

Bay Area Air Quality Management District

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**Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT
MINOR REVISION**

**for
City of Mountain View (Shoreline)
Facility #A2740**

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Application: 15609

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STATEMENT OF BASIS

City of Mountain View (Shoreline); PLANT # 2740

APPLICATION # 15609

A. BACKGROUND

Site Description:

The City of Mountain View's Shoreline complex (Facility # A2740) is located, east of Highway 101, on Shoreline Boulevard. Shoreline is a recreational and wildlife area constructed over approximately 600 acres of closed landfills. The individual landfills are referred to as the 544-Acre Landfill, which includes the golf course and sailing lake areas, the Crittenden Landfill, and the Vista Landfill. A small portion of the Vista Landfill was leased to Shoreline Amphitheatre (Facility # A2561), which is owned and operated by Bill Graham Presents. The City of Mountain View includes the following permitted operations: the closed Shoreline Landfills with Gas Collection Systems (S-1), three Landfill Gas Flares (A-3, A-4, and A-5), two Diesel Engines for Emergency Generators (S-11 and S-14), and two landfill gas fired Microturbines (S-12 and S-13).

Landfills generate landfill gas due to the waste decomposition process. The landfill gas contains methane, carbon dioxide, and small amounts of non-methane organic compounds (NMOC) and sulfur compounds. Many of the NMOCs are precursor organic compounds (POC) and/or toxic air contaminants (TACs). District and EPA regulations require that landfill gas from larger landfills be collected and controlled to reduce emissions of NMOCs to the atmosphere. In accordance with these requirements, the City of Mountain View's Closed Landfills (S-1) are equipped with landfill gas collection systems and landfill gas control systems. The current landfill gas collection system includes 264 vertical wells and 7 horizontal collectors. During 2006, the City of Mountain View collected an average of 1520 cfm of landfill gas from S-1. Most of this collected landfill gas is controlled by combustion in enclosed ground flares (A-3, A-4, and A-5). About 45% of the collected gas is delivered to ALZA Corporation for combustion in off-site IC engines. A small portion of the collected landfill gas (about 4%) is delivered to the on-site microturbines.

Current Project (Application # 15609):

The City of Mountain View submitted this application to request revisions of the MFR Permit related to the landfill gas fired microturbines (S-12 and S-13). These microturbines provide power to sewage, leachate, and irrigation pumping equipment in two separate locations on the site. During 2006, an average of 60 cfm of collected landfill gas was burned in the microturbines. Prior to combustion at S-12 and S-13, the landfill gas is routed to a treatment system that filters and compresses the gas.

In December 2005, the City of Mountain View requested that EPA consider this landfill gas treatment system to be the approved control method under the Emission Guidelines for MSW Landfills (40 CFR, Part 60, Subpart Cc) for any gas that is not delivered to the enclosed flares. In a letter dated June 14, 2006, EPA concurred that the City's landfill gas treatment system met the requirements of 40 CFR 60.752(b)(2)(iii)(C). Consequently, the microturbines are no longer subject to 40 CFR 60.752(b)(2)(iii)(B) or any of the associated monitoring, record keeping, or reporting requirements in 40 CFR, Part 60, Subpart WWW or 40 CFR, Part 63, Subpart AAAA.

The City of Mountain View requested that the District delete all requirements from both the District and Title V permits that no longer apply to the microturbines due to EPA's determination that these microturbines are not subject to the Emission Guidelines for MSW Landfills. In addition, the City requested that the District delete several existing permit limits and monitoring requirements, because these limits are either unnecessary or overly burdensome for these low emission level microturbines. The City

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requested to increase the maximum permitted firing capacity for S-12 and S-13, because source testing revealed that these microturbines are capable of firing more than 1.27 MM BTU/hour each. The reasons and justification for each proposed permit condition revision are discussed in detail in the Engineering Evaluation for Application # 15608, which is attached as Appendix A. Proposed revisions to other sections of the Title V permit are discussed in this Statement of Basis for Application # 15609.

In 2006, the District adopted a Custom Schedule of Compliance in Section V of the MFR Permit. This custom schedule of compliance allowed the City of Mountain View to shut down the landfill gas collection during the initial commissioning phases of installation for a new landfill gas treatment system and three new off-site IC engines. This custom schedule expired in July 2006, and is now obsolete. The District is proposing to delete these obsolete requirements.

B. EMISSIONS

The proposed revisions to Sections IV, V, VI, and VII of the Title V permit will clarify requirements and eliminate language that is now obsolete. These revisions will have no impact on actual or permitted emission rates from the microturbines. Therefore, these permit revisions will not result in any emissions changes for this application.

The proposed revisions to Section II of the Title V permit will change the maximum permitted firing capacity for each microturbine from 1.27 MM BTU/hour to 1.60 MM BTU/hour. This firing capacity increase will result in the following emission increases: 0.17 tons/year of POC, 0.63 tons/year of PM₁₀, 0.12 tons/year of SO₂, and 0.02 tons/year of HAPs. Detailed emission calculations are presented in the Engineering Evaluation for Application # 15608.

C. PROPOSED MFR PERMIT MODIFICATIONS

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a designated facility as defined by BAAQMD Regulation 2-6-204. The 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 megagrams and 2.5 million cubic meters to obtain an operating permit pursuant to Part 70. As discussed in more detail below, this facility is subject to these emission guidelines and meets the designated facility criteria listed in 40 CFR § 60.32c(c).

In accordance with 40 CFR § 60.32c(c), the landfill size thresholds (design capacity of at least 2.5 million m³ and at least 2.5 million Mg of waste) that trigger the Emission Guidelines for MSW Landfills and the Title V permitting requirements 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 19.4 million yd³ (14.8 million m³) and 13.1 million tons (11.9 million Mg). Therefore, a Title V Permit is required for all three landfills. The MFR permit for Site # A2740 covers all equipment that is operated by the City of Mountain View. A separate MFR Permit for Facility # A2561 covers the equipment that is operated by Bill Graham Presents' Shoreline Amphitheatre.

The initial MFR Permit for this facility was issued on July 28, 2003 and was revised on September 10, 2003, April 1, 2004, June 17, 2004, and March 16, 2006. Pursuant to Application # 15609, the District is proposing to revise the current MFR Permit for Site # A2740. This application involves the deletion of NSPS and NESHAP limits that are no longer applicable, the removal of an obsolete Schedule of Compliance, and the elimination of or changes to various District permit limits, monitoring procedures, and

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record keeping requirements. Although the District initially stated (in the Engineering Evaluation for Application # 15608 in Appendix A) that this application would require a significant revision of the MFR permit, the District has now determined that Application # 15609 does not require a significant revision and should be handled as a minor revision.

The significant revision definition is discussed in detail below to explain this decision. Regulation 2-6-226 defines a significant permit revision as follows:

2-6-226 Significant Permit Revision: Any revision to a federally enforceable condition contained in a major facility review permit that can be defined as follows:

- 226.1 The incorporation of a change considered a major modification under 40 CFR Parts 51 (NSR) or 52 (PSD);
- 226.2 The incorporation of a change considered a modification under 40 CFR Parts 60 (NSPS), 61 (NESHAPS), or Section 112 of the Clean Air Act (HAP);
- 226.3 Any significant change or relaxation of any applicable monitoring, reporting or recordkeeping condition;
- 226.4 The establishment of or change to a permit term or condition allowing a facility to avoid an applicable requirement, including:
 - 4.1 a federally enforceable emission limit assumed in order to avoid classification as a modification under any provision of Title I of the federal Clean Air Act, or
 - 4.2 an alternative hazardous air pollutant emission limit pursuant to Section 112(i)(5) of the Clean Air Act;
- 226.5 The establishment of or change to a case-by-case determination of any emission limit or other standard;
- 226.6 The establishment of or change to a facility-specific determination for ambient impacts, visibility analysis, or increment analysis on portable sources; or
- 226.7 The incorporation of any requirement promulgated by the U. S. EPA under the authority of the Clean Air Act provided that three or more years remain on the permit term.

(Amended 10/20/99)

Each section of the above definition was reviewed for applicability to Application # 15609:

- Regulation 2-6-226.1: This application does involve small emission increases for PM₁₀, POC, SO₂, and HAPs, but these emission increases are less than 1 ton/year per pollutant and are far below the major modification thresholds for 40 CFR Parts 51 and 52, which are: 100 tons/year of CO, 40 tons/year of NO_x or SO₂, and 15 tons/year of PM₁₀. Therefore, Section 226.1 does not apply to this application.
- Regulation 2-6-226.2: This application does not involve a modification under NSPS or NESHAPS, or Section 112. EPA has determined that the S-12 and S-13 Microturbines are not subject to the Emission Guidelines for MSW Landfills. This application simply reflects this applicability determination by eliminating the non-applicable federal requirements from the MFR permit.
- Regulation 2-6-226.3: This application does involve the elimination of several formally applicable monitoring, record keeping or reporting requirements. In particular, the District is eliminating a continuous temperature monitoring requirement and replacing it with an annual testing requirement. However, this temperature monitor was not required by the applicable rule nor was it required as a result of any compliance assurance monitoring requirements. As explained in more detail below (see Section IV, BAAQMD Permit Condition Revisions), Regulation 8-34-509 allows the District to determine an appropriate key parameter and monitoring frequency that will demonstrate on-going compliance with the Regulation 8-34-301.4 NMOC emission limit. Initially, the District determined that continuous temperature monitoring should

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be used to demonstrate compliance with this NMOC emission limit. However, three years of source testing have demonstrated that the NMOC emissions from the microturbines are far below the Regulation 8-34-301.4 limit and that the microturbine operating temperatures do not vary appreciably. Therefore, the District has now determined that annual NMOC testing is an appropriate key parameter and monitoring frequency for compliance with Regulation 8-34-509. Since Regulation 8-34-509 allows the District to make this determination concerning the appropriate parameter and monitoring frequency and S-12 and S-13 have no related federal monitoring requirements, Regulation 2-6-226.3 does not apply to the District's decision on this matter.

- Regulation 2-6-226.4: This application does not involve the establishment of or change to any permit terms of conditions that would allow the facility to avoid a federally applicable requirement. The facility's potential to emit is far below the thresholds for Title 1 or Section 112 applicability.
- Regulation 2-6-226.5: This application does not involve the establishment of or change to any case-by-case emission limits or standards. The S-12 and S-13 Microturbines do not have any such case-by-case limits.
- Regulation 2-6-226.6: This facility has no facility-specific determinations concerning ambient impacts, visibility, or increments.
- Regulation 2-6-226.7: This application does not involve the incorporation of any Clean Air Act requirements.

As discussed above, this application does not involve any permit revisions that are significant, as defined in Regulation 2-6-226. Since this permit revision involves changes other than those described in the Regulation 2-6-201 definition of administrative permit amendment, this permit revision constitutes a minor permit revision pursuant to Regulation 2-6-215.

The proposed MFR permit revisions related to this application are described below.

Section I

The District is not proposing any changes to this section.

Section II

In Table II-A of the MFR Permit for Site # A2740, the District is proposing to change the maximum permitted firing capacity for each microturbine (S-12 and S-13) from 1.27 MM BTU/hour to 1.6 MM BTU/hour. This change is necessary, because source testing at these microturbines revealed that S-12 and S-13 are capable of burning more than 1.27 MM BTU/hour of landfill gas even though the average operating rate has been less than 1.27 MM BTU/hour. Source test results are summarized in Table 1 of Appendix A.

The proposed revisions to Table II-A are identified by strikeout and underline formatting in the attached proposed MFR Permit for Site # A2740.

Section III

The District is not proposing any changes to this section.

Section IV

As discussed in the Background Section, the City of Mountain View collects landfill gas from the Shoreline Landfills. After collection, the gas is either routed to the on-site landfill gas flares or to an on-site landfill gas treatment system. Treated landfill gas is delivered to two on-site microturbines or to three

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off-site IC engines for use as fuel at these combustion devices. This application concerns the microturbines and the applicable requirements cited in Table IV-C.

As discussed in more detail below, the District is proposing to revise Table IV-C by removing all federal requirements, by removing BAAQMD and SIP Regulation 1, by deleting BAAQMD Regulation 8-34-508, and by replacing Condition # 20297 with Condition # 23579. All proposed changes to Table IV-C are identified by strikeout and underline formatting in the attached proposed MFR Permit for Site # A2740.

Removal of Federal Requirements:

In the initial Title V permit for this facility, the District stated that the S-12 and S-13 Microturbines were subject to 40 CFR 60.752(b)(2)(iii)(B), which requires these microturbines to meet an NMOC outlet concentration or an NMOC destruction efficiency limit. Although landfill gas was compressed prior to combustion in S-12 and S-13, it was not clear whether or not this compression system was sufficient to meet the landfill gas treatment requirements of 40 CFR 60.752(b)(2)(iii)(C). Consequently, the District concluded that the microturbines must meet the requirements of 60.752(b)(2)(iii)(B). Tables IV-C and VII-C contain numerous citations of applicable federal NSPS (Subparts A and Cc) and NESHAP (Subparts A and AAAA) requirements that stem from this determination.

In June 2006, EPA determined that the recently improved landfill gas treatment system for this site satisfies the requirements of 40 CFR 60.752(b)(2)(iii)(C). As a result, the downstream microturbines and off-site engines are not subject to 40 CFR 60.752(b)(2)(iii)(B) or any of the associated monitoring, record keeping, or reporting requirements in 40 CFR, Part 60, Subparts A, Cc, or WWW or 40 CFR, Part 63, Subparts A or AAAA.

The District is proposing to reflect this recent EPA applicability determination by deleting all citations of federal requirements in Table IV-C.

Removal of District Regulatory Requirements:

The BAAQMD and SIP Regulation 1 parametric monitoring requirements were applicable to S-12 and S-13, because Part 1 of Condition # 20297 required continuous monitoring of the power output and a flow rate calculation to demonstrate compliance with the landfill gas flow rate limit in Part 1, and because Parts 5 and 7 required continuous temperature monitoring to demonstrate compliance with the Regulation 8-34-301.4 NMOC emission limit. The Regulation 8-34-508 flow rate monitoring requirement was also listed as an applicable requirement for S-12 and S-13.

BAAQMD Regulation 8-34-508 requires continuous monitoring of landfill gas flow rate to the landfill gas control SYSTEM. It does not require flow rate monitoring for each individual control device. The City of Mountain View complies with Regulation 8-34-508 by monitoring the landfill gas flow rate to the landfill gas treatment system and to the flares. Only a small percentage of the collected landfill gas is diverted to the microturbines. Since the microturbines are permitted at the maximum firing rate and maximum operating rates and have low emissions, the District has determined that individual landfill gas flow rate monitoring at each microturbine is not necessary. Therefore, the District is proposing to remove Regulation 8-34-508 and Condition # 20297, Part 1 from Table IV-C.

As explained below for the BAAQMD permit condition revisions, the District is proposing to replace the Parts 5 and 7 continuous temperature monitoring requirements with the existing annual NMOC source testing requirement. With the removal of Regulation 8-34-508 and Condition # 20297 Parts 1, 5, and 7 from the applicable requirements for S-12 and S-13, these microturbines will no longer be subject to any parametric monitoring requirements. Hence, the District is proposing to remove BAAQMD and SIP Regulation 1 from Table IV-C.

BAAQMD Permit Condition Revisions:

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The District is proposing to approve numerous permit condition revisions for S-12 and S-13 that will reduce the monitoring and record keeping burden for these two microturbines, which have very low emissions and have routinely demonstrated compliance with all requirements. Regulation 8, Rule 34, Section 509 requires that the permit holder for any devices subject to this section monitor and record a key emission control system operating parameter that will demonstrate on-going compliance with the Regulation 8-34-301.4 NMOC emission limits. For S-12 and S-13, the District established combustion zone temperature as the key emission control system operating parameter and required continuous monitoring and recording of this temperature pursuant to Condition # 20297, Parts 5 and 7.

After reviewing three years of source test data for these microturbines (source test data is summarized in Table 1 of Appendix A), the District found that these microturbines have routinely been operating well below the NMOC emission limit (average NMOC outlet concentration at 3% O₂ was 10 ppmv compared to a limit of 120 ppmv). S-12 and S-13 also have a very low NMOC emission potential (<0.5 tons/year per microturbine) with an actual emission rate averaging about 0.005 lbs/hour of NMOC. Since the compliance margin is high and the emissions potential is low, the District has concluded that requiring continuous temperature monitoring (in addition to annual source testing) is overly burdensome and unnecessary. Annual source testing at each microturbine is sufficient to verify compliance with the NMOC outlet concentration limit. Annual source testing was previously deemed to be an appropriate monitoring method for verifying compliance with NO_x and CO emission limits at these microturbines, and the NO_x and CO emission potentials (1.825 tons NO_x/year per microturbine and 1.825 tons CO/year per microturbine) are higher than the NMOC emission potential. Therefore, annual source testing alone is adequate for demonstrating compliance with the NMOC outlet concentration limit. The NMOC outlet concentration limit will be used as the Regulation 8-34-509 key emission control system operating parameter for these microturbines, with source testing annually as the monitoring method and monitoring frequency. Consequently, the District is proposing to delete Parts 5 and 7 of Condition # 20297 and to add Regulation 8-34-509 to the basis of Parts 6 and 8 (these parts will be renumbered as Parts 3 and 4 of Condition # 23579).

The District also determined that the annual landfill gas flow rate limit and monitoring requirements in Part 1 of Condition # 20297 are not necessary, because these microturbines are permitted to operate at the maximum firing capacity (which is stated in Table II-A of the MFR permit) for 24 hours/day and 365 days/year. Landfill gas throughput to the microturbines will be determined using daily operating records and will be reported to the District on an annual basis. These records are sufficient for determining compliance with the new maximum firing rate limits in Table II-A. Therefore, the District is proposing to delete Condition # 20297, Part 1.

The District is proposing to delete Condition # 20297, Part 4, because this limit is redundant. It simply repeats one of the NMOC emission limit options in Regulation 8-34-301.4. It is not necessary to repeat this NMOC limit in a permit condition when it is already stated in an applicable requirement.

These permit condition revisions will be reflected in the list of applicable permit conditions contained in Table IV-C. In summary, the District is proposing to replace Condition # 20297 with Condition # 23579. The District is proposing to delete Parts 1, 4, 5, and 7 and to renumber Parts 2, 3, 6, and 8 as Parts 1, 2, 3, and 4, respectively. The District is also proposing to add Regulation 8-34-509 to the basis for the new Parts 3 and 4.

Section V

In March 2006, the District added a custom schedule of compliance to this section that allowed the City of Mountain View to shutdown the landfill gas collection system for up to 120 hours between July 26, 2005 and July 25, 2006 in order to complete the initial commissioning process for the new landfill gas treatment and compression station and the three new off-site IC engines. This custom schedule of compliance expired on July 26, 2006. The District is proposing to delete these obsolete requirements.

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All proposed changes to Section V are identified by strikeout and underline formatting in the attached proposed MFR Permit for Site # A2740.

Section VI

As discussed above for Section IV, the District is proposing to replace Condition # 20297 with Condition # 23579. This revision includes the deletion of Parts 1, 4, 5, and 7. The remaining Parts 2, 3, 6, and 8 will be renumbered as Parts 1, 2, 3, and 4. These four parts will also be revised in order to correct limits, to remove unnecessary source testing parameters requirements, to change the key emission control system operating parameter for these microturbines (from continuous monitoring of the combustion temperature to direct measurement of the NMOC outlet concentration by annual source test), and to allow synchronization of the annual source tests at S-12 and S-13 with other annual source test requirements for this facility. The reasons and justification for each of these proposed permit condition revisions are explained in detail in Appendix A and in the Section IV discussion above.

All proposed changes to Section VI are identified by strikeout and underline formatting in the attached proposed MFR Permit for Site # A2740.

Section VII

As discussed above in Sections IV and VI, the District is proposing to remove all federal requirements, BAAQMD and SIP Regulation 1, and BAAQMD Regulation 8-34-508 from Table IV-C due to new applicability determinations for these microturbines. The District is also proposing to delete Condition # 20297, Parts 1, 4, 5, and 7 and to replace the remaining parts (2, 3, 6, and 8) with Condition # 23579, Parts 1-4. In Condition # 23579, Parts 1 and 2, the NO_x and CO limits for the microturbines are being revised as a result of the District's proposal to increase the maximum permitted firing capacity for S-12 and S-13 from 1.27 MM BTU/hour to 1.6 MM BTU/hour.

All of these changes will be reflected in Table VII-C. Specifically, the District is proposing to delete the Gas Flow limit; the Startup, Shutdown, Malfunction Procedures; the Periods of Inoperation for Parametric Monitors; the Continuous Monitors limit; and the Temperature of Combustion Zone limit. In Table VII-C, the District is updating citations by deleting references to non-applicable limits, by correcting condition and part numbers, and by revising the NO_x and CO limits.

As indicated in Table IV-C the sulfur dioxide emission limits in BAAQMD Regulation 9-1-301 and 9-1-302 are applicable limits for the S-12 and S-13 microturbines. The District is updating the cross reference to these limits in Table VII-C to reflect that these SO₂ limits apply to the microturbines. However, compliance with these limits is demonstrated by measuring the landfill gas sulfur content at the main landfill gas header on a quarterly basis and ensuring that this sulfur content does not exceed 1300 ppmv (expressed as H₂S). These monitoring and record keeping requirements are identified in Condition # 16065, Parts 12 and 15, which is an applicable requirement for the S-2 Landfill. No additional sulfur content monitoring is necessary for the landfill gas that is diverted to the microturbines.

All proposed changes to Table VII-C are identified by strikeout and underline formatting in the attached proposed MFR Permit for Site # A2740.

Section VIII

As discussed above in Sections IV and VI, the District is proposing to delete the limits in Condition # 20297, Parts 1, 4, and 7 limits and to revise the condition and part numbers for the NO_x and CO emission limits and compliance demonstration test for the microturbines. These changes will be reflected in Table VIII by deleting or revising the citations related to the microturbines. All proposed changes to Table VIII are identified by strikeout and underline formatting in the attached proposed MFR Permit for Site # A2740.

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Section IX

The District is not proposing any changes to this section.

Section X

The District is proposing to summarize the revisions described above in the revision history section. All proposed changes to Section X are identified by strikeout and underline formatting in the attached proposed MFR Permit for Site # A2740.

Sections XI-XII

The District is not proposing any changes to these sections.

D. SUMMARY OF PROPOSED ACTIONS

The District recommends approval of a proposed minor revision of the MFR Permit for Site # A2740 that will:

- Remove all federal requirements and BAAQMD Regulation 8-34-508 from Table IV-C and Table VII-C.
- Delete the landfill gas flow rate limit, NMOC emission limit, and combustion zone temperature limit from Condition # 20297 (Parts 1, 4, and 7) and from Tables IV-C, VII-C, and VIII.
- Remove all landfill gas flow rate and combustion zone temperature monitoring requirements and the associated parametric monitoring requirements (BAAQMD and SIP Regulation 1) from Condition # 20297 and from Tables IV-C, VII-C, and VIII.
- Renumber the remaining parts of Condition # 20297 and replace all citations of Condition # 20297 with Condition # 23579.
- Increase the maximum permitted firing capacity for the S-12 and S-13 Microturbines from 1.27 MM BTU/hour to 1.6 MM BTU/hour in Table II-A.
- Revise the NO_x and CO outlet concentration limits in Condition # 23579 (Parts 1 and 2) and in Table VII-C.
- Eliminate the custom schedule of compliance from Section V.
- Update the revision history in Section X.

APPENDIX A

ENGINEERING EVALUATION

APPLICATION # 15608

ENGINEERING EVALUATION
City of Mountain View; PLANT #2740
APPLICATION #15608

A. FACILITY DESCRIPTION

The City of Mountain View owns a complex located in Mountain View, CA known as Shoreline At Mountain View. Shoreline is a recreational and wildlife area constructed over approximately 600 acres of closed landfill sites with ~13 million tons of refuse in place. Refuse acceptance ceased in October 1993. The individual sites are referred to as the 544-Acre Site, which includes the golf course and sailing lake areas, the Vista Site, and the Crittenden Site. A small portion (~366,000 tons of refuse) of the Vista Site was leased to Shoreline Amphitheatre (Plant #2561), who operates the landfill gas collection system in the Amphitheatre Area, a flare, and a back-up carbon system. The main landfill areas (referred to as the S-1 Shoreline Landfills at Plant #2740) are controlled by landfill gas collection systems operated by the City of Mountain View. The current landfill gas collection system includes 264 vertical wells and 7 horizontal collectors.

Collected landfill gas may be vented to Landfill Gas Flares (A-3, A-4, or A-5), Microturbines (S-12 and S-13), or off-site IC Engines, which are owned and operated by ALZA Corporation. The combined capacity of the three flares is 4200 cfm of landfill gas (129 MM BTU/hour). The two microturbines can handle a total of 100 cfm of landfill gas (up to 2.5 MM BTU/hour). The three off-site engines can accept a total of 1400 cfm of landfill gas (up to 33.7 MM BTU/hour). For 2006, the average gas collection rate was 1520 cfm.

B. APPLICATION BACKGROUND

The City of Mountain View submitted this application to request a Change of Permit Conditions for the Microturbines (S-12 and S-13). These microturbines provide power to sewage, leachate, and irrigation pumping equipment in two separate locations on the site. During 2006, four percent of the collected landfill gas (60 cfm) was burned in the microturbines. Prior to combustion at S-12 and S-13, the landfill gas is routed to a treatment system that filters and compresses the gas.

In December 2005, the City of Mountain View requested that EPA consider this landfill gas treatment system as the approved control method under the Emission Guidelines for MSW Landfills (40 CFR, Part 60, Subpart Cc) for any gas that is not delivered to the enclosed flares. In a letter dated June 14, 2006, EPA concurred that the City's landfill gas treatment system met the requirements of 40 CFR 60.752(b)(2)(iii)(C). Consequently, the microturbines are no longer subject to 40 CFR 60.752(b)(2)(iii)(B) or any of the associated monitoring, record keeping, or reporting requirements in 40 CFR, Part 60, Subpart WWW or 40 CFR, Part 63, Subpart AAAA.

The City of Mountain View requested that the District delete all requirements for the microturbines - that are no longer applicable because of this EPA determination concerning the landfill gas treatment system - from both the District and Title V permits. The requested Title V permit revisions will be discussed separately in the Statement of Basis for Application # 15609.

Application # 15608 concerns the City's requested permit revisions for the District permit, and in particular, the City's requested revisions to Condition # 20297. The City of Mountain View requested that the District delete the following sections from Condition # 20297: Part 1, Part 4, Part 5, Part 6 (e and f only), and Part 7. The City also requested that the District delete references to NMOC in Part 6, subparts b and d and Rule 8-34 citations from the basis for Parts 6 and 8.

C. APPLICABILITY DETERMINATION FOR CONDITION # 20297

District permit condition # 20297 applies to both the S-12 and S-13 Microturbines. As mentioned above, the City has requested modifications to parts 1, 4, 5, 6, 7, and 8. To facilitate this evaluation, each part of Condition # 20297 for which the City has requested a change is repeated below. The City's requested change is identified followed by the District's response to each request. The revised set of conditions will be reissued as Condition # 23579.

Applicability of Part 1

1. The landfill gas flow rate to each Microturbine (S-12 and S-13) shall not exceed 76,200 cubic feet per day. To demonstrate compliance with this part, the Permit Holder shall determine the landfill gas flow rate to each microturbine using the Supervisory Controls and Data Acquisition (SCADA) system and the procedures described below.
 - a. The power output (P as kW) from each microturbine shall be monitored continuously and electronically entered into the data acquisition system.
 - b. On a monthly basis, the methane concentration of the landfill gas (%CH₄ as % by volume) shall be measured using a GEM gas meter or other APCO approved method and shall be entered into the data acquisition system. For this measurement, the landfill gas sample may be drawn from a location immediately upstream of a microturbine or from the main landfill gas header.
 - c. The data acquisition system shall calculate landfill gas flow rate (Q_{LFG} as scf/hour) according to the following equation: $Q_{LFG} = 1337.6 * P / \%CH_4$ and shall sum the calculated flow rate values for each day.
 - d. The data recorded above shall be summarized on a monthly basis. For each month, this summary shall show the measured methane concentration, the maximum daily landfill gas flow rate to each microturbine, and the total landfill gas flow rate to each microturbine.

(Basis: Cumulative Increase, Offsets, and Regulation 2-1-301)

City's Request:

Delete Part 1.

District Response:

In accordance with Regulation 2-1-403, the District has the authority to impose any permit conditions that are reasonable necessary to ensure compliance with federal, California, or District regulations. It is standard practice for the District to impose throughput limits on sources to either identify the maximum capacity of the source or to identify the throughput capacity that emission calculations were based on. Such throughput limitations identify the baseline throughput rate, which is used in conjunction with the definition in Regulation 2-1-234 and the emission calculation procedures in Regulation 2-2-604, to determine when a modification of the source has occurred. BAAQMD Regulation 2-1-301 requires a facility to apply for an authority to construct before a source is modified.

The landfill gas throughput limit in Part 1 (76,200 scf/day to each microturbine) was imposed in accordance with the Regulation 2-1-403 authority to establish a baseline throughput rate for S-12 and S-13. Compliance with this limit verifies that the Regulation 2-1-301 Authority to Construct requirement has not been triggered. From Application # 6697, all emission calculations for S-12 and S-13 were based on each microturbine operating at maximum capacity for 24 hours/day and 365 days/year. Each microturbine was reported to have a maximum capacity of 1.27 MM BTU/hour. The landfill gas is assumed to have a minimum heat content of 400 BTU/scf (based on the high heating value of the fuel). The equivalent maximum daily landfill gas throughput rate is calculated below:

$$(1.27 \text{ E6 BTU/hour}) * (24 \text{ hours/day}) / (400 \text{ BTU/scf}) = 76,200 \text{ scf/day}$$

In addition to identifying the baseline throughput rate for S-12 and S-13, the landfill gas throughput limit in Part 1 was intended to demonstrate compliance with several new source review requirements. Since S-12 and S-13 were permitted as new sources, the emissions from

these sources were subject to the new source review requirements in Regulation 2, Rule 2. The District maintains a Plant Cumulative Emission Increase Inventory for each facility in order to keep track of offsetting and other potentially applicable new source review requirements. In the case of Plant # 2740 and Application # 6697, total facility-wide maximum permitted emissions of NO_x and POC exceeded the Regulation 2-2-302 offset threshold for these pollutants¹. The District supplied the required NO_x and POC offsets from the small facility banking account. For Part 1, the basis of "Offsets" is referring to this Regulation 2-2-302 offsetting requirement for NO_x and POC emission increases due to the initial permitting S-12 and S-13. Emissions of CO, PM₁₀ and SO₂ were not subject to offset requirements and were simply added to the cumulative increase inventory for this site. The basis of "Cumulative Increase" refers to this inventory requirement.

As discussed above, the throughput limit in Part 1 is intended to identify the baseline capacity of each microturbine and to demonstrate compliance with new source review offset and inventory requirements. The basis for the throughput limit in Part 1 is not related to 40 CFR Part 60.752(b)(2)(iii)(B), and the Part 1 throughput limit continues to be a valid applicable requirement.

While reviewing this request, the District identified two problems with this Part 1 limit. First, independent source tests conducted on behalf of the Applicant revealed that the microturbines were operating at heat input rates between 1.01 MM BTU/hour and 1.46 MM BTU/hour. The microturbines are clearly capable of burning more than the previously reported maximum firing rate of 1.27 MM BTU/hour. The maximum firing rate for each turbine needs to be revised, and the associated maximum permitted emission rates and emission limits need to be corrected. The second problem with the Part 1 limit is that it is redundant. This limit was based on maximum heat input rate, minimum landfill gas heat content, and maximum possible operating rates. Stating the maximum hourly firing rate in Table II of the Title V permit sufficiently establishes the baseline throughput rate for S-12 and S-13, and there is no need to repeat this limit in terms of cubic feet of landfill gas throughput in a permit condition.

To correct these problems, the District proposes to increase the maximum firing rate for each microturbine from 1.27 MM BTU/hour to 1.6 MM BTU/hour (in Table II of the Title V permit). All emission calculations and emission limits will be based on this new maximum firing rate of 1.6 MM BTU/hour, the minimum landfill gas heat content of 400 BTU/scf, and maximum possible operating times of 24 hours/day and 365 days/year. Since all limits will continue to be based on maximum possible landfill throughput rates, a daily landfill gas throughput limit is not necessary. Therefore, the District is also proposing to delete Part 1.

Applicability of Part 4

4. Emissions of non-methane organic compounds (NMOC) from each Microturbine (S-12 and S-13) shall not exceed 120 ppmv of NMOC (expressed as methane) at 3% oxygen, dry basis. (Basis: Offsets and Regulation 8-34-301.4)

City's Request:

Delete Part 4.

District Response:

¹ In January 2003 when the District was evaluating the new source review requirements for S-12 and S-13, the offset thresholds were 15 tons/year of NO_x or 15 tons/year of POC. Any facility with maximum permitted or potential NO_x or POC emissions greater than these thresholds was required to provide offsets for the emission increases. Including S-12 and S-13, facility-wide emissions were determined to be 27.6 tons/year of NO_x and 47.2 tons/year of POC; therefore both NO_x and POC offsets were required. Facilities that have no banked emission reduction credits and that have total facility-wide emissions of less than 50 tons/year of NO_x or less than 50 tons/year of POC could qualify to use the District's small facility banking account for that pollutant. For Application #6697, the required NO_x and POC offsets were supplied by the District from this small facility banking account at a ratio of 1.0 to 1.0 (3.650 tons/year of NO_x offsets and 0.652 tons/year of POC offsets).

As discussed previously, the S-12 and S-13 Microturbines were subject to new source review and were subject to the Regulation 2-2-302 requirement to offset POC emission increases. Annual POC emission increases that were subject to this POC offsetting requirements were determined based on each microturbine operating at the maximum landfill gas throughput rate in Part 1 for 365 days/year. All NMOC emissions from the microturbines were assumed to be POC (100% POC and 0% NPOC).

The NMOC emission rate was, in turn, based on an NMOC emission rate limit in Regulation 8-34-301.4. Rule 8-34 requires that all landfill gas combustion devices (other than enclosed landfill gas flares) comply with either a minimum NMOC destruction efficiency requirement of 98% removal of NMOC by weight or a maximum NMOC outlet concentration of 120 ppmv of NMOC (expressed as methane at 3% oxygen, dry basis). For this facility, the NMOC concentration in the raw landfill gas is fairly low. Consequently, compliance with the NMOC outlet concentration limit resulted in a higher annual NMOC emission rate from each microturbine than compliance with the minimum NMOC destruction efficiency requirement did. Therefore, the District calculated the total POC offset burden based on the NMOC outlet concentration limit of 120 ppmv of NMOC at 3% O₂, dry. This procedure for determining the POC offset burden was reflected by the Part 4 NMOC outlet concentration limit and the basis of "Offsets" for Part 4.

The District also cited Regulation 8-34-301.4 as part of the basis for the NMOC outlet concentration limit in Part 4. It is not necessary to repeat a regulatory limit in a permit condition. This redundant limit could lead to unintended conflicts in the future if the regulation changes or because this regulation actually allows compliance with either the NMOC outlet concentration limit or the NMOC destruction efficiency requirement.

To ensure that this permit condition does not conflict with an applicable regulatory requirement (8-34-301.4), the District intends to delete Part 4. However, the NMOC outlet concentration limit is still a valid applicable limit, because it reflects the procedure that is used to determine maximum permitted POC emissions for S-12 and S-13 and the amount of POC offsets that were previously supplied for Application # 6697 and the additional amount of POC offsets that are now being supplied pursuant to this application due to increases in the maximum firing capacity of S-12 and S-13. See the Emissions section for more information about POC offsets for S-12 and S-13.

Applicability of Part 5

5. The Permit Holder shall install and operate one or more thermocouples that will accurately measure the combustion zone temperature at each Microturbine (S-12 and S-13). (Basis: Regulation 8-34-509)

City's Request:

Delete Part 5.

District Response:

In 1999, the District revised Regulation 8, Rule 34. The main purpose of these revisions was to ensure that Regulation 8, Rule 34 was at least as stringent as the recently adopted federal NSPS standards and Emission Guidelines requirements for landfills (40 CFR, Part 60, Subparts WWW and Cc, respectively) so that any facility that was operating in compliance with all of the requirements of Regulation 8, Rule 34 would also be operating in compliance with all of the requirements of 40 CFR, Part 60, Subparts Cc and WWW. The District intended Rule 8-34 to become the District's method of implementing the Subpart Cc Emission Guidelines requirements and requested that EPA incorporate Rule 8-34 into the State Plan for MSW Landfills for this purpose. However, the District also requested that the revised Rule 8-34 be incorporated into the SIP, because Rule 8-34 has historically been one of the District's ozone attainment measures. EPA has adopted the 1999 amendments to Rule 8-34 into both the State Plan for MSW Landfills and the SIP.

Although the recently adopted federal rules had some requirements that were more stringent than the older version of Rule 8-34, this older version of Rule 8-34 had several requirements that were already more stringent than the federal requirements. The District desired to preserve these more stringent aspects of Rule 8-34 as well as to add or revise the rule in such a manner as to include the more stringent aspects of the federal rule. Monitoring was one particular area where the federal requirements were often more stringent than the existing Rule 8-34 requirements. During the District's review of the federal requirements, the District identified monitoring requirements for emission control devices as one aspect of the District's rule that needed improvement.

The federal monitoring requirements for emission control devices that are required to comply with the NMOC emission limitations in 40 CFR 60.752(b)(2)(iii)(B) are identified in 40 CFR 60.756(b and d):

- (b) Each owner or operator seeking to comply with §60.752(b)(2)(iii) using an enclosed combustor shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment.
 - (1) A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater than 44 megawatts.
 - (2) A device that records flow to or bypass of the control device. The owner or operator shall either:
 - (i) Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 15 minutes; or
 - (ii) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.
- (d) Each owner or operator seeking to demonstrate compliance with §60.752(b)(2)(iii) using a device other than an open flare or an enclosed combustor shall provide information satisfactory to the Administrator as provided in §60.752(b)(2)(i)(B) describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Administrator shall review the information and either approve it, or request that additional information be submitted. The Administrator may specify additional appropriate monitoring procedures.

The District had often required temperature monitoring for enclosed flares in permit conditions, but Rule 8-34 did not have a temperature monitoring requirement. For devices other than enclosed flares, neither Rule 8-34 nor the permit conditions typically had any monitoring requirements that would satisfy the federal requirements above. The District added Regulations 8-34-507 and 8-34-509 to ensure that Rule 8-34 would – at a minimum – meet the requirements of 40 CFR 60.756(b or d) for devices that were subject to the NMOC emission limitations in Section 60.752(b)(2)(iii)(B). However, the District also believed that these additional monitoring requirements were a valuable and cost effective means of improving the overall effectiveness of Rule 8-34 at reducing POC emissions in the Bay Area. Consequently, the District subjected all flares and other emission control devices to these additional monitoring requirements and not just the devices that were subject to EG or NSPS requirements. The extension of monitoring requirements to all emission control devices that are subject to Rule 8-34 is discussed in more detail in the Regulatory Impacts Section of the Staff Report for the 1999 Amendments to Regulation 8, Rule 34 (see page 37).

Regulation 8, Rule 34 – as written - indicates that the Regulation 8-34-509 monitoring requirement applies to the S-12 and S-13 Microturbines, regardless of whether or not these device are subject to NSPS or EG requirements. The 1999 Staff Report for Rule 8-34 clearly supports this applicability determination. The Part 5 temperature-monitoring requirement was imposed pursuant to Regulation 8-34-509 as a surrogate for demonstrating compliance with the Regulation 8-34-301.4 NMOC emission limit (98% NMOC destruction or 120 ppmv of NMOC at 3% O₂). While Regulation 8-34-509 continues to be applicable to S-12 and S-13, it does not specify a particular type or frequency of monitoring that is appropriate due to the many types of

control devices that might be subject to this requirement. The APCO has the authority to determine what type of monitoring parameter and the frequency of monitoring that is appropriate for each specific control device.

After reviewing the compliance history for the microturbines (see Table 1 below), the District observed that the outlet NMOC concentrations in the exhaust from S-12 and S-13 ranged from 6-18 ppmv of NMOC at 3% O₂ with an average of 10 ppmv of NMOC at 3% O₂. This average NMOC concentration is less than 10% of the limit. Six tests found the NMOC outlet concentration to be far below the limit, and the District expects this high compliance margin to continue. Thus the probability of continued compliance with this limit is very high. Maximum potential NMOC emissions are only 0.8 tons/year of NMOC from S-12 and S-13 combined and the actual NMOC emissions from both microturbines combined are averaging less than 0.02 tons/year. Since NMOC emissions from the microturbines are very low, the consequences of non-compliance with the NMOC emission limit would not be significant. Since the probability of compliance with the NMOC limit is very high and the consequences of non-compliance would not be significant, the District now finds that continuous temperature monitoring at S-12 and S-13 to ensure compliance with the NMOC limit constitutes an undue burden. Consequently, the District is proposing to delete Part 5.

Regulation 8-34-509 still applies to the microturbines. However, the District finds that annual source testing of the microturbines is sufficient to demonstrate that these devices are continuing to comply with the NMOC emission limit. Thus the key emission control system parameter for S-12 and S-13 is now NMOC outlet concentration, and this concentration will be measured on an annual basis. This change reduces the monitoring frequency for S-12 and S-13, which triggers a significant revision of the Title V permit.

Table 1. Source Test Data for S-12 and S-13 Microturbines

S-12 Microturbine	1/13/2005	1/9/2006	1/2/2007	Average	Maximum	Max Limit	% of Limit
Load, kWatts		79	78	79	79		
Fuel, sdcfm	51	39	36	42	51		
Methane, %	45.4%	44.5%	46.7%	45.5%	46.7%		
MM BTU/hour	1.425	1.031	1.006	1.15	1.43		
NMOC, ppmv	208	37	1833	693	1833		
NMOC, lbs/hour	0.027	0.004	0.164	0.065	0.164		
Exhaust, sdcfm	960	1118	1119	1066	1119		
O ₂ , %	18.1%	18.1%	18.0%	18.0%	18.1%		
NO _x , lbs/day	0.24	0.31	0.77	0.44	0.77	10	7.7%
NO _x , ppmv @ 15% O ₂	3.6	3.4	8.1	5.0	8.1	78	
NO _x , lbs/MM BTU	0.0070	0.0139	0.0327	0.018	0.033		
CO, lbs/day	0.09	0.21	0.20	0.17	0.21	10	2.1%
CO, ppmv @ 15% O ₂	1.8	3.8	3.4	3.0	3.8	128	
CO, lbs/MM BTU	0.0027	0.0097	0.0083	0.007	0.010		
NMOC, lbs/hour	< 0.002	0.006	0.008	0.005	0.008		
NMOC, ppmv @ 3% O ₂	< 6.4	13.6	18.4	12.8	18.4	120	15.3%
S-12 Microturbine	1/13/2005	1/9/2006	1/2/2007	Average	Minimum	Min Limit	
NMOC, % destruction	> 92.6%	-----	94.8%	93.7%	> 92.6%	98	
Combustion Zone Temp, °F	1550	1568	1599	1572	1550	1500	
S-13 Microturbine	1/12/2005	1/9/2006	1/2/2007	Average	Maximum	Max Limit	% of Limit
Load, kWatts		78	73	75	78		

Fuel, sdcfm	50	38	37	41	50		
Methane, %	49.0%	50.2%	47.4%	48.9%	50.2%		
MM BTU/hour	1.455	1.133	1.042	1.21	1.46		
NMOC, ppmv	277	19	2133	810	2133		
NMOC, lbs/hour	0.034	0.002	0.194	0.077	0.194		
Exhaust, sdcfm	1146	1292	1151	1196	1292		
O ₂ , %	18.2%	18.1%	18.0%	18.1%	18.2%		
NO _x , lbs/day	0.36	0.47	0.36	0.40	0.47	10	4.7%
NO _x , ppmv @ 15% O ₂	3.8	4.4	3.7	4.0	4.4	78	
NO _x , lbs/MM BTU	0.0306	0.0175	0.0147	0.021	0.031		
CO, lbs/day	0.07	0.12	0.09	0.09	0.12	10	1.2%
CO, ppmv @ 15% O ₂	1.1	1.8	1.5	1.5	1.8	128	
CO, lbs/MM BTU	0.0061	0.0044	0.0035	0.005	0.006		
NMOC, lbs/hour	< 0.003	< 0.003	0.005	0.004	0.005		
NMOC, ppmv @ 3% O ₂	< 6.6	< 6.8	10.7	8.0	10.7	120	8.9%
				Average	Minimum	Min	Limit
NMOC, % destruction	> 91.2%	-----	97.5%	94.4%	> 91.2%	98	
Combustion Zone Temp, °F	1550	1594	1600	1581	1550	1500	

Applicability of Part 6

6. To demonstrate compliance with Parts 1-5 above and Regulation 8, Rule 34, Sections 301.4 and 412, the Permit Holder shall conduct annual compliance demonstration tests on the S-12 and S-13 Microturbines. The source tests shall determine the following:
- landfill gas flow rate (dry basis) and heat input rate to the microturbine;
 - concentrations (dry basis) of carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), total hydrocarbons (THC), methane (CH₄), non-methane organic compounds (NMOC) in the landfill gas;
 - stack gas flow rate from the microturbine (dry basis);
 - concentrations (dry basis) of NO_x, CO, THC, CH₄, NMOC, and O₂ in the stack gas,
 - NMOC destruction efficiency achieved by the microturbine;
 - the average combustion zone temperature in the microturbine during the test period.

The Source Test Section of the District shall be contacted to obtain approval of the source test procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division and the Source Test Section within 45 days of the test date. (Basis: Cumulative Increase, Offsets, and Regulations 8-34-301.4 and 8-34-412)

City's Request:

Delete subparts e and f of Part 6, and delete references to "NMOC" in subparts b and d. Synchronize microturbine testing dates with flare testing dates.

District Response:

As discussed in the applicability determinations above for Parts 4 and 5, Regulation 8-34-301.4, Regulation 8-34-509, Part 4, and Part 5 are valid applicable requirements for the S-12 and S-13 Microturbines. For devices that are subject to Regulation 8-34-301.4, Regulation 8-34-412 requires operators to conduct annual source tests to demonstrate compliance with Regulation 8-34-301.4. Measurement of NMOC in the stack gas (subpart d) is necessary to verify compliance

with the NMOC outlet concentration limit in Regulation 8-34-301.4. Measurement of NMOC in the landfill gas (subpart b) and calculation of NMOC destruction efficiency (subpart e) are necessary to verify compliance with the alternative NMOC limit in Regulation 8-34-301.4. However, it is not absolutely necessary to test for both the NMOC outlet concentration and the NMOC destruction efficiency, if the device demonstrates compliance with Regulation 8-34-301.4 based on the outlet NMOC concentration alone. Such is the case with the S-12 and S-13 Microturbines. Therefore the District agrees to delete the requirement to test for THC and NMOC in the inlet landfill gas (from subpart b) and agrees to delete the requirement to determine NMOC destruction efficiency (subpart e).

As discussed above for Part 5, the District is changing the key emission control system operating parameter (Regulation 8-34-509) for the S-12 and S-13 Microturbines from combustion zone temperature (measured continuously and verified by source test annually) to NMOC outlet concentration (measured by source testing annually). To reflect this change, the District is adding 8-34-509 to the basis for Part 6, and the District is proposing to discontinue the requirement to test for combustion zone temperature (subpart f) during the annual source test. The District is proposing to retain the NMOC outlet concentration testing in subpart d, but testing for THC is not necessary.

In order to allow this facility to minimize source testing costs by conducting all annual source tests at the same time, the District is proposing to allow this facility a one time delay of the annual source by up to nine months (from January 2008 test until September 2008).

Applicability of Part 7

7. Within 60 days of the initial source test date, the Permit Holder shall maintain the combustion zone temperature of S-12 and S-13 at a minimum of 1500 degrees F, averaged over any 3-hour period. The Permit Holder shall continuously monitor and record the combustion zone temperature to demonstrate compliance with this limit. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise the minimum combustion zone temperature limit in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415 and the following criteria. The minimum combustion zone temperature for a microturbine shall be equal to the average combustion zone temperature measured during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature shall not be less than 1400 degrees F. (Basis: Regulation 8-34-509)

City's Request:

Delete Part 7.

District Response:

As discussed above for Part 5, the District is changing the key emission control system operating parameter (Regulation 8-34-509) for the S-12 and S-13 Microturbines from combustion zone temperature (measured continuously and verified by source test annually) to NMOC outlet concentration (measured by source testing annually). To reflect this change, the District is agreeing to the City's request to delete the Part 7 continuous temperature monitoring requirement for S-12 and S-13.

Applicability of Part 8

8. The Permit Holder shall maintain all monitoring records and records of all test dates and test results for any tests that are conducted to demonstrate compliance with these conditions or any other applicable rule or regulation. All records shall be maintained on site in an APCO approved logbook or shall be made readily available to District staff upon request for a period of at least 5 years from the date of entry. These record keeping requirements do not replace the record keeping requirements contained in any

applicable rules or regulations. (Basis: Cumulative Increase, Offsets, and Regulations 2-6-501, 8-34-301.4, 8-34-412, 8-34-501.11, and 8-34-501.12)

City's Request:

Delete references to Regulation 8, Rule 34 requirements from the basis for Part 8.

District Response:

As discussed earlier, Regulations 8-34-301.4, 8-34-509, and 8-34-412 are valid applicable requirements for the S-12 and S-13 Microturbines. For any devices subject to Regulation 8-34-509, Regulation 8-34-501.11 requires operators to maintain records of key emission control system operating parameters. For any devices subject to a Regulation 8-34-501 record keeping requirement, Regulation 8-34-501.12 requires that operators make these records available and retain these records for five years. Therefore, Regulations 8-34-301.4, 8-34-412, 8-34-501.11, 8-34-501.12, and 8-34-509 are valid bases for the Part 8 record keeping and record retention requirements.

The District proposes to deny the Applicant's request to modify the basis of Part 8.

D. EMISSIONS

The District's proposal to increase the maximum permitted firing rate for each microturbine from 1.27 MM BTU/hour to 1.6 MM BTU/hour will impact the maximum permitted emission rates for POC, PM₁₀, SO₂, and toxic air contaminants from these microturbines and will require modifications of the equivalent NO_x and CO emission rate limits in Parts 2 and 3. The revised maximum permitted emission rates and emission increases are summarized in the tables below.

Table 2. New S-12 and S-13 Operating Limits

Microturbine Firing Capacity:	1.6 MM BTU/hour each
Maximum Operating Times:	24 hours/day and 365 days/year
Minimum LFG Heat Content:	400 BTU/scf
Maximum LFG Flow Rates:	66.7 scfm, 96 M scf/day, and 2.304 MM scf/year per microturbine

Table 3. Revised Maximum Emissions and Emission Increases for S-12 and S-13

	Emission Factor lbs/MM BTU	Max Daily Emissions pounds/day	Max Annual Emissions tons/year	Total Emis. (S-12+S-13) tons/year	Baseline Emissions tons/year	Emission Increases tons/year
NO _x	0.2604	10.00	1.825	3.650	3.650	0.000
CO	0.2604	10.00	1.825	3.650	3.650	0.000
POC	0.0587	2.25	0.411	0.822	0.652	0.170
PM ₁₀	0.2164	8.31	1.517	3.034	2.406	0.628
SO ₂	0.0414	1.59	0.290	0.580	0.460	0.120

Table 4. Revised Maximum Toxic Emissions from S-12 and S-13

Toxic Air Contaminants	Emission Factor pounds / MM BTU	Max Emitted lbs/hr	Total Project lbs/hr	Acute Trigger lbs/hr	Max Emitted lbs/year	Total Project lbs/year	Chronic Trigger lbs/year
Acrylonitrile	1.03 E-5	1.6 E-5	3.3 E-5	-----	1.4 E-1	2.9 E-1	6.4 E-1
Benzene	9.08 E-5	1.5 E-4	2.9 E-4	2.9 E+0	1.3 E+0	2.5 E+0	6.4 E+0
Hydrogen Sulfide	3.30 E-3	5.3 E-3	1.1 E-2	9.3 E-2	4.6 E+1	9.3 E+1	3.9 E+2
Vinyl Chloride	7.87 E-5	1.3 E-4	2.5 E-4	4.0 E+2	1.1 E+0	2.2 E+0	2.4 E+0

Hydrogen Chloride	1.20 E-2	1.9 E-2	3.8 E-2	4.6 E+0	1.7 E+2	3.4 E+2	3.5 E+2
Formaldehyde	4.50 E-4	7.2 E-4	1.4 E-3	2.1 E-1	6.3 E+0	1.3 E+1	3.0 E+1

The derivation of the emission factors and maximum permitted emission rates are discussed below for each pollutant.

NO_x Emissions:

The maximum permitted NO_x emission rate is the BACT trigger limit of 10 pounds/day. For 365 days/year of operation, the maximum permitted NO_x emissions are 1.825 tons/year of NO_x. These proposed daily and annual NO_x emission limits are the same as the current limits. Therefore, the proposed maximum firing rate increase will not result in any changes in maximum permitted NO_x emission rates. However, this change will impact the determination of the equivalent NO_x outlet concentration that is listed in Part 2. The new equivalent NO_x outlet concentration is determined below.

At the maximum heat input rate of 1.6 MM BTU/hour, the 10 pound/day NO_x emission rate limit is equivalent to an emission factor of:

$$(10 \text{ lbs/day}) / (24 \text{ hrs/day}) / (1.6 \text{ MM BTU/hr}) = 0.2604 \text{ lbs NO}_x / \text{MM BTU}.$$

The vendor expected that NO_x emissions would not exceed the emission rate of 0.035 lbs NO_x/MM BTU, which is only 13% of the proposed limit. Source testing confirmed that the actual NO_x emissions from S-12 and S-13 are far below the proposed emission rate limit of 10 pounds/day of NO_x (0.2604 lbs NO_x/MM BTU). The maximum measured NO_x emission rates were 0.77 pounds/day and 0.033 lbs NO_x/MM BTU.

For landfill gas at the minimum expected heat content of 400 BTU/scf, the theoretical flue gas factor is 10,100 scf flue gas at 0% O₂ per MM BTU of landfill gas burned. The equivalent NO_x outlet concentration at 15% oxygen is:

$$(0.2604 \text{ lbs NO}_x / \text{MM BTU}) / (10,100 \text{ scf at } 0\% \text{ O}_2 / \text{MM BTU}) / (46.01 \text{ lbs NO}_x / 1 \text{ lbmol NO}_x)^* \\ (387 \text{ scf NO}_x / 1 \text{ lbmol NO}_x)^* (20.9 - 15) / (20.9 - 0)^* (1 \text{ E}6) = 62 \text{ ppmv of NO}_x \text{ at } 15\% \text{ O}_2$$

The equivalent NO_x outlet concentration limit that is now cited in Part 1 will be changed from 78 ppmv to 62 ppmv.

CO Emissions:

The maximum permitted CO emission rate is also the BACT trigger limit of 10 pounds/day. For 365 days/year of operation, the maximum permitted CO emissions are 1.825 tons/year of CO. These proposed daily and annual CO emission limits are the same as the current limits. Therefore, the proposed maximum firing rate increase will not result in any changes in maximum permitted CO emission rates. However, this change will impact the determination of the equivalent CO outlet concentration that is listed in Part 3. The new equivalent CO outlet concentration is determined below.

At the maximum heat input rate of 1.6 MM BTU/hour, the 10 pound/day CO emission rate limit is equivalent to an emission factor of:

$$(10 \text{ lbs/day}) / (24 \text{ hrs/day}) / (1.6 \text{ MM BTU/hr}) = 0.2604 \text{ lbs CO/MM BTU}.$$

The vendor expected that CO emissions would not exceed the emission rate of 0.071 lbs CO/MM BTU, which is about 27% of the proposed limit. Source testing confirmed that the actual CO emissions from S-12 and S-13 are far below the proposed emission rate limit of 10 pounds/day of CO (0.2604 lbs CO/MM BTU). The maximum measured CO emission rates were 0.21 pounds/day and 0.010 lbs CO/MM BTU.

For landfill gas at the minimum expected heat content of 400 BTU/scf, the theoretical flue gas factor is 10,100 scf flue gas at 0% O₂ per MM BTU of landfill gas burned. The equivalent CO outlet concentration at 15% oxygen is:

$$(0.2604 \text{ lbs CO/MM BTU}) / (10,100 \text{ scf flue gas at } 0\% \text{ O}_2 / \text{MM BTU}) / (28.01 \text{ lbs CO} / 1 \text{ lbmol CO})^* \\ (387 \text{ scf CO} / 1 \text{ lbmol CO})^* (20.9 - 15) / (20.9 - 0)^* (1 \text{ E}6) = 100 \text{ ppmv of CO at } 15\% \text{ O}_2$$

The equivalent CO outlet concentration limit that is now cited in Part 2 will be changed from 128 ppmv to 100 ppmv.

POC Emissions:

As discussed in Application # 6697, the District is proposing to limit POC emissions to 120 ppmv of POC (expressed as methane at 3% oxygen, dry basis). This limit is derived from the Regulation 8-34-301.4 NMOC outlet concentration limit and the assumption that all NMOC in the exhaust is POC. Using the theoretical flue gas factor described above for NO_x and CO emissions (10,100 scf of flue gas at 0% O₂/MM BTU of landfill gas at 400 BTU/scf), the equivalent POC emission rate as follows:

$$(120 \text{ scf POC/1 E6 scf flue gas at 3\% O}_2) \cdot (20.9-0)/(20.9-3) \cdot (10,100 \text{ scf flue at 0\% O}_2/\text{MM BTU}) / (387 \text{ scf POC/1 lbmol POC}) \cdot (16.04 \text{ lbs POC/1 lbmol POC}) = 0.0587 \text{ lbs POC/MM BTU}$$

Source test data confirms that actual POC emissions are far below this proposed maximum permitted POC emission rate. The maximum measured NMOC emission rates were 18 ppmv at 3% O₂ and 0.0080 lbs/MM BTU, which is less than 15% of the proposed limit.

Using the proposed maximum firing rate of 1.6 MM BTU/hour, the new maximum permitted POC emission rates from the microturbines are:

$$\begin{aligned} (1.6 \text{ MM BTU/hour}) \cdot (24 \text{ hours/day}) \cdot (0.0587 \text{ lbs POC/MM BTU}) &= 2.25 \text{ pounds POC/day each} \\ (2.25 \text{ lbs POC/day}) \cdot (365 \text{ days/year}) / (2000 \text{ lbs/ton}) &= 0.411 \text{ tons POC/year each} \\ (0.411 \text{ tons/year of POC/microturbine}) \cdot (2 \text{ microturbines}) &= 0.822 \text{ tons POC/year total} \end{aligned}$$

Since the proposed maximum POC emission rates exceed the emission rates determined for Application # 6697 (1.79 pounds/day per microturbine and 0.652 tons/year total from both microturbines), this firing rate increase will result in POC emission increases. The cumulative emission increases are: (0.822 – 0.652) = 0.170 tons/year of POC.

PM₁₀ Emissions:

As discussed in Application # 6697, the District is proposing to limit PM₁₀ emissions to the Regulation 6-310 limit of 0.15 grains/dscf of exhaust. An equivalent emission factor is determined as follows:

$$(0.15 \text{ grains PM}_{10}/\text{scf flue gas at 0\% O}_2) \cdot (10,100 \text{ scf/MM BTU}) / (7000 \text{ grains PM}_{10}/\text{lb PM}_{10}) = 0.2164 \text{ lbs PM}_{10}/\text{MM BTU}$$

The microturbine vendor estimated that PM₁₀ emissions would not exceed 0.027 lbs/MM BTU, which is less than 15% of this proposed limit.

Using the proposed maximum firing rate of 1.6 MM BTU/hour, the new maximum permitted PM₁₀ emission rates from the microturbines are:

$$\begin{aligned} (1.6 \text{ MM BTU/hour}) \cdot (24 \text{ hours/day}) \cdot (0.2164 \text{ lbs PM}_{10}/\text{MM BTU}) &= 8.31 \text{ pounds PM}_{10}/\text{day each} \\ (8.31 \text{ lbs PM}_{10}/\text{day}) \cdot (365 \text{ days/year}) / (2000 \text{ lbs/ton}) &= 1.517 \text{ tons PM}_{10}/\text{year each} \\ (1.517 \text{ tons/year of PM}_{10}/\text{microturbine}) \cdot (2 \text{ microturbines}) &= 3.034 \text{ tons PM}_{10}/\text{year total} \end{aligned}$$

Since the proposed maximum PM₁₀ emission rates exceed the emission rates determined for Application # 6697 (6.59 pounds/day per microturbine and 2.406 tons/year total from both microturbines), this firing rate increase will result in PM₁₀ emission increases. The cumulative emission increases are: (3.034 – 2.406) = 0.628 tons/year of PM₁₀.

SO₂ Emissions:

As discussed in Application # 6697, SO₂ emissions are determined based on a maximum expected landfill gas sulfur content of 100 ppmv as H₂S in the landfill gas. An equivalent emission factor is determined as follows:

$$(100 \text{ scf H}_2\text{S}/1 \text{ MM scf LFG}) / (400 \text{ MM BTU/MM scf LFG}) / (387 \text{ scf H}_2\text{S}/1 \text{ lbmol H}_2\text{S}) \cdot (1 \text{ lbmol SO}_2/1 \text{ lbmol H}_2\text{S}) \cdot (64.06 \text{ lbs SO}_2/1 \text{ lbmol SO}_2) = 0.0414 \text{ lbs SO}_2/\text{MM BTU}$$

Using the proposed maximum firing rate of 1.6 MM BTU/hour, the new maximum permitted SO₂ emission rates from the microturbines are:

$(1.6 \text{ MM BTU/hour}) \times (24 \text{ hours/day}) \times (0.0414 \text{ lbs SO}_2/\text{MM BTU})$	=	1.59 pounds SO ₂ /day each
$(1.59 \text{ lbs PM}_{10}/\text{day}) \times (365 \text{ days/year}) / (2000 \text{ lbs/ton})$	=	0.290 tons SO ₂ /year each
$(0.290 \text{ tons/year of PM}_{10}/\text{microturbine}) \times (2 \text{ microturbines})$	=	0.580 tons SO ₂ /year total

Since the proposed maximum SO₂ emission rates exceed the emission rates determined for Application # 6697 (1.26 pounds/day per microturbine and 0.460 tons/year total from both microturbines), this firing rate increase will result in SO₂ emission increases. The cumulative emission increases are: $(0.580 - 0.460) = 0.120$ tons/year of SO₂.

Toxic Air Contaminants:

Landfill gas contains numerous toxic air contaminants (TACs). The most significant TACs present in landfill gas at this site (and the maximum expected concentrations) are: acrylonitrile (200 ppbv), benzene (1200 ppbv), vinyl chloride (1300 ppbv), and hydrogen sulfide (100 ppmv). The combustion process destroys at least 85% of each individual compound, but it also produces secondary TACs. The secondary TACs that typically cause the most health impacts are formaldehyde and hydrogen chloride. Emission factors for each residual TAC emitted from the microturbines were determined based on the maximum expected inlet concentration and the minimum expected destruction efficiency of 85%. The hydrogen chloride emission factor was calculated based on a maximum expected inlet concentration of 40,000 ppbv of chloride ions. All chlorine ions were assumed to be converted to HCl. The formaldehyde emission factor is based on the average CATEF emission factor for turbines of 0.18 lbs/MM scf.

E. STATEMENT OF COMPLIANCE

New source review, CEQA, and other requirements of Regulation 2, Rules 1, 2, 5, and 6 are discussed below.

Regulation 2, Rule 1:

This application is for a change of permit conditions at the S-12 and S-13 Microturbines that involves a small increase in maximum permitted firing capacity and that eliminates several unnecessary limits and monitoring requirements. From Application # 6697, the microturbine project was determined to be categorically exempt from CEQA review in accordance with Regulation 2-1-312.11, because the project complied with the District's NSR requirements and there was no possibility that the project would have any significant adverse impacts on the environment. After the small increase in firing capacity, the microturbines will continue to comply with the District's NSR requirements. Increasing the maximum firing capacity from 1.27 MM BTU/hour to 1.6 MM BTU/hour has no possibility of causing any adverse environmental impact. The proposal to remove redundant limits and burdensome monitoring requirements will also have no adverse environmental impacts. This project satisfies Section 312.11.3, because the City of Mountain View is considered a small facility and all required NO_x and POC offsets will be supplied from the District's small facility banking account. This project satisfies Section 312.11.4 by having no toxic emissions above a trigger level. Therefore, this proposed change of permit conditions is categorically exempt from CEQA review pursuant to Regulations 2-1-312.11. 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:

As summarized in Table 3, this project will result in increases of POC, PM₁₀ and SO₂ emissions. However, the maximum daily emissions of each pollutant will continue to be less than 10 pounds/day from either S-12 or S-13. Therefore, this equipment modification does not trigger BACT per Regulation 2-2-301.

Total facility wide emissions are currently 31.81 tons/year of POC. Since POC emissions are greater than 10 tons/year, POC offsets are required for all POC emission increases per Regulation 2-2-302. This application results in 0.170 tons/year of POC emission increases. Essentially all of the current POC emissions can be attributed to waste decomposition and the collection and control of landfill gas. Since the landfills at this site are closed and the gas generation rates are declining, the facility wide emission rate is expected to decline in the future. Total facility wide POC emissions including the maximum permitted emission rate from S-12 and S-13 will be no more than 32.63 tons/year of POC. Since POC emissions will be less than 35 tons/year, this facility qualifies to use the small facility banking account for these POC offsets. The required offset ratio is 1.0 to 1.0.

Total facility wide maximum potential PM₁₀ and SO₂ emissions are less than 100 tons/year for each pollutant. Therefore, offsets are not required for PM₁₀ or SO₂ emission increases per Regulation 2-2-303.

Regulation 2, Rule 5:

All toxic emissions from this project (total combined toxic emissions from S-12 and S-13) are less than the risk screen trigger levels in Table 2-5-1. Therefore, S-12 and S-13 are exempt from Regulation 2, Rule 5 pursuant to Regulation 2-5-110.

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. Therefore, a Title V permit is required pursuant to Regulation 2-6-304.

This facility received its initial Title V permit on July 28, 2003. The permit was revised on September 10, 2003, April 1, 2004, June 17, 2004, and March 16, 2006. This application involves a proposal to reduce the monitoring frequency at S-12 and S-13 and to eliminate federal requirements from the Title V permit. These proposed revisions will require a significant revision of the MFR permit. All proposed permit revisions are discussed in detail in the Statement of Basis for this significant Title V Permit Revision under Permit Application # 15609.

District Rules:

A detailed statement of compliance listing each applicable requirement and describing how the microturbines will comply with each applicable requirement was presented in the Engineering Evaluation for Application # 6697. All changes to these requirements are discussed in detail in the Applicability Determination section of this Engineering Evaluation. As discussed above, all District regulations that were previously identified as applicable to these microturbines will continue to be applicable. For Regulation 8, Rule 34 in particular, the S-12 and S-13 microturbines continue to be subject to Regulation 8, Rule 34, Sections 301.4, 412, 501.11, 501.12, and 509. These devices are also subject to Sections 301.1, 301.2, 408, 411, 413, 501.2, 501.4, 501.6, 501.10, 503, and 504, even though these requirements were not specifically discussed in the applicability determination related to Condition # 20297.

Federal Rules:

As discussed in the Background Section of this Engineering Evaluation, EPA has determined that the federal Emission Guidelines and NESHAP requirements for MSW Landfills do not apply to the S-12 and S-13 Microturbines. This applicability determination is discussed in detail in the Statement of Basis for Application # 15609. Application # 15609 involves a significant revision of the Title V Permit to remove non-applicable federal requirements from Tables IV-C and VII-C for these microturbines and to approve permit condition revisions discussed in this application.

F. PERMIT CONDITIONS

As discussed in the Applicability Determination and Emissions Section of this Engineering Evaluation, the District is proposing numerous revisions to the permit conditions for S-12 and S-13. The District's proposed revisions are shown in strikeout and underline formatting below.

Condition # ~~2029723579~~

FOR: S-12 MICROTURBINE AND S-13 MICROTURBINE;

1. ~~The landfill gas flow rate to each Microturbine (S-12 and S-13) shall not exceed 76,200 cubic feet per day. To demonstrate compliance with this part, the Permit Holder shall determine the landfill gas flow rate to each microturbine using the Supervisory Controls and Data Acquisition (SCADA) system and the procedures described below.~~
 - a. ~~The power output (P as kW) from each microturbine shall be monitored continuously and electronically entered into the data acquisition system.~~
 - b. ~~On a monthly basis, the methane concentration of the landfill gas (%CH₄ as % by volume) shall be measured using a GEM gas meter or other APCO approved method and shall be entered into the data acquisition system. For this measurement, the landfill gas sample may be drawn from a location immediately upstream of a microturbine or from the main landfill gas header.~~
 - c. ~~The data acquisition system shall calculate landfill gas flow rate (Q_{LFG} as scf/hour) according to the following equation: $Q_{LFG} = 1337.6 * P / \%CH_4$ and shall sum the calculated flow rate values for each day.~~
 - d. ~~The data recorded above shall be summarized on a monthly basis. For each month, this summary shall show the measured methane concentration, the maximum daily landfill gas flow rate to each microturbine, and the total landfill gas flow rate to each microturbine.~~
(Basis: Cumulative Increase, Offsets, and Regulation 2-1-301)
21. The nitrogen oxide (NOx) emissions from each Microturbine (S-12 and S-13) shall not exceed 10.0 pounds per day calculated as NO₂. Compliance with this emission limit may be demonstrated by having no emissions exceeding ~~78~~ 62 ppmv of NOx at 15% oxygen, dry basis. (Basis: Offsets)
32. The carbon monoxide (CO) emissions from each Microturbine (S-12 and S-13) shall not exceed 10.0 pounds per day. Compliance with this emission limit may be demonstrated by having no emissions exceeding ~~128~~ 100 ppmv of CO at 15% oxygen, dry basis. (Basis: Cumulative increase)
4. ~~Emissions of non-methane organic compounds (NMOC) from each Microturbine (S-12 and S-13) shall not exceed 120 ppmv of NMOC (expressed as methane) at 3% oxygen, dry basis. (Basis: Offsets and Regulation 8-34-301.4)~~

- ~~5. The Permit Holder shall install and operate one or more thermocouples that will accurately measure the combustion zone temperature at each Microturbine (S-12 and S-13). (Basis: Regulation 8-34-509)~~
63. To demonstrate compliance with Parts ~~1-5~~ and 2 above and Regulation 8, Rule 34, Sections 301.4, ~~and 412,~~ and 509, the Permit Holder shall conduct annual compliance demonstration tests on the S-12 and S-13 Microturbines. In order to allow this facility to synchronize the source test dates for the landfill gas flares and the microturbines, the microturbine source tests that would normally have been conducted in January 2008 may be delayed, provided the 2008 microturbine source tests are conducted no later than September 30, 2008. The Source Test Section of the District shall be contacted to obtain approval of the source test procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Source Test Section within 45 days of the test date. The source tests shall determine the following:
- a. landfill gas flow rate (dry basis) and heat input rate to the microturbine;
 - b. concentrations (dry basis) of carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), ~~total hydrocarbons (THC), and methane (CH₄), non-methane organic compounds (NMOC)~~ in the landfill gas;
 - c. stack gas flow rate from the microturbine (dry basis); and
 - d. concentrations (dry basis) of NO_x, CO, ~~THC, CH₄, NMOC,~~ and O₂ in the stack gas;
 - e. ~~NMOC destruction efficiency achieved by the microturbine;~~
 - f. ~~the average combustion zone temperature in the microturbine during the test period.~~

~~The Source Test Section of the District shall be contacted to obtain approval of the source test procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division and the Source Test Section within 45 days of the test date. (Basis: Cumulative Increase, Offsets, and Regulations 8-34-301.4, and 8-34-412, and 8-34-509)~~

- ~~7. Within 60 days of the initial source test date, the Permit Holder shall maintain the combustion zone temperature of S-12 and S-13 at a minimum of 1500 degrees F, averaged over any 3 hour period. The Permit Holder shall continuously monitor and record the combustion zone temperature to demonstrate compliance with this limit. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise the minimum combustion zone temperature limit in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415 and the following criteria. The minimum combustion zone temperature for a microturbine shall be equal to the average combustion~~

~~zone temperature measured during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature shall not be less than 1400 degrees F. (Basis: Regulation 8-34-509)~~

- 84. The Permit Holder shall maintain ~~all monitoring records and~~ records of all test dates and test results for any tests that are conducted to demonstrate compliance with these conditions or any other applicable rule or regulation. All records shall be maintained on site in an APCO approved logbook or shall be made readily available to District staff upon request for a period of at least 5 years from the date of entry. These record keeping requirements do not replace the record keeping requirements contained in any applicable rules or regulations. (Basis: Cumulative Increase, Offsets, and Regulations 2-6-501, 8-34-301.4, 8-34-412, 8-34-501.11, ~~and 8-34-501.12, and 8-34-509~~)

G. RECOMMENDATION

Approve modifications of the maximum firing rate and permit condition revisions for the following equipment subject to Condition # 23579.

- S-12 Microturbine;** 71 kWatts nominal, 1.6 MM BTU/hour; burning landfill gas.
- S-13 Microturbine;** 71 kWatts nominal, 1.6 MM BTU/hour; burning landfill gas.

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

June 4, 2007
Date