

Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109
(415) 771-6000

Permit Evaluation and Statement of Basis For Renewal of

MAJOR FACILITY REVIEW PERMIT

for

**Los Medanos Energy Center, LLC
Facility #B1866**

Facility Address:
750 East Third Street
Pittsburg, CA 94565

Mailing Address:
P.O. Box 551
Pittsburg, CA 94565

April, 2011

Application Engineer: Brian Lusher
Site Engineer: Brian Lusher

Application: 14296

TABLE OF CONTENTS

A.	Background	3
B.	Facility Description	4
C.	Permit Content.....	4
I.	Standard Conditions	4
II.	Equipment	5
III.	Generally Applicable Requirements	5
IV.	Source-Specific Applicable Requirements.....	7
V.	Schedule of Compliance.....	18
VI.	Permit Conditions.....	18
VII.	Applicable Limits and Compliance Monitoring Requirements	22
VIII.	Test Methods	28
X.	Permit Shield	28
XI.	Revision History.....	29
XII.	Glossary.....	29
XIII	Title IV Permit Application.....	29
D.	Alternate Operating Scenarios.....	29
E.	Compliance Status	29
APPENDIX A	Glossary.....	31
APPENDIX B	BAAQMD Compliance Report.....	37

Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Title 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the “potential to emit,” as defined by BAAQMD Regulation 2-6-218, more than 100 tons per year of a regulated air pollutant.

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

In addition, Phase II Acid Rain facilities must meet the requirements of Title IV of the federal Clean Air Act, Acid Rain, and the Acid Rain regulations in Parts 72 through 78 of Volume 40 of the Code of Federal Regulations. These regulations were adopted and incorporated by reference by BAAQMD Regulation 2, Rule 7, Acid Rain. The main provisions of the regulations for natural gas fired acid rain sources, such as the ones at this facility, are the requirement to obtain one SO₂ allowance for each ton of SO₂ that is emitted, stringent monitoring requirements for NO_x, CO₂, and SO₂, and stringent recordkeeping and reporting requirements.

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 B1866.

This facility received its initial Title V permit on September 6, 2001. This application is for a permit renewal. Although the current permit expired on September 6, 2006, it continues in force until the District takes final action on the permit renewal. The proposed permit shows all changes to the permit in ~~strikeout~~/underline format.

Pursuant to Regulation 2, Rule 6, section 416, the District has reviewed the terms and conditions of this Major Facility Review permit and determined that they are still valid and correct. This review included an analysis of all applicability determinations for all sources, including those that have been modified or permitted since the issuance of the initial Major Facility Review Permit. The review also included an assessment of the sufficiency of all monitoring for determination of compliance with applicable requirements. The statement of basis documents for permit revisions that have occurred since the initial Major Facility Review permit was issued are hereby incorporated by reference and are available upon request.

B. Facility Description

The Los Medanos Energy Center is a combined-cycle cogeneration facility capable of producing a nominal electrical output of 520 MW and 75,000 pounds per hour of process steam. The primary steam customer is USS POSCO Industries. The facility was online and selling electricity to the grid in July of 2001.

There has been no significant change in emissions or equipment at the facility since the last Reopening of the permit in 2004. The District also incorporated a Minor revision to the Title V permit on June 2, 2008 that allowed the facility to collect fuel gas sulfur samples on a monthly basis instead of every 30 days. The particulate emissions rates from the facility were also lowered to reflect actual source test information.

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for 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. 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.

The dates of adoption and approval of rules in Standard Condition 1.A have been updated. Regulation 2, Rule 5 – New Source Review of Toxic Air Contaminants and BAAQMD Regulation 2, Rule 6 - Permits, Major Facility Review have been added to Standard Condition 1.A.

The following language was added to Standard Condition I.B.1: "If the permit renewal has not been issued by September 6, 2014, 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 following language was 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.

Standard Condition F was updated to allow compliance reports to be submitted at the end of April and October. The language was modified to the following, “Reports shall be for the following periods: April 1st through September 30th and October 1st through March 31st, and are due on the last day of the month after the end of the reporting period.”

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).

The proposed Renewal Application does not change this section of the permit. District added the description of higher heating value (HHV) following all fuel firing rates listed in Table 2 in units of MMBtu/hour.

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

The following language was added to 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.”

“Portable equipment operating in accordance with the ARB portable equipment registration program and temporary equipment such as sandblasting equipment may be operated at the facility as long as the source is not significant under Rule 2-6-239. Otherwise the significant source would need to be included in the Title V permit.”

Table III Generally Applicable Requirements was revised to change the effectiveness dates of applicable District Rules and Regulations and to add new applicable requirements to the facility as shown below:

Action	Title/Description
Revised Effective Dates for BAAQMD Rules and Regulations. Verified federal enforceability status for each requirement listed in Table III.	
Added, SIP Version of Regulation 2-1-429	Federal Emissions Statement
Added, BAAQMD Regulation 2, Rule 2	Permits, New Source Review
Added, SIP Regulation 2, Rule 2	Permits, New Source Review
Added, BAAQMD Regulation 2, Rule 3	Power Plants
Added, BAAQMD Regulation 2, Rule 4	Permits, Emissions Banking
Added, SIP Regulation 2, Rule 4	Permits, Emissions Banking
Added, BAAQMD Regulation 2, Rule 5	New Source Review of Toxic Air Contaminants (6/15/05)
Added, BAAQMD Regulation 2, Rule 6	Permits, Major Facility Review
Added, SIP Regulation 2, Rule 6	Permits, Major Facility Review
Added, BAAQMD Regulation 2, Rule 9	Permits, Interchangeable Emission Reduction Credits
Added, BAAQMD Regulation 3	Fees
Added, BAAQMD Regulation 6, Rule 1	Particulate Matter and Visible Emissions
Added, SIP Regulation 6	Particulate Matter and Visible Emissions
Added, BAAQMD Regulation 8, Rule 2	Organic Compounds – Miscellaneous Operations
Added SIP Regulation 8, Rule 2	Organic Compounds – Miscellaneous Operations
Added, BAAQMD Regulation 8, Rule 4	General Solvent and Surface Coating
Added, BAAQMD Regulation 8, Rule 15	Organic Compounds – Emulsified and Liquid Asphalts
Added, BAAQMD Regulation 8, Rule 40	Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks
Added, SIP Regulation 8, Rule 40	Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks
Added, BAAQMD Regulation 8, Rule 47	Organic Compounds – Air Stripping and Soil Vapor Extraction Operations
Added, SIP Regulation 8, Rule 47	Organic Compounds – Air Stripping and Soil Vapor Extraction Operations
Removed extra references to Regulation 8, Rule 49.	
Added, California Health and Safety Code Section 44300 et seq.	Air Toxics “Hot Spots” Information and Assessment Act of 1987
Added, California Health and Safety Code Section 41750 et seq.	Portable Equipment
Added, California Health and Safety Code Section 93115 et seq.,	Airborne Toxic Control Measure for Stationary Compression Ignition Engines
Added, California Health and Safety Code Title 17, Section 93116	Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater

Action	Title/Description
Added, 40 CFR Part 61, Subpart M	NESHAPS – National Emissions Standard for Asbestos
Added, 40 CFR Part 82	Protection of Stratospheric Ozone

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. Table IV-B through D were combined with Table IV-A for the gas turbines and heat recovery steam generators since all of these sources are identical with the similar applicable requirements and exhaust through a common stack. 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.

Some notable applicability determinations regarding LMEC’s gas turbines and heat recovery steam generators are as follows:

- Accidental Release
Ammonia storage at this facility is subject to 40 CFR 68, Accidental Release, because more than 10,000 pounds of anhydrous (100%) ammonia is stored. The requirement is in Standard Condition I.K.
- 112(j)
The facility is not subject to the case-by-case MACT determination requirement in 112(j) of the Clean Air Act because it is not a major facility for hazardous air pollutants (HAPs). The potential to emit for HAPs can be found in Table 3 of the FDOC. Note that ammonia, propylene, and aluminum are not HAPs pursuant to 112(b) of the Clean Air Act. Therefore, 40 CFR 63, Subpart Yyyy, NESHAP for Stationary Combustion Turbines does not apply to S-1 and S-3.

- Compliance Assurance Monitoring (CAM) – 40 CFR Part 64

The potential to emit for the gas turbines and heat recovery steam generators combined is greater than 100 tons/year each for NO_x and CO. The gas turbines are exempt from CAM requirements for NO_x per 40 CFR Part 64.2(b)(iii) since the facility is subject to the acid rain permit program. The facility is subject to the Acid Rain program because it is a utility unit that serves a generator with a capacity than 25 MW in accordance with 40 CFR Part 72.6. Per 40 CFR 64.2(a), an emission unit is subject to 40 CFR 64, Compliance Assurance Monitoring, if the unit is subject to a federally enforceable requirement for a pollutant, the pollutant is controlled by an abatement device, and the emissions of the pollutant before abatement are more than 100% of the major source thresholds. The CO emissions from each gas turbine/heat recovery steam generator are subject to CAM requirements.

The CO CEM meets the requirement of 40 CFR 64.3(a)(1) to obtain data by directly measuring CO concentrations instead of an indicator of emissions. The monitoring meets 64.3(a)(2) which requires the owner/operator to establish an appropriate range to provide a reasonable assurance of ongoing compliance. The CO CEMs are registered with the District and are subject to Volume V of the District Manual of Procedures. The District source test section reviewed the installation of the CO CEMs including the range of the monitor. The CO CEMs meet the requirements of 64.3(a)(3)(i) by measuring the pollutant directly and not relying on an indicator.

The CO CEM meets the requirement of Section 64.3(b)(1) to obtain representative data because the CO CEMs are registered with the District and are subject to Volume V of the District Manual of Procedures. The District source test section has reviewed the installation of the CO CEMs to ensure that the CO concentration data is representative.

The CO CEMs meet 64.3(b)(2) since the District source test section approved the initial installation of the monitors and because the facility follows the District's verification procedures in the District Manual of Procedures. The facility meets the quality assurance requirements in 64.3(b)(3) by meeting Title V of the District Manual of Procedures and by having the District source test section review the CO CEM data on a monthly basis.

The CO CEMs meet 64(b)(4) by measuring the CO concentration at the exhaust stack at least once every fifteen minutes (excluding normal calibration periods) as required by Condition No. 16676 part 35. The CO concentration measurements are averaged over any rolling 3-hour period (part 21). This frequency agrees with the 64(b)(4)(ii) requirement that the owner/operator collect four or more values equally spaced over each hour. The CO monitoring frequency of measuring once every fifteen minutes is adequate to characterize any variability due to the oxidation catalyst. The facility uses a computerized data acquisition system to record the CO concentration data.

The CO CEMs measure the CO concentration at the exhaust stack directly and meet the requirement of 64.3(c). The CO CEM monitoring accounts for process and control device operational variability and documents the actual CO emissions relative to the permit limit.

64.3(d)(1) requires the owner/operator to use a CEM required by the Act, state or local law to satisfy the requirements of part 64. 64.3(d)(2)(vi) states that a CEM that satisfies monitoring requirements and specifications established by the permitting authority shall be deemed to satisfy the general design criteria specified in 64.3(a) and (b).

64.3(d)(3)(i) requires the owner/operator to design the monitoring system subject to 64.3(d) to report exceedances consistent with any period in an underlying requirement. The data acquisition and handling for the CO CEM allows the owner/operator to meet 64.3(d)(3)(i). The owner/operator is required to report any exceedance of Permit Condition No. 16676 to the Compliance and Enforcement Division within 96 hours of the violation of the condition.

64.4(a) requires the owner/operator to submit to the permitting authority monitoring that satisfies the design requirements of 64.3. The CO CEMs meet 64.4(a)(1) through (4) since the units directly measure CO concentration, are registered with the District, and are subject to Volume V of the District Manual of Procedures. The District source test section reviewed the installation of the CO CEMs to ensure that the CO concentration data is representative. The review included CO monitor ranges. The monitors meet the performance criteria in 64.3(b) since these monitors meet 64.3(d)(2)(vi) which allows the permitting authority to establish monitoring requirements and specifications.

64.4(b) requires the owner/operator to submit a justification for the proposed elements of the monitoring. If the owner/operator relies on a presumptively acceptable monitoring no further justification for the appropriateness of the monitoring should be necessary other than an explanation of the applicability of such monitoring to the unit in question. The use of a CEM is considered presumptively acceptable in accordance with 64.4(b)(2).

64.4(c)(1) requires the owner/operator to collect process and control device data during compliance or performance testing when the facility is justifying or establishing the use of an indicator of emission subject to part 64. 64.4(c)(2) requires the owner/operator must document that no changes to the emissions unit and control device that could result in a significant change in control system performance or the selected ranges or designated conditions for the indicators to be monitored since the performance or compliance tests were conducted. The CO CEMs measure emissions directly and meet the requirements contained in 64.4(c)(1) and (2). Any changes to the emissions unit or control device and the associated impact on CO emissions is quantified on a continuous basis.

64.5(a) requires the owner/operator to submit information required under 64.4 with the initial Title V permit application (submitted on May 11, 2001). The facility has not submitted a document specifically addressing the information under 64.4, but the CO CEM monitoring information meeting 64.4 was submitted to the District source test section. The installation and operation of the CO CEMs has been approved by the District source test section. The use of a CEM is considered presumptively acceptable in accordance with 64.4(b)(2).

64.6(c) requires the permitting authority to establish permit terms and conditions that specify the required monitoring in accordance with 70.6(a)(3)(i) of this chapter. According to 64.6(c)(1) at a minimum, the permit shall specify: the approved monitoring approach, indicators to be monitored, means or device used to measure the indicators, the performance requirements established by 64.3(b) or (d) as applicable.

Condition No. 16676 specifies that the CO emissions are monitored with continuous monitors in Part 35(b). Part 41 specifies that the owner/operator shall comply with all applicable testing requirements for continuous emission monitors as specified in Volume V of the District's Manual of Procedures. These two condition parts meet the requirements of 64.6(c)(1).

64.6(c)(2) specifies the means by which the owner/operator will define an exceedance or excursion for the purposes of reporting exceedances or excursions under 64.7 and 64.8. The permit shall specify the level at which an exceedance or excursion will be deemed to occur, including the appropriate averaging period. Condition 16676, part 21, has permit limits for CO in ppm corrected to 15% oxygen averaged over any rolling 3-hour period, lb/MMBtu, and pound per hour. Compliance with these limits is demonstrated with the CO CEM, O₂ monitor, and fuel usage monitoring (part 35). Part 45 requires the owner/operator to submit written notification to the Compliance and Enforcement Division within 96 hours of a violation of the permit conditions.

64.6(c)(3) requires the owner/operator to conduct monitoring and other obligations as required in 64.7 and 64.9. The facility is required to monitor CO concentrations from the affected emission units by Condition No. 16676, part 35. The facility has measured CO emissions using District approved CEMs from the two affected emissions units since the start of commercial operation (July 2001). The facility continues to submit monthly CEM summary reports to the District's source test section. The facility continues to operate the CO CEMs in accordance with District requirements and meets District recordkeeping and reporting requirements.

64.6(c)(4) discusses minimum data availability for an given averaging period or for averaging periods for a specific reporting period. Volume V of the District's Manual of Procedures requires the facility to notify the District if one of the CO CEMs is down for over 24 hours and to report any malfunctions on a monthly basis. Downtime in excess of 15 consecutive days may be deemed a failure to monitor unless if adequate proof of expeditious repair is not furnished to the APCO.

64.7(a) requires the owner/operator to conduct monitoring required by part 64 upon issuance of the part 70 or 71 operating permit or by such later date specified in the permit pursuant to 64.6(d). According to 64.6(d) the part 70 permit shall include an enforceable schedule with appropriate milestones for completing such installation, testing, of final verification. The District permit condition 16676, which is part of the part 70 permit, required initial monitoring for CO with a CEM during the commissioning period prior to completing the commissioning period the monitors were required to be certified in accordance with Volume V of the District Manual of Procedures. The facility has operated the CO CEMs in accordance with the Manual of Procedures since that time.

64.7(b) requires the owner/operator to maintain the monitoring equipment at all times. Volume V of the District's Manual of Procedures requires that all monitoring systems shall be maintained in a good state of repair. At the discretion of the APCO, either complete performance specification tests or field accuracy tests may be required after repairs have been made.

64.7(c) requires the owner/operator to conduct monitoring at all times that the emissions unit is operating excluding monitoring malfunctions, associated repairs, and required quality assurance or control activities. Volume V of the District's Manual of Procedures requires the facility to notify the District if one of the CO CEMs is down for over 24 hours and to report any malfunctions on a monthly basis. Downtime in excess of 15 consecutive days may be deemed a failure to monitor unless if adequate proof of expeditious repair is not furnished to the APCO.

64.7(d) requires the owner/operator to restore operation of the specific emissions unit including the control device to its normal manner of operation as expeditiously as practicable to minimize emissions. Condition No. 16676, part 45, requires the owner/operator to submit written notification to the Compliance and Enforcement Division within 96 hours of a violation of the permit conditions. The facility is required to promptly report deviations from Title V permit requirements and identify the appropriate corrective action.

64.7(e) requires the owner/operator to notify the permitting authority and if necessary submit a proposed modification to the monitoring program if a failure to achieve compliance with an emission limitation or standard is identified while providing valid data for an indicator. The facility measures CO concentration from the affected emissions units directly and it is unlikely that the owner/operator would need to document a need for improved monitoring.

64.8 allows the Administrator or permitting authority to require a facility subject to part 64 to develop and implement a Quality Improvement Plan. The facility continues to comply with Volume V of the District's Manual of Procedures for CEMs and this document contains sufficient quality assurance and quality control requirements.

64.9 describes the recordkeeping and reporting requirements required to meet part 64. The facility submits monthly CEM summaries to the District source test section. The facility is required to submit semiannual compliance certifications in accordance with the Title V permit. The facility is required to promptly report deviations from Title V permit requirements and identify the appropriate corrective action.

64.10 states that compliance with part 64 does not excuse the owner/operator from complying with other applicable requirements, prevent the permitting authority from imposing additional monitoring requirements, and/or restrict the Administrator or permitting authority from taking enforcement action. The facility is subject to this requirement and no additional permit conditions are required.

Changes to permit:

Section IV of the permit contains citations to all of the applicable requirements for particular sources. 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.

Table IV Source Specific Applicable Requirements were revised to change the effectiveness dates of applicable District Rules and Regulations and to add new applicable requirements to the gas turbines and heat recovery steam generators in Table IV-A as shown below:

Action	Title/Description
Added BAAQMD Regulation 2-1-501	Monitors
Added BAAQMD Regulation 6-1-301	Ringlemann Number 1 Limitation to Table IV-A for the gas turbines.
Added BAAQMD Regulation 6-1-304	Tube Cleaning to Table IV-B for the heat recovery steam generators
Added BAAQMD Regulation 6-1-305	Visible Particles to Table IV-A for the gas turbines.
Added BAAQMD Regulation 6-1-310	Particulate Weight Limitation to Table IV-A for the gas turbines.
Added BAAQMD Regulation 6-1-310.3	Heat Transfer Operations to Table IV-B for the heat recovery steam generators
Added BAAQMD Regulation 6-1-401	Appearance of Emissions to Table IV-A for the gas turbines
Added SIP Versions of Regulation 6	Particulate Emissions General Requirements
Added BAAQMD Regulation 9-9-301.1.3	Emission Limits Turbines Rated \geq 10 MW with SCR to Table IV-A for the gas turbines
Added BAAQMD Regulation 9-9-301.2	Emission Limits General to Table IV-A for the gas turbines
Added BAAQMD Regulation 9-9-401	Certification, Efficiency to Table IV-A for the gas turbines
Added SIP Versions of Regulation 9, Rule 9 to Table IV-A for the gas turbines	Nitrogen Oxide Emissions from Stationary Gas Turbines
Added BAAQMD Regulation 10, Subpart GG	NSPS Incorporation by Reference, Stationary Gas Turbines
Updated 40 CFR 60 Subpart A	NSPS – General Provisions
Updated regulatory references for 40 CFR Part 60 Subpart Da for the gas turbines. This Subpart applies to the heat recovery steam generators.	Standards of Performance for Electric Utility Steam Generating Units

Action	Title/Description
Updated regulatory citations for 40 CFR Part 60 Subpart GG in Table IV-A for the gas turbines (Including BAAQMD Regulation 10)	New Source Performance Standards for Gas Turbines
Added 40 CFR Part 64 Requirements	Compliance Assurance Monitoring
Added 40 CFR Part 72 Requirements	Acid Rain Program
Added 40 CFR Part 75 Requirements	Continuous Emission Monitoring for Acid Rain Sources
Added 40 CFR Part 98	Federal Mandatory Greenhouse Gas Emissions Reporting
Added Title 17 CCR, Subchapter 10, Article 2	ARB Mandatory Greenhouse Gas Emissions Reporting
Added BAAQMD Condition 16676 Part 18 for Heat Recovery Steam Generator Duct Burners to Table IV-A	
Added BAAQMD Condition 16676 Part 20 for Gas Turbines to Table IV-A	

40 CFR Part 60, Subpart Da

The facility is expected to continue to comply with the requirements of this subpart. 60.44Da(b) contains the opacity standard that applies to the gas turbines and heat recovery steam generators. 60.49Da(a)(3) requires the owner/operator to perform periodic monitoring to demonstrate compliance with this standard. The EPA has recently proposed changes to Subpart Da in direct final rule action (Federal Register, January 20, 2011) allowing the permitting authority to exempt owners/operators of affected facilities burning only natural gas from the opacity monitoring requirements contained in 60.44Da(a)(3). The District proposes exempting the facility from the opacity monitoring requirement contained in 60.44Da(a)(3) when the changes to Subpart Da are finalized.

40 CFR Part 60, Subpart GG

60.332(a)(1) has a NO_x limit of nominally 75 ppm. The emissions units meet a permit limit of 2.5 ppm @ 15 % O₂ and therefore comply with the Subpart GG NO_x limit.

Section 60.333(a) requires an owner/operator of stationary turbines to demonstrate compliance with either one of the following two conditions:

- Discharge SO₂ at less than or equal to 0.015% by volume at 15% oxygen on a dry basis
or
- Combust fuel with sulfur content less than or equal to 0.8% by weight (8000 ppmw).

The typical annual average sulfur concentration of the PUC quality natural gas combusted in the turbines is 0.25 grains/100 scf. PG&E natural gas typically has a sulfur concentration of 1 grain/100 scf (See PG&E Gas Rule 21, Section C). The SO₂ content in the natural gas can be compared to Section 60.333(a) as follows:

$$\text{lb S/MMBtu} = 1 \text{ grains}/100 \text{ scf} \times \text{lb}/7000 \text{ grains} \times \text{scf}/1020 \text{ Btu} \times 1 \text{ E}06 \text{ Btu/MMBtu}$$

$$\text{lb S/MMBtu} = 1.4 \text{ E-}03$$

$$\text{lb SO}_2/\text{MMBtu} = 1.4 \text{ E-}03 \text{ lb/MMBtu} \times (64 \text{ lb SO}_2/\text{lb-mol}/32 \text{ lb S/lb-mol})$$

$$\text{lb SO}_2/\text{MMBtu} = 2.8 \text{ E-}03$$

Gas Turbines and Heat Recovery Steam Generators

$$\text{SO}_2 \text{ lb/hour} = 2.8 \text{ E-}03 \text{ lb/MMBtu} \times 467.6 \text{ MMBtu/hour} = 1.31$$

$$\text{SO}_2 \text{ ppm} = (1.31 \text{ lb/hour} \times 1/64 \text{ lb/lb-mol} \times 386.8 \text{ scf/lb-mol}) / (8710 \text{ dscf/MMBtu} \times 467.6 \text{ MMBtu/hour} \times (20.95 / (20.95 - 15))) \times 1 \text{ E}06$$

$$\text{SO}_2 \text{ ppm} = 0.6 \text{ ppm} @ 15\% \text{ O}_2$$

The calculations demonstrate that the gas turbines at the facility meet Section 60.333(a).

40 CFR Part 72, Acid Rain Program

Part 72, Subpart A, establishes general provisions and operating permit program requirements for sources and affected units under the Acid Rain program, pursuant to Title IV of the Clean Air Act. The gas turbines are affected units subject to the program in accordance with 40 CFR Part 72, Subpart A, Section 72.6(a)(3)(i). The facility continues to meet 72.9 Standard Requirements which requires the submission of a complete acid rain permit application, the possession of a valid acid rain permit, meeting the monitoring requirements of part 75, and holding sufficient allowances, and comply with the acid rain SO₂ limit. The facility must hold sufficient SO₂ allowances by March 1 (February 29 of a leap year) of every year to offset each ton of SO₂ emitted for the previous calendar year. The facility is expected to comply with the excess emissions, recordkeeping and reporting requirements in 72.9(e) and 72.9(f).

Part 72, Subpart C, contains requirements for acid rain permit applications and compliance plans. The facility is expected to continue to meet these requirements.

Part 72, Subpart E, contains the requirements for the acid rain permit which must include all elements of a complete acid rain application.

40 CFR Part 75, Continuous Emission Monitoring

Part 75, Subpart A, contains the applicability criteria, compliance dates, and prohibitions. The emissions units at the facility are subject to Part 72 and are therefore subject to Part 75. The NO_x monitoring is subject to part 75 per 75.2(c). The facility is expected to continue to meet the compliance dates and prohibitions contained in part 75 Subpart A.

Part 75, Subpart B, contains specific monitoring provisions for each pollutant subject to part 75. The emissions units at this facility are required to meet the SO₂, NO_x, CO₂ monitoring

requirements contained in 75.10(a)(1), 75.10(a)(2), 75.10(a)(3) Opacity monitoring under 75.10(a)(4) is not required for gas fired units in accordance with 75.14(c). 75.10(b) requires each CEM to meet equipment, installation, and performance specification in part 75 Appendix A and quality assurance/quality control in Appendix B. 75.10(c) requires heat input rate monitoring to meet requirements contained in part 75 Appendix F. The facility is expected to continue to comply with the requirements contained in 75.10(b) and (c).

75.10(d) contains primary equipment hourly operating requirements that require the CEM to monitor emissions when the emissions unit combusts fuel except as specified in 75.11(e) and during periods of calibration, quality assurance, or preventive maintenance, performed pursuant to §75.21 and appendix B of this part, periods of repair, periods of backups of data from the data acquisition and handling system, or recertification performed pursuant to §75.20. This section also contains requirements for calculating hourly averages from four 15-minute periods and validity of data and data substitution. Emission concentrations for a given hour are not considered valid unless it is based on four valid measurements. The data substitution requirements are contained in Subpart D. The facility is expected to continue to comply with the requirements contained in 75.10(d). 75.10(f) specifies minimum measurement capability requirement for CEMs and 75.10(g) contains the minimum recordkeeping and reporting requirements. The facility is expected to continue to meet 75.10(f) and (g).

75.11 contains specific provisions for SO₂ monitoring. 75.11(d)(2) allows the use of Appendix D to monitor SO₂ emissions from gas fired units. The facility monitors sulfur content of the natural gas to meet Part 75 SO₂ monitoring requirements.

75.12 contains specific provisions for NO_x emission rates. The facility uses a NO_x CEM and an O₂ monitor to meet this requirement.

75.13 contains CO₂ monitoring requirements. The facility monitors CO₂ in accordance with this section using the procedures in part 75 Appendix G.

75.14 contains opacity monitoring requirements. The facility is exempt from opacity monitoring under part 75 per 75.14(c).

Part 75 Subpart C contains operation and maintenance requirements including certification and recertification of the CEMs, quality assurance/quality control requirements, reference test methods, and out-of-control periods and adjustment for system bias. The facility is expected to continue to meet these requirements.

Part 75, Subpart D (75.30 through 75.36) contains Missing Data Substitution Procedures for SO₂, NO_x, flowrate, CO₂, and heat input procedures. The facility is expected to continue to meet these requirements.

Part 75, Subpart F contains the recordkeeping requirements including the contents of a part 75 monitoring plan. This subpart requires the facility to record the operating time, heat input rate, and load for each emissions unit. Additionally, the facility must record emissions data for SO₂, NO_x, CO₂, and O₂ along with quality assurance/quality control information.

Part 75, Subpart G contains the reporting requirements for affected facilities subject to part 75. The facility is expected to continue to meet these requirements.

40 CFR Part 98, Mandatory Greenhouse Gas Reporting

The facility is expected to meet the federal greenhouse gas reporting requirements.

Title 17 California Code of Regulations, Subchapter 10, Article 2

The facility is expected to meet the state greenhouse gas reporting requirements.

S-5, Auxiliary Boiler

Table IV Source Specific Applicable Requirements was revised to change the effectiveness dates of applicable District Rules and Regulations and to add new applicable requirements to the auxiliary boiler Table IV-B as shown below:

Action	Title/Description
Added SIP Regulation 1-522	Continuous Emission Monitoring and Recordkeeping Procedures
Added SIP Regulation 1-523	Parametric Monitoring and Recordkeeping Procedures
Added BAAQMD Regulation 6-1-301	Ringlemann Number 1 Limitation to Table IV-C for the auxiliary boiler
Added BAAQMD Regulation 6-1-304	Tube Cleaning to Table IV-C for the auxiliary boiler
Added BAAQMD Regulation 6-1-305	Visible Particles to Table IV-C for the auxiliary boiler
Added BAAQMD Regulation 6-1-310	Particulate Weight Limitation to Table IV-C for the auxiliary boiler
Added BAAQMD Regulation 6-1-310.3	Heat Transfer Operations to Table IV-C for the auxiliary boiler
Added SIP Versions of Regulation 6 to Table IV-C for the auxiliary boiler	General Particulate Emissions
Added BAAQMD Regulation 9, Rule 7	Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters
Auxiliary Boiler meets the limited exemption contained in 9-7-117 and therefore the emission limits of Section 9-7-307.6 do not apply	
Auxiliary Boiler required to meet emission limits in 9-7-301	

Added SIP Regulation 9, Rule 7 requirements	Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters.
Updated regulatory citations for 40 CFR Part 60 Subpart A	General Requirements for New Source Performance Standards
Updated regulatory citations for 40 CFR Part 60 Subpart Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

Compliance Assurance Monitoring (CAM) – 40 CFR Part 64

The preabatement potential to emit for the auxiliary boiler is less than 100 tons/year each for NO_x and CO. The auxiliary boiler is exempt from CAM requirements. The NO_x preabatement potential to emit was estimated at 100 ppm NO_x which is equal to 0.104 lb/MMBtu @0% O₂. NO_x potential to emit equals 480,000 MMBtu/year x 0.104 lb/MMBtu x ton/2000 lb = 25 tons/year. The CO potential to emit was estimated at 50 ppm CO @3% O₂ (permit limit) which is equal to 0.0271 lb/MMBtu. CO potential to emit equals 480,000 MMBtu/year x 0.0271 lb/MMBtu x ton/2000 lb = 6.5 tons/year.

S-6, Fire Pump Diesel Engine

Table IV-F for the Fire Pump Diesel Engine is now Table IV-C after consolidating the gas turbine and heat recovery steam generator tables.

The following changes were made to Table IV-C for the fire pump diesel engine:

Action	Title/Description
Added BAAQMD Regulation 6 Rule 1 citations.	Particulate/Opacity Regulations
Added SIP Regulation 6 citations.	Particulate/Opacity Requirements
Updated BAAQMD Regulation 9, Rule 8 citations.	Engine Requirements
Added Title 17 Section 93115 of the California Code of Regulations	Air Toxics Control Measure for Stationary Compression Ignition Engines
Deleted BAAQMD Condition 19399 which will be replaced with the added BAAQMD Condition 22851.	ATCM Fire Pump Condition

S-7, Emergency Generator

Table IV-G for the Fire Pump Diesel Engine is now Table IV-D after consolidating the gas turbine and heat recovery steam generator tables.

The following changes were made to Table IV-D for the natural gas fired emergency standby generator:

Action	Title/Description
Added BAAQMD Regulation 6 Rule 1 citations.	Particulate/Opacity Regulations
Added SIP Regulation 6 citations.	Particulate/Opacity Requirements
Deleted 9-1-304 reference since this regulation does not apply to gaseous fuels.	
Updated BAAQMD Regulation 9, Rule 8 citations.	

S-8, Cooling Tower

Table IV-H for the Cooling Tower is now Table IV-E after consolidating the gas turbine and heat recovery steam generator tables.

The following changes were made to Table IV-E for the cooling tower:

Action	Title/Description
Added BAAQMD Regulation 6 Rule 1 citations.	Particulate/Opacity Regulations
Added SIP Regulation 6 citations.	Particulate/Opacity Requirements

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10.

The proposed Renewal Application does not change this section of the permit.

VI. Permit Conditions

The facility has requested revisions to condition 16676 part 25. Part 14 was previously revised to require fuel gas sulfur content analysis of once per month instead of the previous permit requirement of once every 30 consecutive days. Part 14 sets the sampling schedule for the gas turbines and HRSGs. Part 25 sets the sampling schedule for the auxiliary boiler. Part 25 was not revised during the last minor revision due to an oversight.

The proposed revisions to permit condition 16676 are clearly shown below in strikeout/underline format. When the revised permit is issued, all ‘strikeout’ language will be deleted and all ‘underline’ language will be retained, subject to consideration of comments received.

25. The Auxiliary Boiler (S-5) shall be fired exclusively on natural gas with a maximum sulfur content of 1 grain per 100 standard cubic feet. To demonstrate compliance with this limit, the operator of S-5 shall sample and test the gas from each supply source at least once per month~~every 30 consecutive days~~ to determine the sulfur content of the gas. (BACT for SO₂ and PM₁₀)

35. The owner/operator shall demonstrate compliance with parts 15 through 18, 21(a) through 21(d), 23, 24, 26, 28(a) through 28(d), 32(a), 32(b), 33(a), and 33(b) by using properly operated and maintained continuous monitors (during all hours of operation including equipment Start-up and Shutdown periods and Gas Turbine Combustor Tuning Periods) for all of the following parameters:
 - (a) Firing Hours and Fuel Flow Rates for each of the following sources: S-1 and S-2 combined, S-3 and S-4 combined, and S-5.
 - (b) Oxygen (O₂) Concentrations, Nitrogen Oxides (NO_x) Concentrations, and Carbon Monoxide (CO) Concentrations at each of the following exhaust points: P-1, P-2 and P-3.
 - (c) Ammonia injection rate at A-1 and A-3 SCR Systems

The owner/operator shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the owner/operator shall calculate and record the total Firing Hours, the average hourly Fuel Flow Rates, and pollutant emission concentrations.

The owner/operator shall use the parameters measured above and District-approved calculation methods to calculate the following parameters:

- (d) Heat Input Rate for each of the following sources: S-1 and S-2 combined, S-3 and S-4 combined, and S-5.
- (e) Corrected NO_x concentrations, NO_x mass emissions (as NO₂), corrected CO concentrations, and CO mass emissions at each of the following exhaust points: P-1, P-2, and P-3.

For each source, source grouping, or exhaust point, the owner/operator shall record the parameters specified in parts 35(d) and 35(e) at least once every 15 minutes (excluding normal calibration periods). As specified below, the owner/operator shall calculate and record the following data:

- (f) total Heat Input Rate for every clock hour and the average hourly Heat Input Rate for every rolling 3-hour period.
- (g) on an hourly basis, the cumulative total Heat Input Rate for each calendar day for the following: each Gas Turbine and associated HRSG combined, the Auxiliary Boiler, and all five sources (S-1, S-2, S-3, S-4, and S-5) combined.
- (h) the average NO_x mass emissions (as NO₂), CO mass emissions, and corrected NO_x and CO emission concentrations for every clock hour and for every rolling 3-hour period.
- (i) on an hourly basis, the cumulative total NO_x mass emissions (as NO₂) and the cumulative total CO mass emissions, for each calendar day for the following: each Gas

- Turbine and associated HRSG combined, the Auxiliary Boiler, and all five sources (S-1, S-2, S-3, S-4, and S-5) combined.
- (j) For each calendar day, the average hourly Heat Input Rates, Corrected NO_x emission concentrations, NO_x mass emissions (as NO₂), corrected CO emission concentrations, and CO mass emissions for each Gas Turbine and associated HRSG combined and the Auxiliary Boiler.
 - (k) on a daily basis, the cumulative total NO_x mass emissions (as NO₂) and cumulative total CO mass emissions, for each calendar year for all five sources (S-1, S-2, S-3, S-4, and S-5) combined.

(1-520.1, 9-9-501, BACT, Offsets, NSPS, PSD, Cumulative Increase, 40 CFR Part 64)

The condition regulating the diesel fire pump (S-6) was changed from 19399 to 22851 in order to meet the requirements of the Air Toxics Control Measure for stationary diesel engines.

COND# 22851 -----

1. Operating for reliability-related activities is limited to no more than 34 hours per year per engine which is the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25. This emergency fire pump is subject to the current National Fire Protection Association (NFPA) 25 - "Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems."

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations]

2. The owner or operator shall operate each emergency standby engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, state or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating while mitigating emergency conditions or while emission testing to show compliance with District, state or Federal emission limits is not limited.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(B)(3)]

3. The owner/operator shall operate each emergency standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that

measures the hours of operation for the engine is installed, operated and properly maintained.

[Basis:"Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations,subsection(e)(4)(G)(1)]

4. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Title V Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.
 - a. Hours of operation for reliability-related activities (maintenance and testing).
 - b. Hours of operation for emission testing to show compliance with emission limits.
 - c. Hours of operation (emergency).
 - d. For each emergency, the nature of the emergency condition.
 - e. Fuel usage for each engine(s).

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(I), (or, Regulation 2-6-501)]

5. At School and Near-School Operation:

If the emergency standby engine is located on school grounds or within 500 feet of any school grounds, the following requirements shall apply:
The owner or operator shall not operate each stationary emergency standby diesel-fueled engine for non-emergency use, including maintenance and testing, during the following periods:

 - a. Whenever there is a school sponsored activity (if the engine is located on school grounds)
 - b. Between 7:30 a.m. and 3:30 p.m. on days when school is in session. "School" or "School Grounds" means any public or private school used for the purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in a private home(s). "School" or "School Grounds" includes any building or structure, playground, athletic field,

or other areas of school property but does not include unimproved school property.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(1)] or (e)(2)(B)(2)]

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. Table VII B through D were combined with Table VII-A for the gas turbines and heat recovery steam generators since all of these sources are identical with similar applicable requirements and exhaust through a common stack.

Table VII-A Applicable Limits and Monitoring Requirements for the gas turbines and heat recovery steam generators were revised as shown below:

Action	Title/Description
Added BAAQMD Regulation 9-9-301.2	Gas Turbine Regulation
Added SIP Version of Regulation 9-9-301.3	Gas Turbine Regulation
Updated reference to NSPS Subpart Da NO _x limit to NSPS 40 CFR 60.44Da(a)(1)	New Source Performance Standard for Electric Utility Steam Generating Units
Updated numerical limit for NSPS 40 CFR 60.332(a)(1) from 100 ppm to 75 ppm	New Source Performance Standards for Stationary Gas Turbines
Added reference to NO _x concentration limit in Condition 16676 part 21a.	District Condition monitored by CEM.
Added reference to CO mass limit in Condition 16676 part 21c.	District Condition monitored by CEM.
Added reference to CO lb/MMBtu limit in Condition 16676 part 21c.	District Condition monitored by CEM.
Added reference to CO concentration in Condition 16676 part 21d.	District Condition monitored by CEM.
Updated reference to Subpart GG SO ₂ limit to 40 CFR 60.333 (Turbine Only) and monitoring requirement to 40 CFR 60.334(h)(3)	New Source Performance Standards for Stationary Gas Turbines
Added Regulation 6 Rule 1 requirements to Table	General Particulate Emissions
Updated SIP reference for Regulation 6 requirements	General Particulate Emissions
Updated reference to NSPS Subpart Da PM limit to NSPS 40 CFR 60.42Da(a)(1) and Opacity limit to NSPS 40 CFR 60.44Da(b)	New Source Performance Standard for Electric Utility Steam Generating Units

Table VII-B Applicable Limits and Monitoring Requirements for the auxiliary boiler were revised as shown below:

Action	Title/Description
Updated references to BAAQMD Regulation 9, Rule 7	Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters
Added SIP Versions of Regulation 9, Rule 7	Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters
Updated monitoring reference for NSPS Subpart 60.44b(a)(4)	40 CFR Part 60 STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES Subpart Da—Standards of Performance for Electric Utility Steam Generating Units
Removed reference to Condition 16676 part 12 since it has been removed from the District permit.	District Commissioning Condition
Added Regulation 6 Rule 1 requirements to Table	General Particulate Emissions
Updated SIP reference for Regulation 6 requirements	General Particulate Emissions

Table VII-C Applicable Limits and Monitoring Requirements were for the fire pump diesel engine revised as shown below:

Action	Title/Description
Added Regulation 6 Rule 1 requirements to Table	General Particulate Emissions
Updated SIP reference for Regulation 6 requirements	
Added Regulation 9 Rule 8 requirements to Table	Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines
Removed reference to Condition No. 19939	
Added reference to Condition No. 22830	

Table VII-D Applicable Limits and Monitoring Requirements for the natural gas fired engine generator were added to the permit as shown below:

Action	Title/Description
Added Regulation 6 Rule 1 requirements to Table	General Particulate Emissions
Updated SIP reference for Regulation 6 requirements	
Removed 9, Rule 1, Section 304 Fuel Sulfur Limit for Liquid and Solid Fuels	
Added Regulation 9, Rule 8 requirements to Table	Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines
Added SIP Version of Regulation 9, Rule 8 requirements	
Added reference to Condition No. 21597	

Table VII-E Applicable Limits and Monitoring Requirements for the cooling tower were revised as shown below:

Action	Title/Description
Added Regulation 6 Rule 1 requirements to Table	General Particulate Emissions
Updated SIP reference for Regulation 6 requirements	

Additional Monitoring Determinations

The tables below contain only the limits for which there is no monitoring or potentially inadequate 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.

SO₂ Sources

# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1, S-3 Gas Turbines, S-2, S-4 HRSGs, S-5 Auxiliary Boiler, S-6 Diesel Fire Pump, S-7 Natural Gas Fired Emergency Generator	BAAQMD 9-1-301	Ground level concentrations of SO ₂ shall not exceed: 0.5 ppm for 3 consecutive minutes AND 0.25 ppm averaged over 60 consecutive minutes AND 0.05 ppm averaged over 24 hours	None
S-1, S-3 Gas Turbines, S-2, S-4 HRSGs, S-5 Auxiliary Boiler, S-7 Natural Gas Fired Emergency Generator	BAAQMD 9-1-302	300 ppm (dry)	None

SO₂ Discussion:

BAAQMD Regulation 9-1-301

Area monitoring to demonstrate compliance with the ground level SO₂ concentration requirements of Regulation 9-1-301 is at the discretion of the APCO (per BAAQMD Regulation 9-1-501). This facility does not have equipment that emits large amounts of SO₂ and therefore is not required to have ground level monitoring by the APCO.

All facility combustion sources are subject to the SO₂ emission limitations in District Regulation 9, Rule 1 (ground-level concentration and emission point concentration). In EPA's June 24, 1999 agreement with CAPCOA and ARB, "Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", EPA has agreed that natural-gas-fired combustion sources do not need additional monitoring to verify compliance with Regulation 9, Rule 1, since violations of the regulation are unlikely. Therefore, no monitoring is necessary for this requirement.

PM Sources

# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1, S-3 Gas Turbines, S-2, S-4, HRSGs, S-5 Auxiliary Boiler, S-8 Cooling Tower	BAAQMD Regulation 6-1-301	Ringelmann 1.0	None
S-1, S-3 Gas Turbines, S-2, S-4, HRSGs, S-5 Auxiliary Boiler, S-8 Cooling Tower	SIP Regulation 6-301	Ringelmann 1.0	None

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-6 Fire Pump Diesel Engine, S-7 Natural Gas Fired Emergency Generator	BAAQMD Regulation 6-1-303.1	< Ringelmann No. 2, except for no more than 3 minutes in any hour	None
S-6 Fire Pump Diesel Engine, S-7 Natural Gas Fired Emergency Generator	SIP Regulation 6-303.1	< Ringelmann No. 2, except for no more than 3 minutes in any hour	None
S-2, S-4, HRSGs, S-5 Auxiliary Boiler	BAAQMD Regulation 6-1-304 Tube Cleaning	< Ringelmann 2.0, except for 3 min/hour	None
S-2, S-4, HRSGs, S-5 Auxiliary Boiler	SIP Regulation 6-304 Tube Cleaning	< Ringelmann 2.0, except for 3 min/hour	None
S-1, S-3 Gas Turbines, S-2, S-4, HRSGs, S-5 Auxiliary Boiler, S-6 Fire Pump Diesel Engine, S-7 Natural Gas Fired Emergency Generator, S-8 Cooling Tower	BAAQMD Regulation 6-1-310	0.15 gr/dscf	None
S-1, S-3 Gas Turbines, S-2, S-4, HRSGs, S-5 Auxiliary Boiler, S-6 Fire Pump Diesel Engine, S-7 Natural Gas Fired Emergency Generator, S-8 Cooling Tower	SIP Regulation 6-310	0.15 gr/dscf	None
S-2, S-4, HRSGs, S-5 Auxiliary Boiler	BAAQMD Regulation 6-1-310.3	0.15 gr/dscf @ 6%O ₂	None
S-2, S-4, HRSGs, S-5 Auxiliary Boiler	SIP Regulation 6-310.3	0.15 gr/dscf @ 6%O ₂	None
S-1, S-3, S-5 Gas Turbines, S-2, S-4, S-6 HRSGs, S-9 Cooling Tower, S-10 Fire Pump Diesel Engine	NSPS 40 CFR 60.42Da(a)(1)	0.03 lb/MMBtu	None

PM Discussion:

BAAQMD Regulation 6, Rule 1 “Particulate Matter and Visible Emissions”

Visible Emissions, 6-1-301, 6-1-303.1, 6-1-304

BAAQMD Regulation 6, Rule 1 requirements limit visible emissions from these sources. Visible emissions are normally not associated with combustion of gaseous fuels, such as natural gas. Sources S-1, S-3 Gas Turbines and S-2, S-4 HRSGs burn natural gas exclusively; therefore, per the EPA's June 24, 1999 agreement with CAPCOA and ARB titled "Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", no monitoring is required to ensure compliance with these limits for these sources. S-7 the natural gas fired emergency standby generator is also exclusively fired on natural gas and no monitoring is required for the BAAQMD Regulation 6, Rule 1 visible emission limits.

S-8 Cooling Tower is not expected to emit visible particulate emissions. Therefore, no monitoring is required to ensure compliance with Regulation 6-1-301 for this source.

S-2, S-4, and S-5 are subject to BAAQMD Regulation 6-1-304 Tube Cleaning that requires during tube cleaning, and except for three minutes in any one hour, a person shall not emit from any heat transfer operation using fuel at a rate of not less than 148 GJ (140 million BTU) per hour, a visible emission as dark or darker than No. 2 on the Ringelmann Chart. Tube cleaning of sources does not normally create any visible emissions and no monitoring is required during these periods since all of these sources are fired on natural gas.

EPA's June 24, 1999 agreement with CAPCOA and ARB entitled "Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP" states that no monitoring will be required for opacity for diesel standby and emergency reciprocating engines if California diesel or other low-sulfur fuels are used. The reason is that the use of low-sulfur fuels reduces particulates. Also, these engines are used infrequently and therefore, are not large sources of particulate emissions. Because the S-6 Fire Pump Diesel Engine will utilize “California” diesel fuel, no monitoring is required to ensure compliance with the visible emissions limitation of Regulation 6-1-303.1.

Particulate Weight Limitation

BAAQMD Regulation 6-1-310 (6-310 SIP) limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. This is a “grain loading” standard.

Exceedances of the grain loading standards are normally not associated with combustion of gaseous fuels, such as natural gas. Sources S-1, S-3 Gas Turbines and S-2, S-4 HRSGs burn natural gas exclusively as does S-7 Emergency Standby Generator, therefore, per the EPA's July 2001 agreement with CAPCOA and ARB entitled "CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources: Summary of

Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", no monitoring is required to ensure compliance with this limit for these sources.

The grain loading from the S-8 Cooling Tower is expected to be much less than 0.15 grains per dscf. Therefore, no monitoring is required to ensure compliance with this limit for this source.

EPA's July 2001 agreement with CAPCOA and ARB entitled "CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources: Summary of Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP", proposes the following monitoring for the grain loading standard for non-utility distillate-oil-fueled emergency piston-type IC Engines: Maintain records of all engine usage (such as time or fuel meter readings) and maintenance. S-6 Fire Pump Diesel Engine is subject to such monitoring.

Particulate Mass per Unit Fuel Fired

BAAQMD Condition No. 16676 Part 21h limits the PM₁₀ (all PM is expected to be PM₁₀) to 9 lb/hour and this corresponds to 0.0040 lb/MMBtu. The BACT permit limit is an order of magnitude lower than the NSPS Standard in 40 CFR 60.42Da(a)(1) and no ongoing monitoring is required to demonstrate compliance with this limit. The gas turbines and HRSGs are required to be source tested on an annual basis for PM₁₀.

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.

The proposed Renewal Application does not change this section of the permit.

IX. Acid Rain

The Acid Rain permit is incorporated into the Title V permit in this section. The effective dates of the Acid Rain permit have been revised from January 2011 through January 2016.

X. Permit Shield

The proposed Renewal Application eliminated the permit shields that were in effect for the facility. One of the previous permit shields subsumed a NO_x limit in 40 CFR 60 Subpart Da. Permit shields may only be granted for monitoring, reporting and recordkeeping requirements. The other two previous permit shields were for NO_x CEM requirements in Federal regulations.

The gas turbines/HRSGs and the auxiliary boiler all have CEMs installed and these shields are not necessary.

XI. Revision History

This section details the revision history of the facility's Title V permit.

Changes to permit:

The renewal permit contains the following updated information regarding the application for renewal:

- | | |
|---------------------------------------|---------------|
| Title V Renewal Application No. 14296 | January, 2011 |
|---------------------------------------|---------------|
- Purpose: update Title V permit to agree with District Permit.
- Added Standard Condition Text for I.B.1 and I.B.12.
 - Updated regulatory requirements in Table III applicable requirements.
 - Combined Table IV-B through D with Table IV-A for the gas turbines and the heat recovery steam generators.
 - Updated regulatory requirements in Table IV for the gas turbines and HRSGs.
 - Change Permit Condition for S-6 Diesel Fire Pump from Condition No. 19399 to Condition No. 22830.

XII. Glossary

No changes were made to this section.

XIII Title IV Permit Application

The Acid Rain permit application for the facility is part of the Title V permit and is included here.

D. Alternate Operating Scenarios

No alternate operating scenario has been requested for this facility.

E. Compliance Status

A review of compliance record office memorandum from the Director of Compliance and Enforcement, to the Director of Permit Services, presents a review of the compliance record of Los Medanos Energy Center (Site #: B1866). The Compliance and Enforcement Division staff has reviewed the records for Los Medanos Energy Center for the period between 9/1/01 through 2/9/11. This review was initiated as part of the District evaluation of an application by Los Medanos Energy Center for a Title V permit. During the period subject to review, activities known to the District include:

Permit Evaluation and Statement of Basis: Site B1866, Los Medanos Energy Center, LLC, 750 East Third Street, Pittsburg, CA 94565

- Please see the review of compliance record dated May 7, 2010 for a summary of Notice of Violations received by the facility.
- The District did not receive any alleged complaints.
- The facility is not operating under a Variance or an Order of Abatement from the District Board.

The owner certified that all equipment was operating in compliance on March 2, 2006. No ongoing non-compliance issues have been identified to date.

APPENDIX A

Glossary

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The rule or regulation that gives the District authority to impose requirements

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CAPCOA

California Air Pollution Control Officers Association

CEQA

California Environmental Quality Act

CFR

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

CO

Carbon Monoxide

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). Cumulative increase is used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District regulations.

Federally Enforceable, FE

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (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.

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.

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.

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.

MOP

The District's Manual of Procedures.

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)

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.)

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, NO_x, 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

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.

SIP

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

SO₂

Sulfur dioxide

THC

Total Hydrocarbons (NMHC + Methane)

Title V

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

TOC

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

TPH

Total Petroleum Hydrocarbons

TRMP

Toxic Risk Management Plan

TSP

Total Suspended Particulate

VOC

Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m ²	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet

ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year

APPENDIX B

BAAQMD Compliance Report

4/28/11

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

May 1, 2011

TO: BRIAN BATEMAN – DIRECTOR OF ENGINEERING ^{BB}
FROM: KELLY WEE – DIRECTOR OF ENFORCEMENT
SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

LOS MEDANOS ENERGY CENTER, LLC; SITE #B1866

Background

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

LMEC is a power generation facility using gas turbines and Heat Recovery Steam Generators as well as an auxiliary boiler when needed. Continuous Emission Monitors are in place to measure applicable pollutants.

Compliance Review

1. Violation History

Staff reviewed LOS MEDANOS ENERGY CENTER, LLC Annual Compliance Certifications from its initial permit period between 9/1/01 to 8/31/06 and found no ongoing non-compliance and no recurring pattern of violations. All of the listed NOV's (Notices of Violations) were single day occurrences and compliance was achieved the same day. During this period LOS MEDANOS ENERGY CENTER, LLC activities known to the District were 17 violations including the following:

NOV#	Regulation	Date Occur	# of Days	Comments	Disposition
A11179	2-1-307	8/19/01	1	Source test failure	Cancelled
A11180	2-1-307	8/19/01	1	Source test failure	Cancelled
A11181	2-1-307	8/13/01	1	Excess NOx	Resolved
A11188	2-6-502	10/31/01	1	Incorrect Title V report	Resolved
A11193	2-1-307	5/15/02	1	Excess NOx	Resolved
A44209	2-1-307	8/24/02	1	Excess NOx	Resolved
A44210	2-6-307	1/5/02	1	Failure to submit plan	Resolved
A44219	2-6-307	11/20/02	1	Excess NOx	Resolved
A44225	1-522.7	3/1/03	1	Excess not reported	Resolved
A45006	2-6-307	5/20/03	1	Excess NOx	Cancelled
A45007	2-6-307	06/28/03	1	Excess NH3	Resolved
A45013	1-522.4	7/28/03	1	Failure to report inop. monitor	Cancelled
A45015	2-6-307	6/20/03	1	Excess NH3	Cancelled
A45016	2-6-307	6/23/03	1	Excess NH3	Cancelled
A47855	2-6-307	3/3/06	1	Sampling > 30 days	Resolved
A47579	2-6-307	3/25/05	1	Excess CO	Resolved
A47859	2-6-307	11-3-05	1	No daily calibration	Resolved

Staff also reviewed the District compliance records for LOS MEDANOS ENERGY CENTER, LLC during the period between **9/1/06 through 5/1/11**. During this period LOS MEDANOS ENERGY CENTER, LLC was found not to have any ongoing non-compliance issues or any recurring pattern of violations. Activities known to the District were the following:

2 District-issued Notices of Violation:

NOV#	Regulation	Date Occur	# of Days	Comments	Disposition
A46823	2-6-307	11/13/06	1	Excess NOx	Resolved
A50405	2-6-307	1/20/10	1	Excess NOx	Pending

2. Complaint History

The District did not receive any air pollution complaints alleging LOS MEDANOS ENERGY CENTER, LLC as the source over the period of the initial permit period or thereafter.

3. Reportable Compliance Activity

Reportable Compliance Activity (RCA), also known as "Episode" reporting, is the reporting of compliance activities involving a facility as outlined in District Regulations and State Law. Reporting covers breakdown requests, indicated monitor excesses, pressure relief device releases, inoperative monitor reports and flare monitoring.

Within the initial permit period, 9/1/01-8/31/06, the District received 72 notifications for RCA's. 9 NOV's were issued as a result of these RCA's.

Between 9/1/06 and 5/1/11, the District received 9 more notifications for RCA's, resulting in 2 NOV's being issued.

4. Enforcement Agreements, Variances, or Abatement Orders

There were no enforcement agreements, variances, or abatement orders for LOS MEDANOS ENERGY CENTER, LLC over the period of the initial permit period or thereafter.

Conclusion

Following its review of all available facility and District compliance records from the date of issuance of LMEC's initial Title V permit until the present (9/1/01 to 5/1/11), the District's Compliance and Enforcement Division has determined that, LMEC was in intermittent compliance from the initial permit period through the present. However, LMEC has demonstrated no evidence of ongoing noncompliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule for this facility.

Based on this review and analysis of all the violations for the 5 -year period, and the period thereafter, the District has concluded that no schedule of compliance or change in permit terms is necessary beyond what is already contained in the facility's current Title V permit.

Msb 5/1/11