter (PM_{10}) and sulfur dioxide (SO_2). However, S-3 does not use a control device to achieve compliance with these limits and the uncontrolled PM_{10} and SO_2 emissions from this engine are less than the major facility emissions threshold (100 tons/year) for these pollutants. Since S-3 does not meet either the second or the third CAM applicability criteria - 40 CFR Part 64.2(a)(2 or 3) - S-3 is not subject to CAM.

District Permit Applications Included In This Proposed Permit:

Shoreline Amphitheatre submitted Application # 8190 to request alternative wellhead standards and less than continuous operation for individual gas collection system components at the S-1 Landfill. The District's Engineering Evaluation for this application and the approved permit condition revisions are contained in Appendix C. Subsequently, the District's Compliance and Enforcement Division approved a Less Than Continuous Operation Petition for this site. The approval letter and requirements are contained in Appendix D. All MFR Permit revisions that resulted from the District's approval of Application # 8190 and the Less Than Continuous Operation Petition are included in this proposed renewal permit.

Changes to Permit, Section IV:

The most significant proposed changes to the applicable requirements for the S-1 Landfill, A-1 Carbon Adsorption System, and A-2 Landfill Gas Flare are: (a) inclusion of the Regulation 8, Rule 34 less than continuous operating provisions for individual gas collection system components, (b) establishment of alternative wellhead standards for all gas collection system components, (c) reduction of the monitoring frequency for landfill gas sulfur content, and (d) reduction of the minimum combustion zone temperature limit for the flare. The District is proposing revisions to Condition # 876, Parts 2 and 3 to incorporate these new gas collection system requirements for S-1. The District is proposing to add the Regulation 8-34-404 Less Than Continuous Operation Petition requirement to Table IV-A and is proposing to revise the bases for Condition # 876, Parts 2 and 3 in Table IV-A by referencing the new less than continuous operating provisions and alternative wellhead standards for the gas collection system. The District is updating the description of Condition # 876, Part 15 for consistency with the proposed sulfur content monitoring revisions. The District is also proposing to update regulatory amendment dates and descriptions and to eliminate obsolete future effective dates. The proposed changes to the combustion zone temperature limit will not require any changes to Table IV-A.

The most significant proposed changes to the applicable requirements for the S-3 Diesel Engine for an Emergency Standby Generator are: (a) inclusion of recently adopted amendments to BAAQMD Regulation 9, Rule 8, and (b) inclusion of the CARB ATCM for Stationary Compression Ignition Engines. The District is proposing revisions to Condition # 19912 (all parts) to incorporate these new requirements for S-3. In Table IV-B, the District is proposing to replace the descriptions and bases for all parts of Condition # 19912 with descriptions and bases developed for the new Regulation 9, Rule 8 and CARB ATCM requirements. The District is also proposing to update the regulatory amendment dates and descriptions for Regulation 6, Rule 1 and Regulation 9, Rule 1 in accordance with recent amendments to these rules.

The specific changes to Section IV are as follows:

- Section IV is being modified by adding EPA's website address for the SIP standards.
- In Table IV-A, the amendment dates and descriptions for BAAQMD Regulation 1; BAAQMD Regulation 6, Rule 1; BAAQMD Regulation 8, Rule 34; 40 CFR, Part 60, Subpart A; 40 CFR Part 62, Subpart F; and 40 CFR Part 63, Subparts A and AAAA are being updated pursuant to recent revisions to these to rules. These rule amendments involved changes to definitions, descriptions, and citation references that have no impact on the applicability or execution of any of the S-1 specific requirements cited in Table IV-A.
- The District is adding BAAQMD Regulation 8-34-404 to Table IV-A, pursuant to the District's approval of a less than continuous operating petition for S-1 and the proposed permit condition revisions in Section VI (Condition # 876, Parts 2 and 3a).
- In Table IV-A, the District is making editorial corrections to the amendment dates for BAAQMD Regulation 9, Rules 1 and 2 and 40 CFR, Part 60, Subpart Cc.
- In Table IV-A, the District is deleting the obsolete future effective date for 40 CFR, Part 63, Subpart AAAA.
- In Table IV-A, the District is proposing to revised the bases for Condition # 876, Parts 2 and 3 pursuant to the condition revisions discussed below in Section VI. These condition changes will identify the less than continuous operating requirements and the alternative wellhead standards for the gas collection system.
- In Table IV-A, the District is proposing to revise the description for Condition # 876, Part 15 pursuant to the condition revision discussed below in Section VI. This revision will retain the existing landfill gas sulfur content limit but eliminate the quarterly testing requirement for landfill gas sulfur content.
- In Table IV-B, the District is proposing to revise the amendment date and description of Regulation 6, Rule 1 and to add the missing subpart 6-1-303.1 that clarifies why 6-1-303 is applicable to S-3 instead of 6-1-301.
- In Table IV-B, the District is incorporating the July 25, 2007 amendments to Regulation 9, Rule 8 that apply to emergency standby engines. The applicable exemptions, operating requirements, and record keeping provisions are now identified in Sections 110, 330, 502, and 530 of BAAQMD Regulation 9, Rule 8. Since SIP 9-8-110.2 exempts liquid fueled engines from all provision of SIP Regulation 9, Rule 8, the District has not included the SIP version of this rule in Table IV-B.
- In Table IV-B, the District is adding the CARB ATCM for Stationary Compression Ignition Engines. Each specific section of this ATCM that applies to S-3 is identified in Table IV-B.
- The current permit conditions for S-3 (Condition # 19912, Parts 1-5) are being replaced by standard permit conditions for emergency standby generators that were developed to ensure compliance with the CARB ATCM for Stationary Compression Ignition Engines. The new conditions are identified in Condition # 19912, Parts 1-4. The description of these revised conditions and the corrected bases for each part are being added to Table IV-B.

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, Section V:

- The District is not proposing any changes to this section.

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 and 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 are revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

Conditions that are obsolete or that have no regulatory basis have been deleted from the permit.

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 which 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 arose from the District's Toxic Risk Management Policy and that were imposed prior to adoption of Regulation 2, Rule 5 NSR for Toxic Air Contaminants.

Under previous Title V permit applications, parameter monitoring was added for each abatement device. Additional monitoring was added, where appropriate, to assure compliance with the applicable requirements.

The District is proposing to modify BAAQMD Condition # 876, Parts 2, 3, 8, 15, 16, and 18. As discussed below and in Appendix C, these permit condition revisions will: incorporate less than continuous operating provisions for individual gas collections system components, add alternative wellhead standards and clarify monitoring requirements for all gas collection system components, update the flare temperature limit for A-2 based on recent source test data, eliminate the quarterly landfill gas sulfur content monitoring requirements, clarify annual testing requirements, and make editorial revisions.

The District is proposing to replace all parts of BAAQMD Condition # 19912 (Parts 1-5) with new standard condition text for emergency standby generators. As discussed previously, these condition revisions are necessary due to the adoption by CARB of an ATCM for stationary compression ignition engines. Effective January 1, 2006, the ATCM required that S-3 comply with an operating time limitation of 20 hours per year for reliability related testing. This limit will be identified in Part 1 of Condition # 19912. Part 2 will describe other operating restrictions for emergency standby engines that are contained in the ATCM and Regulation 9, Rule 8. Part 3 will identify the operating time meter that is now required by the ATCM and Regulation 9, Rule 8. Part 4 will identify the record keeping requirements from the ATCM and Regulation 9, Rule 8. In addition, the District is retaining the requirement to maintain records of the vendor

certified sulfur content of the fuel (Condition # 19912, Part 4f) to ensure compliance with the Regulation 9-1-304 fuel content limit.

All proposed changes to Conditions # 876 and # 19912 are marked with strike-through and underline formatting in the proposed permit. The proposed changes to each part of Conditions # 876 and # 19912 are explained in more detail below.

Changes to Permit, Section VI:

- Condition # 876, Part 2: The District is revising text to clarify the gas collection system changes are considered alterations that require a Change of Permit Conditions but not an Authority to Construct. The District is also clarifying that some wells are authorized to operate less than continuously pursuant to Part 3.
- Condition # 876, Part 3: The District is adding the previously approved less than continuous operating provisions to Part 3a. Part 3b clarifies the applicability of the wellhead gauge pressure and temperature requirements for operating wells and for temporarily disconnected wells. Part 3c describes the alternative wellhead standard to the 9-8-305.3 and 305.4 N_2 and O_2 limits limitations. Wellhead monitoring and record keeping requirements are clarified in Parts 3d and 3e.
- Condition # 876, Part 8: The District is proposing to reduce the minimum combustion zone temperature limit from 1450 °F to 1400 °F in accordance with the procedures specified in Part 8. The August 17, 2007 source test demonstrated the NMOC emissions from the A-2 flare were less than 7 ppmv of NMOC at 3% O_2. This emission rate is well below the Regulation 8-34-301.3 limit of 30 ppmv NMOC at 3% O_2. The average combustion zone temperature during the source test was 1437 °F, and A-2 was operating in compliance with all other applicable emission limits. In accordance with Part 8, the minimum combustion zone temperature may be changed to (1437-50 = 1387 °F) or 1400 °F, which ever is higher.

- Condition # 876, Part 15: This part was imposed with the initial issuance of the Title V permit for this facility, because there was no landfill gas sulfur data for this site and the maximum potential sulfur dioxide emissions (determined based on the 9-1-302 limit of 300 ppmv of SO_2 at the outlet from A-2) were not insignificant. A landfill gas sulfur content limit of 1300 ppmv of TRS was imposed to ensure compliance with the 9-1-302 limit. The facility has now collected more than 3 years of quarterly landfill gas sulfur data for this site. The reduced sulfur compounds in the landfill gas from this site consist almost entirely of hydrogen sulfide, and the hydrogen sulfide content in the collected gas ranges from 0-8 ppmv of H_2S. As explained below in Section VII, the maximum expected landfill gas sulfur content is less than 2% of the sulfur content limit in Part 15 and maximum potential sulfur dioxide emissions are now only 0.22 tons/year. Since the compliance margin is very high for the this Part 15 sulfur content limit and the site has demonstrated that the landfill gas sulfur content does not vary appreciably, quarterly testing of the landfill gas is no longer necessary to ensure compliance with this sulfur content limit and is not justifiable in light of the very low sulfur emissions from A-2. Therefore, the District is proposing to eliminate the quarterly Draeger tube testing requirements. The District will retain the equivalent sulfur content limit of 1300 ppmv of TRS as a compliance option. The facility will be allowed to either demonstrate compliance with the 300 ppmv SO_2 outlet concentration limit by measuring the SO_2 directly during the annual source test (see Part 16g), or the site may show compliance with the Part 15 TRS limit by measuring the concentration of TRS in the landfill gas during the annual landfill gas characterization analysis (see Part 17).
- Condition # 876, Part 16: The District is proposing to make editorial revisions to this section to clarify the related applicable requirements and eliminate an unnecessary restriction on the test period. In Part 16g, the District is revising a test reference for consistency with the proposed changes to Part 15.
- Condition # 876, Part 18: The District is proposing to make editorial changes and revise text for consistency with the proposed changes to Parts 2 and 3.
- Condition # 19912, Obsolete Parts 1-5: The District is proposing to delete all of Parts 1-5 and replace these conditions with Parts 1-4.
- Condition # 19912, Proposed Part 1: This part will continue to limit the operating time for reliability-related activities and emissions testing, but the District is proposing to reduce the operating time limit from 100 hours/year to 20 hours/year for consistency with the new CARB ATCM requirement, which became effective January 1, 2006.
- Condition # 19912, Proposed Part 2: This part identifies the operating restrictions for emergency standby engines. The District is proposing to revise these restrictions for consistency with the CARB ATCM and with Regulation 9, Rule 8.
- Condition # 19912, Proposed Part 3: This proposed part describes the hour meter monitor that is required by the CARB ATCM and by BAAQMD 9-8-530.
- Condition # 19912, Proposed Part 4: This proposed part describes the record keeping requirements that are contained in the CARB ATCM and Regulation 9, Rule 8. In addition, the District is proposing to retain the vendor certified sulfur content records (from Part 5d) that will ensure compliance with liquid fuel sulfur content limit in Regulation 9-1-304.

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.

The District has reviewed all monitoring and has determined that the existing monitoring is adequate. The tables below contain only the federally enforceable limits for which there is no monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance. Calculations for potential to emit will be provided in the discussion when no monitoring is proposed due to the size of a source.

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**.**

SO_2 Discussion:

All of the combustion devices located at this facility burn fuels that contain small amounts of sulfur compounds and emit sulfur dioxide (SO_2) as a product of combustion. Since each of these combustion devices will contribute to the ground level SO_2 concentration at the fence line of this site, each combustion device is subject to the Regulation 9-1-301 ground level SO_2 limits. As explained in more detail below, the District is not proposing any ground level SO_2 monitoring for this facility, because the likelihood of non-compliance with these ground level SO_2 limits is very low, the maximum expected sulfur dioxide emissions from this site are only 0.214

tons/year, and ground level SO_2 monitoring is very expensive. This type of expensive monitoring is not justifiable in light of a high margin of compliance and a low site-wide emission rate.

SO_2 Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-2 Landfill Gas Flare and S-3 Diesel Engine	BAAQMD 9-1-301	Property Line Ground Level Limits: ≤ 0.5 ppm for 3 minutes, AND ≤ 0.25 ppm for 60 minutes, AND ≤0.05 ppm for 24 hours	None

The maximum expected sulfur dioxide emissions for this facility are summarized below followed by detailed emission calculations.

Maximum Expected SO_2 Emissions from Site # A2561

Sources	Description	Fuel Sulfur Content	SO_2 Emissions Tons/Year
A-2	Landfill Gas Flare	20 ppmv of TRS in LFG	0.212
S-3	Diesel Engine	.05% S in CARB Diesel Oil	0.002
Total	All Combustion Sources		0.214

Potential to Emit Calculations for the A-2 Landfill Gas Flare:

Maximum potential SO_2 emissions are based on the maximum expected total reduced sulfur compound concentration and the maximum permitted landfill gas flow rate to A-2. This site has been monitoring hydrogen sulfide on a quarterly basis since June 2004. The concentrations ranged from 0-8 ppmv of H_2S with an average of 3.1 ppmv and a standard deviation of 2.8 ppmv for 16 tests. The maximum expected H_2S concentration is estimated as follows (max + 3 std. dev.) = (8 + 3*2.8) = 16.4 ppmv. For landfills, the typical TRS/H_2S ratio is about 1.2 to 1. Thus, the TRS concentration is expected to be no more than (16.4*1.2) = 20 ppmv of TRS expressed as H_2S. The A-2 Flare has a maximum heat input rate of 3.633 MM BTU/hour. The minimum methane concentration necessary for the flare to operate is 25% CH_4. Landfill gas at 25% CH_4 has a heat content 248.5 BTU/scf and produces about 2.9 scf of flue gas (at 0% excess O_2) per scf of landfill gas combusted. The sulfur dioxide emissions and maximum projected outlet SO_2 concentration for A-2 are determined below.

(3.633 MM BTU/hour)*(24 hrs/day)*(365 days/year)/(248.5 MM BTU/MM scf LFG)*
(20 scf H_2S/MM scf LFG)/(387.0 scf H_2S/1 lbmol H_2S)*(1 lbmol SO_2/l lbmol H_2S)*
(64.06 pounds SO_2/1 lbmol SO_2)/(2000 lbs SO_2/ton SO_2)
= 0.212 tons SO_2/year from A-2 Flare

(20 scf H_2S/MM scf LFG)*(1 scf SO_2/l scf H_2S)/(2.9 MM sdcf flue gas/MM scf LFG)
= 6.9 ppmv of SO_2 in flue gas from A-2 with 0% excess O_2

Potential to Emit Calculations for the S-3 Diesel Engine:

Maximum potential SO_2 emissions from the S-3 Diesel Engine are based on the CARB maximum allowable fuel sulfur content limit of 0.05% sulfur by weight. The diesel oil is assumed to have a density of 7.1 pound/gallon and a high heating value of 137,000 BTU/gallon. Based on the engine manufacturer's data for S-3, the engine capacity is 484 bhp with a maximum fuel flow rate of 23.0 gallons/hour and a typical exhaust gas flow rate of 2984 ft^3/min (wet) at 800 °F (1230 sdcfm).

(23.0 gallons diesel/hour)*(7.1 lbs diesel/gallon diesel)*(0.0005 lbs S/lb diesel)/
(32.06 lbs S/lbmol S)*(1 lbmol SO_2/1 lbmol S)*(64.06 lbs SO_2/lbmol SO_2)
= 0.163 lbs SO_2/hour from S-3 Diesel Engine

(0.163 lbs SO_2/hour)*(20 hours/year)/(2000 lbs SO_2/ton SO_2)
= 0.002 tons SO_2/year from S-3 Diesel Engine

(23.0 gallons diesel/hour)*(137,000 BTU/gallon)/(1E 6 BTU/1 MM BTU) = 3.151 MM BTU/hr
(3.151 MM BTU/hr)/(60 min/hr)*(9190 sdcf flue gas/MM BTU) = 482.6 sdcfm of flue gas

(0.163 lbs SO_2/hr)/(60 min/hr)/(64.06 lbs SO_2/lbmol SO_2)*(387 sdcf SO_2/lbmol SO_2)/
(1230 sdcf exhaust/min)*(1 E6 sdcf/MM sdcf)
= 13 ppmv of SO_2 in exhaust from S-3 Diesel Engine

BAAQMD Regulation 9-1-301: This facility is subject to federally enforceable limits that will ensure compliance with the Regulation 9-1-302 gas stream emission limit of 300 ppmv of SO_2 by ratios of 43:1 for the A-2 flare and 23:1 for the S-3 engine. Based on modeling analyses conducted at another landfill site, sources complying with the Regulation 9-1-302 and 9-1-304 limits are not expected to result in excesses of the ground level concentration limits listed in Regulation 9-1-301. In addition, the projected SO_2 emissions from this site are negligible (<0.3 tons/year of SO_2) and ground level SO_2 monitoring is very expensive. Considering all these factors (high likelihood of compliance, very low emissions, and high cost of monitoring), the District has determined that ground level SO_2 monitoring to demonstrate compliance with the Regulation 9-1-301 limits is unnecessary and not warranted for this facility.

BAAQMD Regulation 9-1-302: This regulation applies to the A-2 Landfill Gas Flare and limits the sulfur dioxide concentration in the outlet gas stream to 300 ppmv of SO_2. Initially, the District imposed quarterly landfill gas sulfur content testing with the initial issuance of the Title V permit for this facility, because there was no landfill gas sulfur data for this site and the maximum potential sulfur dioxide emissions (determined based on the 9-1-302 limit of 300 ppmv of SO_2 at the outlet from A-2) were not insignificant. A landfill gas sulfur content limit of 1300 ppmv of TRS was imposed to ensure compliance with the 9-1-302 outlet SO_2 concentration limit.

The facility has now collected more than 3 years of quarterly landfill gas sulfur data for this site. The reduced sulfur compounds in the landfill gas at this site consist almost entirely of hydrogen sulfide, and the hydrogen sulfide content in the collected gas ranges from 0-8 ppmv of H_2S. Based on this data, the TRS concentration in the landfill gas at this site is not ever expected to exceed 20 ppmv of TRS. At the maximum possible landfill gas flow rate to the flare of 250 scfm (for gas at 25% methane), the maximum potential outlet sulfur dioxide concentration is 7 ppmv of SO_2 at 0% O_2 with maximum potential emissions of 0.21 tons/year of SO_2. Since the landfill gas sulfur content is far below the limit and the maximum potential sulfur dioxide emissions from A-2 are insignificant, the continued expense of quarterly sulfur content monitoring is not justifiable. Therefore, the District is proposing to reduce the sulfur content testing frequency to once per year. The facility may chose either to test the flare for outlet SO_2 directly or to analyze the landfill gas for the sulfur compounds listed in AP-42 Chapter 2.4.

PM Discussion:

All combustion devices at this facility will emit particulate matter and are subject to the Regulation 6-1-310 outlet grain loading limit of 0.15 grains/dscf. As discussed below, the District has not been conducting particulate emission testing at these combustion devices due to a high compliance margin compared to this limit, the low particulate emission rates from these devices, and the high cost of particulate emission testing.

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-2 Landfill Gas Flare and S-3 Diesel Engine	BAAQMD 6-310	0.15 grains/dscf	None

The maximum expected particulate emissions for this facility are summarized below followed by detailed emission calculations.

Maximum Expected PM_{10} Emissions from Site # A2561

Sources	Description	Fuel	PM_{10} Emissions Tons/Year
A-2	Landfill Gas Flare	Landfill Gas	0.272
S-3	Diesel Engine	CARB Diesel Oil	0.011
Total	All Combustion Sources		0.283

Potential to Emit Calculations for the A-2 Landfill Gas Flare:

Maximum permitted PM emissions for A-2 are based on the AP-42 emission factor for landfill gas fired flares (17 lbs PM_{10}/MM dscf of methane). As discussed for the sulfur dioxide calculations above, the landfill gas is assumed to contain 25% methane with an HHV of 248.5 BTU/scf LFG. This landfill gas (25% CH_4) produces 2.9 sdcf of exhaust at 0% oxygen per scf of landfill gas burned.

(17 lbs PM_{10}/MM dscf CH_4)*(1 MM dscf CH_4/1E6 scf CH_4)*(0.25 scf CH_4/scf LFG)/
(248.5 BTU/scf LFG)*(1E6 BTU/MM BTU) = 0.0171 lbs PM_{10}/MM BTU

(3.633 MM BTU/hour)*(24 hours/day)*(365 days/year)*(0.0171 lbs PM_{10}/MM BTU)/
(2000 lbs PM_{10}/ton PM_{10})
= 0.272 tons PM_{10}/year from A-2 Flare

(0.0171 lbs PM_{10}/MM BTU)*(7000 grains PM/lb PM)/(1E6 BTU/MM BTU)*
(248.5 BTU/scf LFG)/(2.9 sdcf exhaust/scf LFG)
= 0.010 grains/dscf exhaust at 0% O_2 from A-2 Flare

Potential to Emit Calculations for the S-3 Diesel Engine:

Maximum permitted PM emissions for S-3 are based on the AP-42 emission factor of 2.2 E-3 pound/hp-hr for small IC engines firing diesel oil (Table 3.3-1). As discussed for the sulfur dioxide calculations above, the engine capacity is 484 bhp, the typical exhaust flow rate is 1230 sdcf/min, and the engine is limited to 20 hrs/year of operation for reliability related testing.

(484 bhp)*(2.2 E-3 pounds PM_{10}/bhp-hr)*(20 hrs/yr)/(2000 lbs PM_{10}/ton PM_{10})
= 0.011 tons PM_{10}/year from S-3 Diesel Engine

(484 bhp)*(2.2 E-3 lbs PM_{10}/bhp-hr)*(7000 grains PM_{10}/lb PM_{10})/(60 min/hr)/(1230 sdcf/min)
= 0.10 grains/dscf exhaust from S-3 Diesel Engine

BAAQMD Regulation 6-1-310: Regulation 6-1-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. As shown above, A-2 will emit 0.01 gr/dscf of exhaust at 0% oxygen and S-3 will emit 0.10 gr/dscf of exhaust. The compliance ratios (limit/expected grain loading rate) are 15:1 for A-2 and 1.5:1 for S-3.

For A-2, the likelihood of compliance is high and PM_{10} emissions are low. Considering these factors and the high cost of PM_{10} stack testing, it would not be appropriate to add periodic PM monitoring at the flare for the Regulation 6-1-310 standard. The fuel filter for A-2 and the minimum temperature requirement will ensure that flare PM_{10} emissions do not exceed the low PM_{10} emission rate determined above. This decision is consistent with the "no additional monitoring" recommendation for flares burning landfill gas containing less than 200 ppmv of sulfur compounds from the CAPCOA/CARB/EPA Region IX Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP: Combustion Sources (see source category I.B.4).

For S-3, the likelihood of compliance is not particularly high, but the PM_{10} emissions from S-3 are very low (0.01 tons/year). Thus, the consequences of non-compliance are not significant. In addition, the engine is only allowed to operate for 20 hours/year for reliability related activities and emissions testing. Considering the insignificant consequences of non-compliance, the low annual operating time for this engine, and the very high cost of PM_{10} testing for IC engines, it would not be appropriate to add periodic PM monitoring at the engine for the Regulation 6-1-310 standard. This decision is consistent with the "no additional monitoring" recommendation for non-utility emergency standby engines that are limited to 200 hours/year or less of operation for maintenance and testing from the CAPCOA/CARB/EPA Region IX Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP: Combustion Sources (see source category II.A.1).

Changes to Permit, Section VII:

- A note is being added at the beginning of the section to clarify that this section is a summary of the limits and monitoring, and that in the case of a conflict between Sections I-VI and Section VII, the preceding sections take precedence.
- Throughout Tables VII-A and VII-B, the District is correcting permit condition part number citations in accordance with the proposed revisions to Condition # 876 and Condition # 19912 that are discussed above in Section VI.
- In Tables VII-A and VII-B, the District is correcting references to Regulation 6 requirements pursuant to recent amendments to this rule.
- In Tables VII-A and VII-B, the District is adding symbols ($<$, $\leq$, $>$, and $\geq$) to clarify limits.
- In Table VII-A, the District is adding and revising text and deleting BAAQMD Regulation 8-34-305.3-4 to correctly describe the proposed wellhead limits, individual well operating requirements, and less than continuous operation monitoring requirements.
- For the A-2 Flare, the District is revising the flare temperature limit in Table Vii-A pursuant to the proposed revisions to Condition # 876, Part 8.

- The District is proposing to remove obsolete SIP citations for the A-2 Flare temperature limits from Table VII-A.
- Pursuant to the proposed changes to Condition # 876, Part 15, the District is deleting the quarterly H_2S monitoring requirement from Table VII-A.
- Throughout Table VII-B, the District is correcting citations by incorporating recent amendments to Regulation 9, Rule 8 and adding the CARB ATCM requirements that apply to emergency standby engines.
- In Table VII-B, the obsolete 100 hour/year operating time limit is being replaced with the CARB ATCM 20 hour/year limit.

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. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

Changes to Permit, Section VIII:

- The introductory text to Section VIII is being corrected.
- In Table VIII, the District is correcting citations and adding the missing EPA reference methods for Regulation 6, Rule 1 requirements.
- In Table VIII, the District is removing test methods for BAAQMD Regulation 8-34-305.3&4, because these subsections no longer apply to S-1.
- In Table VIII, the District is adding the test methods for the proposed wellhead oxygen and wellhead methane requirements that replaced Regulation 8-34-305.3&4.
- In Table VIII, the District is adding the missing EPA reference methods for flare NO_x and CO limits.
- For Condition # 876, Part 15, the District is replacing the Draeger tube test method with the appropriate BAAQMD MOP test methods for analyzing sulfur compounds in a gas.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

This facility has no permit shields. This permit has no streamlining.

Changes to Permit, Section IX:

- The District is not proposing any changes to this section.

X. Revision History

This section of the permit summarizes each revision to the permit.

Changes to Permit, Section X:

- The District is deleting a proposal date for the initial Title V permit for consistency with current BAAQMD permit structure recommendations.
- The District is adding application numbers for the initial Title V permit and the first minor revisions for consistency with current BAAQMD permit structure recommendations.
- The District is adding the permit revisions associated with this MFR Renewal Permit (Application # 17057) to Section X.

XI. Glossary

This section of the permit defines and explains acronyms, abbreviations, and other terms that are used in this permit.

Changes to Permit, Section XI:

- The District is updating the Section XI Glossary by clarifying explanations and adding numerous new terms.

XII. Applicable State Implementation Plan

Changes to Permit, Section XII:

- The District is deleting this section. The address for EPA's website is now found in Sections III and IV.

D. ALTERNATIVE OPERATING SCENARIOS

No alternate operating scenarios have been requested for this facility.

E. COMPLIANCE STATUS

A November 13, 2008 office memorandum from the Director of Compliance and Enforcement, to the Director of Engineering, presents a review of the compliance record of Shoreline Amphitheatre (Site # A2561). This review was initiated as part of the District evaluation of an application by renewal of a Title V permit and is contained in Appendix A.

The Compliance and Enforcement Division staff has reviewed Shoreline Amphitheatre's Annual Compliance Certifications submitted for the prior five-year permit term (June 1, 2003 to May 31, 2008). The Compliance and Enforcement Division staff found no on-going non-compliance and no recurring pattern of violations.

The Compliance and Enforcement Division staff also reviewed the compliance history for this site for the prior 12-month period (from June 2007 through May 2008). During this period, activities known to the District include:

- The District did not issue any Notices of Violation (NOV) during this 12 month period.
- The District did not receive any complaints naming Shoreline Amphitheatre as the alleged source.
- The District did not receive any notifications of a Reportable Compliance Activity (RCA) during this period.
- The facility is not operating under an Enforcement Agreement, a Variance, or an Order of Abatement.

The Compliance and Enforcement Division has determined that for the periods reviewed, Shoreline Amphitheatre was in continuous 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.

F. DIFFERENCES BETWEEN THE APPLICATION AND THE PROPOSED PERMIT

The Title V permit application for renewal was originally submitted on November 28, 2007. No permit changes have been proposed since that date. The October 6, 2003 version of the Title V permit for Site # A2561 is the basis for constructing the proposed Title V permit.

The only change specifically requested by the applicant was to add the CARB ATCM requirements for the S-3 Diesel Engine. Although the applicant did not specifically request changes to the Responsible Official and Facility Contact information, new data for these individuals was included on the Title V application forms submitted by the applicant.

Renewal of Title V Permit for Shoreline Amphitheatre, Site # A2561

The District is proposing changes to several standard language sections, updates of regulatory amendment dates, inclusions of new generally applicable regulatory requirements, removal of non-applicable requirements, clarifications of numerous limits, changes to the glossary, and removal of Section XII. In addition to these standard permit updates, the District is proposing modifications of applicable requirements, permit conditions, and monitoring requirements pursuant to the District's approval of a less than continuous operation petition for individual gas collection system components at this site. The District's is also proposing to include permit amendments related to the District's establishment of alternative wellhead standards pursuant to Application #8190. Based on the District's review of flare source test data and landfill gas sulfur content analyses, the District is proposing to revise the minimum combustion zone temperature limit for the flare and is proposing to eliminate the quarterly landfill gas sulfur content testing requirement. (The annual landfill gas sulfur content testing requirement will be retained.) None of the draft permit revisions described above were identified by the applicant. These draft permit revisions are being proposed in addition to the applicant's requested changes for S-3 that are related to the new CARB ATCM requirements for S-3.

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APPENDIX A
BAAQMD COMPLIANCE REPORT

APPENDIX B
GLOSSARY

ACT
Federal Clean Air Act

AP-42
An EPA Document "Compilation of Air Pollution Emission Factors" that is used to estimate emissions from numerous source types. It is available electronically from EPA's web site at: http://www.epa.gov/ttn/chief/ap42/index.html

APCO
Air Pollution Control Officer: Head of Bay Area Air Quality Management District

API
American Petroleum Institute

ARB
Air Resources Board

ASTM
American Society for Testing and Materials

ATC
Authority to Construct

ATCM
Airborne Toxic Control Measure

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

BARCT
Best Available Retrofit Control Technology

Basis
The underlying authority that allows the District to impose requirements.

C1
An organic chemical compound with one carbon atom, for example: methane

C3
An organic chemical compound with three carbon atoms, for example: propane

C5
An organic chemical compound with five carbon atoms, for example: pentane

C6
An organic chemical compound with six carbon atoms, for example: hexane

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

CARB
California Air Resources Board (same as ARB)

CCR
California Code of Regulations

CEC
California Energy Commission

CEQA
California Environmental Quality Act

CEM
A "continuous emissions 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.

CH4 or CH_4
Methane

CIWMB
California Integrated Waste Management Board

CO
Carbon Monoxide

CO2 or CO_2
Carbon Dioxide

CT
Combustion Zone Temperature

Cumulative Increase
The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Used to determine whether threshold-based requirements are triggered.

District
The Bay Area Air Quality Management District

E6, E9, E12
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 E6 equals (4.53) x (10^6) = (4.53) x (10 x 10 x 10 x 10 x 10 x 10) = 4,530,000. Scientific notation is used to express large or small numbers without writing out long strings of zeros.

EG
Emission Guidelines

EO
Executive Order

EPA
The federal Environmental Protection Agency.

ETP
Effluent Treatment Plant

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 (MACT), and Part 72 (Permits Regulation, Acid Rain), 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

GLM
Ground Level Monitor

grains
1/7000 of a pound

H2S or H_2S
Hydrogen Sulfide

H2SO4 or H_2SO_4
Sulfuric Acid

H&SC
Health and Safety Code

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 40 CFR Part 63.

Hg
Mercury

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

LFG
Landfill gas

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 60 °F.

Long ton
2200 pounds

Major Facility
A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MAX or Max.
Maximum

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

MIN or Min.
Minimum

MOP
The District's Manual of Procedures.

MSDS
Material Safety Data Sheet

MSW
Municipal solid waste

MTBE
methyl tertiary-butyl ether

MW
Molecular weight

N2 or N_2
Nitrogen

NA
Not Applicable

NAAQS
National Ambient Air Quality Standards

NESHAPS
National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC
Non-methane Hydrocarbons (Same as NMOC)

NMOC
Non-methane Organic Compounds (Same as NMHC)

NO2 or NO_2
Nitrogen Dioxide

NOx or 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 Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O2 or O_2
Oxygen

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

Phase II Acid Rain Facility
A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10 or PM_{10}
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those 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.

PV or P/V Valve
Pressure/Vacuum Valve

Regulated Organic Liquid
“Regulated organic liquids” are those liquids which require permits, or which are subject to some regulation, when processed at a liquid-handling operation. For example, for refinery marine terminals, regulated organic liquids are defined as “organic liquids” in Regulation 8, Rule 44.

RMP
Risk Management Plan

RWQCB
Regional Water Quality Control Board

S
Sulfur

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

Short ton
2000 pounds

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 or SO_2
Sulfur dioxide

SO3 or SO_3
Sulfur trioxide

SSM
Startup, Shutdown, or Malfunction

SSM Plan
A plan, which states the procedures that will be followed during a startup, shutdown, or malfunction, that is prepared in accordance with the general NESHAP provisions (40 CFR Part 63, Subpart A) and maintained on site at the facility.

TAC
Toxic Air Contaminant (as identified by CARB)

THC
Total Hydrocarbons includes all NMHC plus methane (same as TOC).

therm
100,000 British Thermal Units

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 includes all NMOC plus methane (same as THC).

TPH
Total Petroleum Hydrocarbons

TRMP
Toxic Risk Management Policy

TRS
Total Reduced Sulfur, which is a measure of the amount of sulfur-containing compounds in a gas stream, typically a fuel gas stream, including, but not limited to, hydrogen sulfide. The TRS content of a fuel gas determines the concentration of SO_2 that will be present in the combusted fuel gas, since sulfur compounds are converted to SO_2 by the combustion process.

TSP
Total Suspended Particulate

TVP
True Vapor Pressure

VMT
Vehicle Miles Traveled

VOC
Volatile Organic Compounds

Symbols:

<	=	less than
>	=	greater than
$\leq$	=	less than or equal to
$\geq$	=	greater than or equal to

Units of Measure:

atm	=	atmospheres
bbl	=	barrel of liquid (42 gallons)
bhp	=	brake-horsepower
btu	=	British Thermal Unit
BTU	=	British Thermal Unit
°C	=	degrees Centigrade
cfm	=	cubic feet per minute
dscf	=	dry standard cubic feet
°F	=	degrees Fahrenheit
ft^3	=	cubic feet

g	=	grams
gal	=	gallon
gpm	=	gallons per minute
gr	=	grains
hp	=	horsepower
hr	=	hour
in	=	inches
kW	=	kilowatts
lb	=	pound
lbmol	=	pound-mole
m^2	=	square meter
m^3	=	cubic meters
Mg	=	mega grams
min	=	minute
mm	=	millimeter
MM	=	million
MM BTU	=	million BTU
M cf	=	one thousand cubic feet
MM cf	=	one million cubic feet
MW	=	megawatts
ppb	=	parts per billion
ppbv	=	parts per billion, by volume
ppm	=	parts per 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
scf	=	standard cubic feet
scfm	=	standard cubic feet per minute
sdcf	=	standard dry cubic feet
sdcfm	=	standard dry cubic feet per minute
yd	=	yard
yd^3	=	cubic yards
yr	=	year

APPENDIX C

ENGINEERING EVALUATION FOR APPLICATION # 8190

ENGINEERING EVALUATION

Shoreline Amphitheatre; Site # A2561

APPLICATION # 8190

A. BACKGROUND

Site Description:

Shoreline Amphitheatre, a Bill Graham Presents, Inc. facility, owns and operates a small portion of the closed Vista Landfill and the associated landfill gas collection and control systems.

District records indicate that waste acceptance at the Vista Landfill began in 1968 and ceased in 1993, although waste placement in the area near Shoreline Amphitheatre ended much earlier (about 1985). Approximately 90% of the waste in the Vista Landfill is controlled by the City of Mountain View (Site # A2740). Shoreline Amphitheatre controls the remaining 10% of the waste in the Vista Landfill. The waste area controlled by Shoreline Amphitheatre contains about 366,000 tons of decomposable waste (S-1 Landfill with Gas Collection System). The outdoor seating area was constructed over some of this buried waste.

In the summer and fall of 1986, several fires occurred in the outdoor seating area due to landfill gas seeping out of the landfill surface. In 1987, Shoreline Amphitheatre installed a landfill gas collection and control system to prevent the reoccurrence of surface and subsurface fires and to comply with the District's landfill gas collection and control requirements pursuant to Regulation 8, Rule 34. In order to minimize any potential exposures of the pubic to landfill gas, the landfill gas collection system at this site was designed to have a higher well density than most other landfill sites. Shoreline Amphitheatre's landfill gas collection system consists of 35 horizontal collectors and 26 vertical wells (approximately 6 wells per acre of refuse footprint).

Collected landfill gas is vented to either the A-1 Carbon Adsorption System or the A-2 Landfill Gas Flare. The flare may either be operated independently as the primary control device or as a secondary control device down stream of the carbon system. Currently the landfill gas collection and control system are required to operate continuously. To ensure that the public will not be exposed to landfill gas during a concert or other event at the amphitheatre, this facility is required to operate the gas collection system continuously, even if the flare is not operable. During times when there is an event at the amphitheatre but the flare is not operable, the collected landfill gas may be controlled by the A-1 Carbon Adsorption System alone.

Current Project:

Shoreline Amphitheatre has experienced numerous instances when the wellhead oxygen concentrations have exceeded the Regulation 8-34-305.4 limit of 5% O_2 by volume. Nearly all of the gas collection wells have experienced these excursions above the wellhead oxygen standard. The excessive air intrusion is caused by a number of factors such as the high density of gas collection wells in the landfill, the location of the waste near the perimeter of the landfill, low methane generation rates due to the age of the waste in this landfill, and other factors. Attempts to reduce the air intrusion by adjusting the vacuum and improving the cover near the collection well have been largely unsuccessful. Oxygen levels may drop for a short period of time but rise again later, or the high oxygen level simply moves to another area within the site.

Shoreline Amphitheatre submitted Application # 8190 to request a Change of Conditions that would allow an alternative to the oxygen standard in Regulation 8-34-305.4 for all of the collection wells at this site. Originally, Shoreline Amphitheatre requested to have no oxygen limit on any of the wells at this site. However, the District felt this action could potentially lead to a subsurface fire and did not address the root cause of the high oxygen levels: excessive vacuum compared to the gas available for collection. After several discussions between the District, Shoreline Amphitheatre, and the City of Mountain View Fire Department about the design of the gas collection system at this site, the need to prevent public exposure to landfill gas during events at the amphitheatre, and the need to prevent subsurface fires, Shoreline and the District have agreed that both an alternative oxygen limit and less than continuous operation of individual gas collections wells are necessary to resolve Shoreline's continuing compliance issues with the Regulation 8-34-305.4 wellhead oxygen standard. The specific compliance resolution proposals are discussed in detail below.

B. EMISSIONS

The waste in this landfill is more than 20 years old. The projected methane generation rate for 2006 is less than half of the peak methane generation rate that occurred in 1987. As methane generation rates continue to decline, the fugitive emissions from the landfill and emissions from the control devices will also decline. The average collection rate for late 2005 was 37 scfm of methane. POC emissions from the landfill and control devices were estimated to be 1.4 tons/year during 2005.

In accordance with Regulation 8-34-305, the District may establish alternatives to the wellhead standards listed in Regulation 8-34-305.1-4. The wellhead temperature (8-34-305.2), nitrogen (8-34-305.3) and oxygen (8-34-305.4) standards are intended to prevent subsurface fires and are generally not expected to influence surface emission leaks from the landfill. The alternative standards are intended to give the District additional leeway in determining the proper operating levels for an adequately functioning well. The proper operating levels for temperature, nitrogen and oxygen may vary considerably from site to site and even well to well, depending of ambient conditions, age and depth of the refuse, compaction density, cover practices, moisture content, porosity and many other factors. For this site, the high oxygen levels are caused in part by attempts to collect more landfill gas than is being generated due to declining methane generation rates and a high well density. Allowing a higher oxygen level is appropriate for this circumstance and is not expected to result in any emission increases for this site.

Shoreline Amphitheatre has requested to operate the landfill gas collection wells on a less than continuous basis. In addition, some wells may need to be permanently disconnected because this collection system contains more wells than are necessary to prevent surface emission leaks above the Regulation 8-34-303 surface emission standard of 500 ppmv as methane. Reducing the collection rate at the wells and potentially disconnecting wells permanently will allow Shoreline Amphitheatre to achieve a better balance between the attempted collection rate and the actual methane generation rate while still meeting the surface emission standard. These collection system operational changes are appropriate for older sites with declining methane generation rates and are not expected to cause emission increases.

C. STATEMENT OF COMPLIANCE

Regulation 2, Rule 1:

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

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

Regulation 2, Rule 2:

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

New Source Review for Toxic Air Contaminants:

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

Regulation 2, Rule 6:

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a designated facility as defined by BAAQMD Regulation 2-6-204. The Emission Guidelines for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart Cc) 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. While the landfill at this site does not meet these design capacity thresholds, the landfill at this site is part of a larger contiguous landfill that does exceed the design capacity thresholds. Therefore, this facility meets the designated facility criteria listed in 40 CFR § 60.32c(c), and a Title V permit is required pursuant to Regulation 2-6-304.

The initial MFR Permit for this facility was issued on June 13, 2003 and was revised on October 7, 2003. This application will require a significant revision of the current MFR permit to incorporate the proposed permit condition revisions. The proposed MFR permit revisions related to this application will be discussed in a separate Statement of Basis for this application.

Regulation 8, Rule 34:

Regulation 8-34-305 states:

Establishment of Alternative Wellhead Oxygen Standard and Less Than Continuous Operation for all Wells

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8-34-305 **Wellhead Requirements:** Effective July 1, 2002 and except as provided in Sections 8-34-119 or 120, each wellhead in the gas collection system shall meet the requirements of Sections 8-34-305.1 and 305.2 and either 305.3 or 305.4, unless the operator has discovered the excess and has satisfied all of the requirements of Section 8-34-414; or the operator has received permit conditions containing alternative operating levels:

305.1 Each wellhead shall operate under a vacuum (negative pressure); and

305.2 The landfill gas temperature in each wellhead shall be less than 55° C (131° F); and either

305.3 The nitrogen concentration in each wellhead shall be less than 20% by volume; or

305.4 The oxygen concentration in each wellhead shall be less than 5% by volume.

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

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

Although Shoreline Amphitheatre has requested an alternative wellhead oxygen concentration limit of 15% by volume, the data submitted with this permit application shows that many wells have had numerous instances of oxygen concentrations measuring above 15% O_2. In nearly all cases where the oxygen concentration was above 15%, the methane concentration was low (less than 20%) indicating that little gas was available for collection. Shoreline Amphitheatre has

requested to operate all wells on a less than continuous basis, because the methane generation rates have declined so much that continuous operation is no longer possible. Operating the wells on a less than continuous basis will reduce air intrusion and should allow Shoreline Amphitheatre to achieve a 15% O_2 standard at the wellheads during operation.

The wellhead standards would not apply to wells that are not operating. In addition, provisions have been added to exempt operating wells from the oxygen standard during times when there is a public event at the amphitheatre. During these events, the entire gas collection system is operated continuously to ensure that the public will not be exposed to landfill gas. Based on the monitoring data discussed above, the gas collection system will draw in significant amounts of excess air when all wells are operating continuously, and the oxygen concentrations are likely to exceed 15%. Since the events are short in duration, exempting the wells from the oxygen standard during Shoreline Amphitheatre events is not expected to result in subsurface fires.

Federal Requirements:

Emission Guidelines for MSW Landfills: In the BAAQMD, Regulation 8, Rule 34 implements the Subpart Cc Emission Guidelines for MSW Landfills. Therefore, compliance with Regulation 8, Rule 34 will ensure compliance with all applicable federal requirements.

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

D. PERMIT CONDITION REVISIONS

The District is proposing to modify Condition # 876, Parts 2 and 3, as indicated below. Part 2 was modified to allow temporary well disconnections pursuant to the less than continuous operation provisions of Regulation 8-34-404. The exact text of the less than continuous operation provisions will be provided from enforcement at a later date and added to this part administratively. The previous Part 3, which requires continuous operation of all wells, is being deleted. The new Part 3 identifies the new operating requirements for the landfill gas collection system. Part 3a identifies the specific criteria to be used for disconnecting an individual well and reconnecting it to vacuum. Part 3b clarifies that all wells are still subject to the wellhead pressure and temperature limits in Sections 305.1 and 305.2 but that these limits only apply to wells during operation. Part 3c identifies the alternative oxygen concentration limit for the wellheads, describes when this limit is applicable, and discusses appropriate corrective actions pursuant to the Section 414 wellhead repair schedule. Parts 3d and 3e describe the monitoring and record keeping requirements that are necessary to demonstrate compliance with the less than continuous operation provisions and the alternative wellhead oxygen standard. These requirements are similar to and at least as stringent as the monitoring and record keeping requirements that currently apply to all wellheads.

Condition # 876

FOR: S-1~~,~~ LANDFILL AND GAS COLLECTION SYSTEM;
~~FOR:~~ A-1~~,~~ CARBON ADSORPTION SYSTEM; AND
~~FOR:~~ A-2~~,~~ LANDFILL GAS FLARE;

1. The S-1 Landfill is closed. The Permit Holder shall apply for and receive a Change of Permit Conditions before accepting any solid waste for disposal at S-1. The total cumulative amount of all wastes placed in the landfill area controlled by the Permit Holder shall not exceed 366,000 tons. The maximum design capacity of the landfill (total volume of all wastes and cover materials placed in the landfill area controlled by the Permit Holder, excluding final cover) shall not exceed 542,000 cubic yards. (Basis: Regulation 2-1-301)

2. The Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system described in Part 2a below. Except for wells that are temporarily disconnected from vacuum in accordance with Part 3, ~~I~~increasing or decreasing the number of wells or collectors, changing the length of collectors, or changing the locations of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement.
   a. The Permit Holder has been issued a Permit to Operate for a landfill gas collection system consisting of 61 collection components (35 horizontal collectors and 26 vertical wells). Well and collector locations, depths, and lengths are as described in detail in Permit Application #2486.

   (Basis: Regulations 2-1-301, ~~8-34-301.1,~~ 8-34-303, ~~8-34-304, and 8-34-305~~ and either 8-34-301.1 or – upon approval - 8-34-404)

~~3. The landfill gas collection system components described above in Part 2a shall be operated continuously. Components shall not be disconnected or removed and isolation or adjustment valves shall not be closed, without prior written authorization from the APCO, unless the Permit Holder complies with all applicable provisions of Regulation 8, Rule 34, Sections 113, 117, and/or 118. (Basis: Regulation 8-34-301.1)~~

3. The landfill gas collection system components described in Part 2a above shall be operated in accordance with the following requirements, unless the Permit Holder is complying with all applicable provisions of Regulations 8-34-113 or 8-34-117:
   a. Each landfill gas collection system component listed in Part 2a shall be operated continuously unless the Permit Holder has received APCO approval to operate these collection system components less than continuously pursuant to Regulation 8-34-404. Upon receiving APCO approval of a less than continuous operation petition, each landfill gas collection system component

listed in Part 2a shall be operated (connected to vacuum) and not operated (disconnected from vacuum) in accordance with the provisions in Part 3(a)(i-v). (Basis: Regulations 8-34-301.1 or 8-34-404)

i. If a well is operating and the methane concentration detected in the wellhead is greater than or equal to 20% by volume, the well shall be operated continuously.

ii. If a well is operating and the methane concentration detected in the wellhead is less than 20% by volume, the well may be temporarily disconnected from vacuum, provided that either the well has been operating continuously for at least one month prior to disconnection or the methane concentration in the well was less than 20% by volume for at least one month prior to disconnection. Well disconnection is not required, except as described in subpart 3c(iii) below.

iii. If a well is not operating and the methane concentration detected in the wellhead is greater than or equal to 20% by volume, the well shall be reconnected to vacuum immediately and shall be operated continuously for at least one month after detecting more than 20% methane at the wellhead. Any non-operational well may be reconnected to vacuum at any time.

iv. If a well is not operating and the methane concentration detected in the wellhead is less than 20% by volume, the well may remain disconnected from vacuum.

v. At least 20 landfill gas collection system components shall be operating continuously at any one time.

b. During any time that a well is operating, the well shall comply with the requirements of Regulations 8-34-305, 305.1, and 305.2. The gauge pressure and landfill gas temperature requirements of Regulations 8-34-305.1 and 305.2 do not apply to wells that have been disconnected from vacuum in accordance with subparts 3a(ii) or 3a(iv) above. (Basis: Regulations 8-34-305, 8-34-305.1, and 8-34-305.2)

c. During any time that a well is operating, the well shall comply with the provisions listed below instead of the nitrogen or oxygen concentration limits in Regulations 8-34-305.3 or 305.4. The provisions listed below do not apply to wells that have been disconnected from vacuum in accordance with subparts 3a(ii) or 3a(iv) above. (Basis: Regulation 2-1-403)

i. The oxygen concentration in each operational wellhead shall not exceed 15% O_2 by volume, except under the circumstances described in subparts 3c(ii or iii) below.

ii. The oxygen concentration limit in subpart 3c(i) shall not apply to wells that contain less than 20% methane by volume, if the well is being operated in order to minimize public exposure to landfill gas during an event at Shoreline Amphitheatre.

iii. An excess of the subpart 3c(i) oxygen concentration limit shall not be deemed a violation if the operator has discovered the excess and complied with all requirements of the Regulation 8-34-414 wellhead repair schedule. In the case where the operator is voluntarily maintaining vacuum on a well that contains less than 20% methane - for reasons other than minimizing public exposure to landfill gas during an event at Shoreline Amphitheatre - and the operator detects an oxygen concentration of more than 15% O_2 by volume at the wellhead, the operator shall disconnect the well from vacuum as a corrective action pursuant to Regulation 8-34-414.

d. The Permit Holder shall monitor all wellheads (both operational and non-operational wells) on a monthly basis in accordance with Regulations 8-34-404, 8-34-505, 8-34-604, and 8-34-608. (Basis: Regulations 8-34-404 and 8-34-505)

e. In accordance with Regulations 8-34-34-501.4, 8-34-501.5, 8-34-501.9, and 8-34-414, the Permit Holder shall record the following data in a District approved log. All records shall be retained on site or made available to District staff upon request for at least five years from the date of entry. (Basis: Regulations 8-34-414 and 8-34-501)

i. For each well disconnection event and each well reconnection event, record the well ID, the type of event (disconnection or reconnection), reason for the change in operational status, the date and time that the well became operational or non-operational, and the total number of operational wells.

ii. For each wellhead monitoring date, record the well ID, gauge pressure, temperature, methane and oxygen concentration, and identify any deviations from an applicable wellhead limit.

iii. For all wellhead repair actions, describe all repair actions that were conducted or attempted, list the dates that repairs were initiated and completed, identify all re-monitoring dates and results, and list the compliance restoration date.

(No Changes to Parts 4-19)

E. RECOMMENDATION

Issue a Change of Permit Conditions for the following equipment:

S-1 **Landfill with Gas Collection System**; abated by A-1 Carbon Adsorption System and A-2 Landfill Gas Flare.

signed by Carol S. Allen — April 5, 2006

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