Bay Area Air Quality Management District

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Permit Evaluation
and
Statement of Basis
for
RENEWAL of

MAJOR FACILITY REVIEW PERMIT

for

Mirant Potrero, LLC
Facility #A0026

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Permit Evaluation/Statement of Basis for Renewal of Major Facility Review Permit

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a Phase II Acid Rain facility as defined by BAAQMD Regulation 2-6-217 and because it is a "major facility" as defined by BAAQMD Regulation 2-6-212. It is an Acid Rain facility because it burns fossil fuel and serves a generator that is over 25 MW that is used to generate electricity for sale. It is a "major facility" because it emits 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 and distillate oil 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 NOx, CO, CO2, and SO2, and stringent recordkeeping and reporting.

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 A0026.

This facility received its initial Major Facility Review permit on September 14, 1998. The initial Title IV permit, which was incorporated into the Major Facility Review V permit, was effective on January 1, 1998. This application is for a renewal of the Title IV and Title V permits. The standard sections of the permit have been upgraded to include new standard language used in all Title V permits. Also, various other corrections have been made to the permit.

The responsible official, secondary responsible official, and facility contact have changed.

All revisions are described below in the permit content section. The proposed permit shows all changes to the permit in strikeout/underline format.

The facility has submitted 11 applications since the Major Facility Review permit was issued on September 14, 1998. Following is a list of the applications:

Application #	Description	Date of Receipt
1355	Potrero Unit 7	6/1/00
6441	Title IV Permit Renewal	9/25/02
6473	Banking: IERC	4/15/03
7069	Banking: IERC	2/18/03
7181	Title V Permit Renewal	3/14/03
7951	Cooling Tower	7/25/03
8260	Alternative Compliance Plan	9/12/03
8446	Boiler SCR Retrofit	10/16/03
19319	Modification	1/8/99
19629	Modification	2/22/99
22441	Banking: IERC	4/16/99

Applications 6441 and 7181 are for renewal of the Title IV and V permits, which is the subject of this action.

Application 1355 is for a combined cycle power plant addition. Application 7951 adds a cooling tower to the proposed combined cycle power plant. Both these applications are on hold since the California Energy Commission has suspended certification proceedings for the combined cycle power plant until November 15, 2004.

Applications 6473, 7069 and 22441 were submitted for the purpose of generating interchangeable emission reduction credits (IERC) in accordance with BAAQMD Regulation 2, Rule 9. Application 7069 was cancelled and the IERCs generated under application 22441 were surrendered without use. These credits were generated for the purpose of compliance with the non-SIP parts of BAAQMD Regulation 9, Rule 11. There are no permit conditions associated with generation of these credits; therefore, there is not a direct impact on the permit. Application 8260 was submitted for the use of IERC's and does have a direct impact on the permit.

Application 8260 is for an "alternative compliance plan" in accordance with BAAQMD Regulation 2, Rule 9, Interchangeable Emission Reduction Credits. The alternative compliance plan is contained in permit condition 21294 and is used for compliance with the non-SIP parts of BAAQMD Regulation 9, Rule 11. This application is contained in Appendix B to this permit evaluation/statement of basis.

Permit application number 8446 is for the addition of a SCR unit to the one 2,150 MMbtu/hr boiler that generates steam. The addition of the SCR unit will be included in a future revision to the Major Facility Review permit.

Application 19319 was submitted for combustion modifications at S1, Boiler, to enable the unit to comply with BAAQMD Regulation 9, Rule 11. The modifications were: replacement of gas

burner tips, improving the flue gas recirculation system, partitioning of the windboxes, adding additional over fire air at boiler corners and improving over fire air distribution, and altering boiler convective pass heat transfer surfaces. No additional permit conditions were required because the unit has continuous emissions monitors for NOx and CO.

Application 19629 was submitted for the purpose of incorporating the non-SIP parts of BAAQMD Regulation 9, Rule 11 into permit conditions. This revision was necessary because the facility was no longer subject to the regulation due to a change in the definition of CPUC-regulation public utilities. The rule was amended on May 17, 2000, to make the rule applicable to any "electric power generating steam boilers." Since the permit conditions are no longer necessary, they are being deleted as part of this renewal.

B. Facility Description

The facility is a power plant. It has one 2,150 mmbtu/hr boiler that generates steam. The steam is used to turn a steam turbine to generate electricity. The boiler has a permit to burn natural gas and fuel oil. The facility also has six 26 MW, approximately 400 MMbtu/hr input, gas turbines that have permits to burn distillate oil. These turbines each run less than 877 hours/yr pursuant to District Regulation 9-9-302.

The facility also has miscellaneous maintenance sources.

There has also been a significant reduction in NOx emissions at S1, Boiler, due to the impact of BAAQMD Regulation 9, Rule 11, Nitrogen Oxides and Carbon Monoxide From Utility Electric Power Generating Boilers. The actual NOx emissions have dropped from 591 tons/yr in 1998 to 245 tons/yr in 2003.

The reduction in emissions on a facility-wide basis, based on emissions approved for Permits to Operate in 1998 and 2003 is:

Pollutant	tons/yr
NOX	482
CO	22
SO2	194
VOC	5
PM	18

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 certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6,

Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

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

Changes to permit:

- The rule dates in Section I.A have been updated.
- BAAQMD Regulation 2, Rule 6, Major Facility Review, has been added to Standard Condition I.A.
- Standard condition I.B.1 has been amended to state that the permit continues in force after the expiration date if a complete application has been submitted in accordance with the renewal deadlines. This is the "application shield" pursuant to BAAQMD Regulation 2-6-407.
- Standard condition I.B.11 has been added in accordance with the Manual of Procedures, Chapter 3, as revised on May 2, 2001.
- Standard condition I.E.1 has been added to require any information, records, and reports requested or specified by the APCO.
- Standard Conditions I.F, I.G, and I.H were modified to conform to the current standard.
- The monitoring report and compliance certification dates in Standard Conditions I.F and I.G have been changed.
- Standard Condition I.J has been changed to Standard Condition I.L so that the acid rain standard conditions for all acid rain sources in the Bay Area are in Standard Condition I.L.
- Standard Condition I.J has been added to clarify that the capacity limits shown in Table II-A are enforceable limits.
- Standard Condition I.K has been added since the facility will become subject to 40 CFR 68, Chemical Accident Prevention Provisions, if it constructs an ammonia hydroxide solution storage tank as planned. The purpose of the ammonia hydroxide is for use in a selective catalytic control device (SCR) for NOx control. SCR will be necessary for compliance with the 2005 NOx limit in BAAQMD Regulation 9, Rule 11, Nitrogen Oxides and Carbon Monoxide From Utility Electric Power Generating Boilers.
- Standard Condition I.L has been modified to show that the facility only has one boiler.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24).

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

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210, per year.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24).

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

Each of the permitted sources has previously been issued an authority to construct or a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations.

Changes to permit:
Standard language has been added to this section stating that the capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

The capacity in MMbtu/hr has been added to Sources S10 through S15, Turbines, and their maximum output in MW has been increased to 28 MW based on historical data. The initially proposed 26 MW limit was described by the previous owner, PG&E, in an information submittal in 1977. The higher limit is supported by source test data for operation at 28 to 31 MW in 1985.

Following are explanations of the differences in the equipment list between the time that the facility originally applied for a Title V permit and the permit proposal date:

Sources S25 and S30, Diesel Fire Pump Engines, have been added to the equipment list. These sources were previously exempt from permit requirements but became subject to a permit to operate in 2001 due to a change in permit exemptions. The permit status was changed without a permit application.

The wipe-cleaning source, Source 51, has been removed from the equipment list. S51 will operate as an exempt source according to Mirant Potrero, LLC, so mention of the source has been removed from the permit. The source will be exempt pursuant to BAAQMD Regulation 2-1-118.9 because the facility will use less than 20 gallons of solvent/year for wipe cleaning.

District permit applications not included in this proposed permit:
Permit application number 1355 is for a combined cycle power plant addition. Permit application number 7951 adds a cooling tower to the proposed combined cycle power plant. Both these applications are on hold since the California Energy Commission has suspended certification proceedings for the combined cycle power plant until November 15, 2004. The combined cycle power plant will be included in a future revision to the Major Facility Review permit if the applicant desires to proceed and obtains an Authority to Construct.
Permit application number 8446 is for the addition of a SCR unit to the one 2,150 MMbtu/hr boiler that generates steam. The addition of the SCR unit will be included in a future revision to the Major Facility Review permit.

Corrections to Devices Shown in Application:
The citations in Table II-B for A-52, Dust Collector have been modified. The abatement device is subject to BAAQMD Regulations 6-301, 6-310, and Condition 7512. The 0.002 gr/dscf standard in Condition 7512 has been deleted from the "Operating Parameters" column because it is not an operating parameter. It has been retained in the "Required Efficiency" column.

III. Generally Applicable Requirements

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

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Major Facility Review permit if they are considered ***significant sources*** pursuant to the definition in BAAQMD Rule 2-6-239.

Changes to permit:
Language has been added to Section III to clarify that this section contains requirements that may apply to temporary sources. This provision allows contractors that have "portable" equipment permits that require them to comply with all applicable requirements to work at the facility on a temporary basis, even if the permit does not specifically list the temporary source. Examples are temporary sandblasting or soil-vapor extraction equipment.

Section III has been modified to say that SIP standards are now found on EPA's website and are not included as part of the permit.

The note regarding SIP information from the Rule Development Section has been deleted since the SIP standards are now found on EPA's website.

Table III has been updated by adding the following rules and standards to conform to current practice:

- BAAQMD Regulation 2, Rule 1, General Requirements
- BAAQMD 2-1-429, Federal Emissions Statement
- SIP Regulation 2, Rule 1, General Requirements
- SIP Regulation 5, Open Burning
- SIP Regulation 8, Rule 3, Architectural Coating
- BAAQMD Regulation 8, Rule 40, Aeration of Contaminated Soil and Removal of Underground Storage Tanks
- BAAQMD Regulation 8, Rule 47, Air Stripping and Soil Vapor Extraction Operations
- SIP Regulation 8, Rule 51, Adhesive and Sealant Products

- California Health and Safety Code Section 44300 et seq., Air Toxics "Hot Spots" Information and Assessment Act of 1987

BAAQMD Regulation 8, Rule 16, Solvent Cleaning Operations, has been added to Table III because the table must contain any requirements that apply to exempt sources. This rule applies to the exempt wipe cleaning source.

The dates of adoption or approval of the rules and their "federal enforceability" status in Table III have also been updated.

IV. Source-Specific Applicable Requirements

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

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

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

Complex Applicability Determinations

The facility is not subject to 112(j) of the Clean Air Act because it is not a major source of hazardous air pollutants.

S1, Boiler

The boiler is subject to the Acid Rain program contained in 40 CFR Parts 72 through 78 because it is a utility unit as defined in 40 CFR 72.2.

S10-S15, Turbines

The turbines are not subject to the Acid Rain program contained in 40 CFR Parts 72 through 78 because they are simple combustion turbines that commenced commercial operation before November 15, 1990, and are thus exempted by 40 CFR 72.6(1).

The turbines are subject to 40 CFR 68, Compliance Assurance Monitoring, because the turbines have a potential to emit more than 100 tons NOx per year before control by water injection and water injection is considered a control method by the regulation. The compliance assurance monitoring plan is contained in BAAQMD Condition #15816.

Since the NOx emissions after control are less than 100 tons per year, the frequency of monitoring will continue to be daily in accordance with 40 CFR 64.3(b)(4)(iii).

With the Major Facility Review permit application, the applicant requested that opacity monitoring for S1, Boiler, not be required when firing the boiler on natural gas. Since the opacity meter was required due to the potential firing of a non-gaseous fuel, the opacity meter is still required.

Changes to permit:
Section IV has been modified to say that SIP standards are now found on EPA's website and are not included as part of the permit.

The dates of adoption or approval of the rules and their "federal enforceability" status have been updated.

A "Facility" table has been added that contains the requirements of BAAQMD Regulation 2, Rule 9, Interchangeable Emission Reduction Credits (IERC). The facility will use the IERCs to comply with the non-federally enforceable requirements in BAAQMD Regulation 9, Rule 11, Nitrogen Oxides and Carbon Monoxide From Utility Electric Power Generating Boilers. A discussion of Regulation 2, Rule 9, and Regulation 9, Rule 11, and the applicable requirements is contained in the evaluation for Application 8260, which is contained in Appendix B and forms part of this Statement of basis.

S1, Utility Boiler
Changes have been made to the citations for BAAQMD Regulation 1 because the SIP version has changed.

The citation of BAAQMD Regulation 6-401 has been revised because it does not apply to gas fired heat transfer operations regulated by Section 6-301. The requirement only applies during the burning of fuel oil.

Changes have been made to the citations for BAAQMD Regulation 9, Rule 11 because the rule has changed, applicability of parts of the rule relate to time periods in the part, and portions of the rule have been adopted into the SIP. In particular, BAAQMD 9-11-303 and 304 no longer apply to the boiler because the facility is using the BAAQMD 9-11-309 Alternative Emission Control Plan. Since there is no parallel requirement in the SIP rule, SIP 9-11-304 applies to the boiler.

Parts 1 through 14 of Condition 16328 have been deleted. The District imposed these conditions in 1999 pursuant to Application 19629 because Regulation 9, Rule 11 no longer applied to the facility due to a change to the definition of utility by the Public Utilities Commission. Condition 16328 was equivalent to Regulation 9, Rule 11. The rule was amended on May 17, 2000, and now applies to any electric power generating steam boiler. The condition explicitly stated that the condition would be rescinded when the rule was amended. Since the conditions were based on the parts of the rule that were not in the State Implementation Plan, the deleted permit conditions were not federally enforceable.

Condition 16328, part 1 has been added to test the fuel oil for sulfur content or obtain adequate documentation that the sulfur content does not exceed 0.5% by weight, the limit in BAAQMD Regulation 9-1-304.

S10 to S15, Gas Turbines
New requirements for parametric monitoring in BAAQMD and SIP Regulation 1 have been added because the facility monitors the ratio of water to fuel on a daily basis. (The SIP Regulation 1-523.5 has been removed after public comment because it has not been included in the SIP.)

BAAQMD Regulation 9-1-302, General Emission Limitation, has been removed because it exempts any source that is subject to BAAQMD Regulation 9-1-304. These turbines are subject to BAAQMD Regulation 9-1-304 because they burn liquid fuel exclusively.

The basis for BAAQMD Condition 15816, which are found in the permit condition section, have been added to the citations for the condition.

As describes above under "Complex Applicability Determinations", a CAM plan has been added in BAAQMD Condition 15816. The plan is described in detail in Section C.VI of this statement of basis.

S25, S30, Diesel Fire Pumps:
The requirements for these sources have been added. These sources were previously exempt from permits and were not included in the initial Major Facility Review permit.

S50, Paint Spraying, Facility-Wide
The requirements for this source have been updated. The current District Regulation 8, Rule 3, Architectural Coatings, adopted on November 11, 2001, has been included. This rule has been approved into the SIP, so the separate SIP requirements have been deleted.

BAAQMD Regulation 8, Rule 19, Surface Coating of Miscellaneous Metal Parts and Products, has been updated. The exemption for Solid Film Lubricant, BAAQMD 8-19-123, has been added to the permit. The prohibition on using surface preparation solvent with a VOC content that exceeds 50 g/l (0.42 lbs/gal), as applied, for surface preparation of any metal part or product, in Section 8-19-321, Surface Preparation Standards, has been added. The prohibition on using emission reduction credits for compliance in Section 8-19-408 has been added.

BAAQMD Regulation 8, Rule 31, Surface Preparation and Coating of Plastic Parts and Products, had been previously cited in the Section VII for this source. The citations were omitted in error from the Section IV table and are now being added. This rule is SIP-approved.

S51, Wipe Cleaning:
All applicable requirements for Source S51 have been deleted from Section IV because this source is now exempt from permit requirements. BAAQMD and SIP Regulations 8, Rule 16, Solvent Cleaning Operations, have been added to Table III because the table must contain any requirements that apply to exempt sources.

Changes after public comment
A CAM plan has been added in BAAQMD Condition 15816. The plan is described in detail in Section C.VI of this statement of basis.

V. Schedule of Compliance

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

"409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

Changes to permit:
The phrase "on a timely basis" has been added to the Schedule of Compliance.

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance over the past year and has no records of compliance problems at this facility during the past year. The compliance report is contained in Appendix A of this Permit Evaluation and Statement of Basis.

VI. Permit Conditions

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

District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review. Permit conditions may also be derived from periodic monitoring requirements pursuant to BAAQMD Regulation 2-5-503, Monitoring.

Each permit condition is identified with a unique numerical identifier, up to five digits. Each part of the condition is also identified by a part number and each subpart is identified by a letter (for example, Condition 789, part 1a).

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

- BACT: This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This term is used for a condition imposed by the APCO that limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- TRMP: This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

Any changes to existing permit conditions are clearly shown in "strike-out/underline" format in the proposed permit. When the permit is issued, all "strike-out" language will be deleted and all "underline" language will be retained, subject to consideration of comments received.

Condition 15816

Parts 1 and 2 of BAAQMD Condition 15816 were imposed in 1998 as part of Title V issuance because there was no opacity monitoring for the fuel oil fired turbines, S10 through S15.

During the public comment period, EPA Region 9 commented that in other jurisdictions, 40 CFR 64, Compliance Assurance Monitoring (CAM), had been imposed on turbines using water injection to comply with federally-enforceable NOx limits. The District examined the issue and determined that the potential to emit for NOx before control was 157 tons per year for each turbine based on the following assumptions:

- 0.88 lb NOx/MMbtu
- 877 hours/yr (limit in BAAQMD Regulation 9-9-302)
- 2,762 gal fuel oil/hr
- 147,000 btu/gal fuel oil

Water injection is defined as a control device in 40 CFR 64.2. Based on the definition and the pre-control emissions, the District has concluded that the S10 through S15, Turbines, are subject

to this requirement. Staff communicated this applicability determination to the facility. In response, the facility approved the CAM plan on July 16, 2004.

BAAQMD Condition 15816 has been amended to include the CAM plan required by 40 CFR 64. Following are the elements of the proposed plan

- Minimum water to fuel ration of 0.55 by weight
- Continuous measurement of fuel consumption and water flow
- Accuracy of meters of plus or minus 5 percent
- Calibration of meters every two years
- Daily record of water to fuel ratio
- Monitoring for sulfur and nitrogen content of every batch delivery of fuel
- Recordkeeping for hours of operation for each turbine

This proposal is based on the example in the EPA document entitled " Draft Supplement to Compliance Assurance Monitoring Tech. Guidance Document. 12 New Case Studies." It differs in that recordkeeping will be on a daily basis, not hourly, and that the flow meters will be calibrated every two years, not every year. The District finds this plan approvable because the more rigorous plan is based on a 150-MW turbine with no limit on hours of operation, whereas this facility has two 25-MW turbines that are limited to 877 hours of operation per calendar year. Moreover, pursuant to 40 CFR 64.3(b)(4)(iii), the frequency of recordkeeping may drop to once every 24 hours if the emissions units emit less than 100 tons/yr after control.

Monitoring of water injection to determine compliance with the NOx is proper because the water injection reduces NOx by 70 to 90 percent and is the method used to comply with the 65 ppmv NOx limit in BAAQMD Regulation 9-9-302. The District has received results of tests at this facility and a facility in Oakland with similar turbines that show that the water injection rate is sufficient to meet the limit.

Since the tests submitted do not show a high margin of compliance, a requirement for source testing pursuant to 40 CFR 64.6(b) will be added. Source testing shall be performed within the first 877 hours of operation after issuance of the renewal permit or two years after issuance of the renewal permit, whichever is earlier. The reason for this extended schedule is that the turbines typically run only when required by the California Independent System Operator, so source testing may be difficult to schedule.

<u>Revisions to permit conditions:</u>
<u>Condition 6062</u>
The basis for part 3 has been corrected to "cumulative increase."

<u>Condition 15816</u>:

- The basis for part 1 has been corrected because the sources are not subject to 6-302 since they do not have opacity monitors and to correct the basis for the monitoring from Regulation
  2-6-501 to 2-6-503.

- Since NOx emissions at S10 through S15, Turbines, are controlled by water injection, a condition has been added for hourly monitoring of the water-to-fuel ratio during operation in part 3. This is parametric monitoring as described in BAAQMD Regulation 1-523.
- A requirement to monitor the sulfur content of the fuel has been added. The facility may obtain a fuel certification for each shipment or obtain a laboratory analysis of a composite sample of the sulfur content of the fuel in the tank.
- The basis for part 4 has been corrected from Regulation 9-304 to 9-1-304.
- Regulations 6-310 and 9-9-301 have been deleted from basis for Condition 15816, part 5 because they were incorrect. The correct basis is BAAQMD Regulation 9-9-302.

Condition 16328

- Parts 1 through 14 have been deleted. The deletion is explained in part C.IV of this permit evaluation/statement of basis.
- A requirement to monitor the sulfur content of the fuel oil has been added. The facility may obtain a fuel certification for each shipment or obtain a laboratory analysis of a composite sample of the sulfur content of the fuel in the tank. This provision is explained in part C.IV of this permit evaluation/statement of basis.

Condition 21294

The facility will use IERCs as defined by BAAQMD Regulation 2, Rule 9, to comply with the non-federally enforceable requirements in Regulation 9, Rule 11, Nitrogen Oxides and Carbon Monoxide From Utility Electric Power Generating Boilers. The regulation requires an Alternative Compliance Plan for use of IERCs. Condition 21294 contains the Alternative Compliance Plan. The plan is fully explained in the evaluation for Application 8260, which is included in Appendix D of this Statement of Basis.

Part 1 has been amended to allow either CO2 monitoring or O2 monitoring, since BAAQMD Regulation 1-520.1 allows both. Part 1 has also referred to “nine other sources” at other facilities and this number has been reduced to “remaining five” since four of those sources have been retired.

Changes after public comment

The CAM plan in BAAQMD Condition 15816 described above was added.

The changes to Part 1 of BAAQMD Condition 15816 described above were made.

VII. Applicable Limits and Compliance Monitoring Requirements

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

The District has reviewed all monitoring and has determined the existing monitoring is adequate with the following exception. Sources S10 through S15, Turbines, are subject to 40 CFR 68, Compliance Assurance Monitoring, because the NOx emissions at each turbine would exceed

100 tons per year without control, the turbines are subject to a federally enforceable NOx limit, and NOx emissions are controlled by water injection.

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

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

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S1, Boiler	BAAQMD Regulation 6-310.3	0.15 gr/dscf at 6% O2	None
S10 through S15, Turbines	BAAQMD Regulation 6-301	Ringelmann 1.0 for less than 3 min/hr	Daily visible emissions monitoring when operating
S25 AND S30, DIESEL FIRE PUMPS	BAAQMD Regulation 6-303	Ringelmann 2.0 for less than 3 min/hr	None
S10 through S15, Turbines	BAAQMD Regulation 6-310	0.15 gr/dscf	None
S25 AND S30, DIESEL FIRE PUMPS	BAAQMD Regulation 6-310	0.15 gr/dscf	None

PM Discussion:

BAAQMD Regulation 6 "Particulate Matter and Visible Emissions"

Visible Emissions

Daily visible emission monitoring when operating was imposed on S10 through S15, Turbines, when the Title V permit was issued in 1998. This monitoring continues to be the most rigorous visible emissions monitoring imposed on a source of this size for opacity. The potential to emit for PM for each turbine, using AP-42 factors, is:

(0.012 lb PM/MMbtu) x (2762 gallons fuel oil/hr) x (147,000 btu/gallon) x (877 hr/yr) =
4273 lb PM10/yr = 2.1 tons/yr

Particulate Weight Limitation

BAAQMD Regulation 6-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. Section 310.3 limits filterable particulate emissions from "heat transfer operations" to 0.15 gr/dscf @ 6% O_2. These are the "grain loading" standards.

S10 through S15, Turbines

S10 through S15, Turbines, are subject to BAAQMD Regulation 6-310, 0.15 gr PM /dscf. No monitoring has been imposed because the margin of compliance is high, as shown by the following calculations.

Using the AP-42 emission factor and diesel oil data, and a typical diesel oil flue gas production rate of 9190 dscf/MMbtu at 0% oxygen, the particulate grain loading in each turbine's exhaust is expected to be less than 0.01 grains/dscf at 15% oxygen.

(0.012 lb PM/MMbtu) x (7000 gr/lb) / (9190 dscf/MMbtu) = 0.009 gr/dscf

The ratio of the limit to the calculated grain loading is 16:1, therefore, no additional monitoring is necessary to assure compliance.

S1, Boiler

S1, Boiler is subject to BAAQMD Regulation 6-310.3, 0.15 gr/dscf PM @ 6% O2. No monitoring has been imposed because the margin of compliance is high, as shown by the following calculations.

The AP-42 factor for natural gas combustion is 7.6 lb/million standard cubic feet of natural gas (MMscf).

Converting to an emission factor per MMbtu:

(7.6 lb/MMscf) x (MMscf/1,050 MMbtu) = 0.00724 lb/MMbtu

The flue gas production rate for natural gas at 0% oxygen is 8,710 dscf. At 6% oxygen, the production rate is:

(20.9/20.9-6) (8710 dscf) = 12,217 dscf

The calculated particulate loading is:

(0.00724 lb PM/MMbtu) x (7000 gr/lb) / (12,217 dscf/MMbtu) = 0.004 gr/dscf

The AP-42 factor for fuel oil combustion is 7.8 lb/thousand gallons of fuel oil using a maximum allowable sulfur content of 0.5% by weight.

Converting to an emission factor per MMbtu:

(7.8 lb/1,000 gallon) x (1 gallon/0.15 MMbtu) = 0.052 lb/MMbtu

The flue gas production rate for fuel oil at 0% oxygen is approximately 9,190 dscf. At 6% oxygen, the production rate is:

(20.9/20.9-6) (9190 dscf) = 12,891 dscf

The calculated particulate loading is:

(0.052 lb PM/MMbtu) x (7000 gr/lb) / (12,891 dscf/MMbtu) = 0.028 gr/dscf

The ratio of the limit to the calculated grain loading is 37.5:1 for natural gas combustion and 5:1 for fuel oil combustion; therefore, no additional monitoring is necessary to assure compliance.

S25 and S30, Diesel Fire Pumps

In accordance with the June 24, 1999 "Periodic Monitoring Recommendations for Generally Applicable Requirements" prepared by the CAPCOA/CARB/EPA Region IX periodic monitoring workgroup, no opacity monitoring is required for diesel standby and emergency reciprocating engines. In accordance with the July 2001 "CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources," nonutility distillate-oil-fueled emergency piston-type IC engines are not required to monitor engine exhaust but must maintain records of all engine usage only.

SO_2 Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S10 through S15, Turbines S1, Boiler	BAAQMD 9-1-301	Ground level concentrations of SO2 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
S1, Boiler	BAAQMD 9-1-302 when firing natural gas	300 ppm (dry)	None
S1, Boiler	BAAQMD 9-1-304 when firing fuel oil	Sulfur content of fuel < 0.5% by weigh	Fuel certification
S10 through S15, Turbines	BAAQMD 9-1-304	Sulfur content of fuel < 0.5% by weight	Fuel certification

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. S1, Boiler, which will normally burn natural gas.

S10 through S15, Turbines, are subject to BAAQMD Regulation 9-1-304, a limit of no more than 0.5% sulfur in liquid fuels, because they burn fuel oil. S1, Boiler, is also subject to this

standard when it burns fuel oil. The standard monitoring, fuel certification, has been imposed on these sources.

Lead Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S10 through S15, Turbines S1, Boiler	BAAQMD 11-1-301	6.75 kg/day	None
S10 through S15, Turbines S1, Boiler	BAAQMD 11-1-302	1.0 g/m3 averaged over 24 hours	None

Following are detailed citations of the lead standards:

11-1-301 **Daily Limitation:** A person shall not discharge any emission of lead, or compound of lead calculated as lead, from any emission point in excess of 6.75 kg (15 lbs) per day.

11-1-302 **Ground Level Concentration Limit Without Background:** A person shall not discharge any emission of lead, or compound of lead calculated as lead, that will result in ground level concentrations in excess of 1.0 ug/m^3 averaged over 24 hours.

These limits shall be compared with the potential to emit for lead from each emission point.

Compliance with 11-1-301

The AP-42 emission factor for lead from fuel oil combustion at S10 through S15, Turbines, is 1.4×10^{-5} lb/MMbtu. Each turbine can burn 2,762 gal fuel oil/hr or 66,300 gal fuel oil/day, which is equivalent to 9,744 MMbtu/day. The maximum amount of lead that could be emitted per turbine is 0.14 lb/day or 0.06 kg/day.

The AP-42 emission factor for lead from natural gas combustion at S1, Boiler, is 0.0005 lb/MMscf of natural gas. The maximum amount of lead that could be emitted by the boiler when firing natural gas is 0.025 lb/day or 0.11 kg/day.

The AP-42 emission factor for lead from fuel oil combustion at S1, Boiler, is 1.51×10^{-3} lb/10^3 gal fuel oil. S1 can burn 14,430 gallons of fuel oil per hour. The maximum amount of lead that could be emitted by the boiler when firing fuel oil is 0.52 lb/day or 0.24 kg/day.

Since the potential to emit is at least 25 times lower than the limit, no additional monitoring is required.

Compliance with 11-1-302

The maximum lead emission levels above and the dispersion calculations prescribed in BAAQMD Regulation 11-1-601 were used to determine compliance with 11-1-302. The maximum 24-hr average ground level lead concentration caused by the facility at maximum operation is expected to be about 0.0039 micrograms/cubic meter, which in compliance with the 1.0 micrograms/cubic meter limit. The calculations are attached in Appendix A and form part of this statement of basis. Since the margin of compliance is high, no monitoring is required for this limit.

Following is a list of revisions to Section VII:

- The language at the beginning of the section has been made clearer.
- The headings at the top of the table have been changed. The "Pollutant" column has been changed to "Type of Limit" since not every limit is a pollutant limit. The first "Emission Limit" column has been changed to "Citation of Limit" since not every limit is an emission limit. The second "Emission Limit" column has been changed to "Limit" since not every limit is an emission limit and the column actually contains a short summary of the limit.
- The “type of limit” has been changed to “opacity” for Regulation 6-301.
- The “type of limit” has been changed to “FP” or “filterable particulate” for Regulation 6-310 and 6-310.3. Filterable particulate is defined as “particulate as measured by BAAQMD Method ST-15, Particulate.” This is the type of particulate that is regulated by Regulation 6-310.
- Table VII-E has been deleted because the source S51 Wipe Cleaning is now exempt from permits.
- Table VII-C has been added because the sources, S25 and S30 Diesel Fire Pumps, are no longer exempt from permits.
- Table VII-C and D were retitled VII-D and E due to the addition of the table described above.

S1, Boiler

- The description of the limit for BAAQMD 6-301 has been expanded from "Ringelmann No. 1" to "Ringelmann No. 1 for less than 3 min/hr", which is more complete.
- The description of the limit for BAAQMD 6-304 has been expanded from "Ringelmann No. 2" to "Ringelmann No. 2 or 40% opacity for less than 3 min/hr", which is more complete.
- Parts 1 through 14 of Condition 16328 have been deleted. The deletion is explained in part C.IV of this permit evaluation/statement of basis.
- Outdated limits from Regulation 9, Rule 11 have been deleted.

S10 through S15, Turbines

- The description of the limit for BAAQMD 6-301 has been expanded from "Ringelmann No. 1" to "Ringelmann No. 1 for less than 3 min/hr", which is more complete.
- The citation of Regulation 6-310.3 in Table VII-A has been corrected to Regulation 6-310. The turbines are not “heat transfer operations,” therefore the limit is no longer corrected to 6% oxygen.
- BAAQMD Condition 15816, part 5, has been deleted from the citation of the 65 ppmv NOx limit in BAAQMD Regulation 9-9-302 because it is actually an "hours of operation" limit.

- The averaging period for the limit in Regulation 9-9-302 has been removed because there is no averaging period in the rule or the Manual of Procedures. The averaging period is based on the method used to determine compliance and different methods have different test times. The EPA reference method, for example, is a series of grab samples that take about 3 seconds each. The BAAQMD method is the average of 3 one-half hour runs that can be conducted hours apart or within minutes of each other.
- The existing water-to-fuel monitoring was added in the "Monitoring Type" column.
- The 877 hours of operation limit/year is now considered a separate limit, not a NOx limit, based on BAAQMD Regulation 9-9-302 and BAAQMD Condition 15816, part 5.
- Regulation 9-1-302 has been deleted from Table VII-A because it does not apply to the turbines.
- Fuel certification has been added for BAAQMD Regulation 9-1-304.
- The citation of the limit for the water injection rate has been corrected from "Recordkeeping" to "BAAQMD Condition 15816, part 3.

S50, Maintenance Coating Operation

- The rules to which this operation is subject-Regulation 8, Rules 3, 19, and 31-have become more complex, with explicit limits for many particular types of coatings. Since the Title V permit should contain the numerical limits, the limits for the coatings that the facility is likely to use have been added to the permit. The frequency of monitoring has been changed to the frequency in the rules instead of on an "event" basis.

S51, Wipe Cleaning

- The table has been deleted because the wipe cleaning is now exempt.

S52, Abrasive Blast Facility, S53, Hopper and Cleaners, S54, Conveyor System

- The table has been revised to indicate that the existing monitoring satisfies monitoring requirements for filterable particulate limits.

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 test methods for Condition 16328 have been deleted since the relevant parts of that permit condition have been deleted.

Changes to permit

EPA Reference Method 5 (40 CFR 60, Appendix A), Determination of Particulate Emissions from Stationary Sources, has been added as an alternative method for BAAQMD Regulation 6-310.

IX. Title IV Acid Rain Permit

The Title IV Acid Rain permit is contained in the Title V permit. 40 CFR 75 requires that it contain the following elements:

a. Statement of Basis
b. SO2 allowance allocations and NOx requirements, if any.
c. Any comments, notes or justifications regarding permit decisions
d. The permit application (attached at the end of the Title V permit)

Changes to permit

The dates, name of BAAQMD Air Pollution Control Officer and Designated Representative have been changed. The note about changes to 40 CFR part 73 Tables 2, 3, and 4 has been deleted since the number of allowances allocated to the remaining boiler has not been changed.

X. Glossary

Additions and corrections have been made to the glossary.

XI. Applicable State Implementation Plan

The applicable regulations and rules from the State Implementation Plan are no longer attached to the permit. This section now states that the regulations and rules are available on EPA Region IX's website.

XII. Title IV Permit Application

The Title IV Permit Application is considered part of the Title IV permit and therefore, is attached to the permit.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Permit Shield:

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

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

This facility has no permit shields.

F. Compliance Status:

A March 8, 2004 office memorandum from the Director of Compliance and Enforcement, to the Director of Engineering, presents a review of the compliance record of Mirant Potrero, LLC, Potrero Power Plant (Site #: A0026). The Compliance and Enforcement Division staff has reviewed the records for the period from March 8, 2003 through March 8, 2004. This review was initiated as part of the District evaluation of an application by the facility for a Title V permit renewal. During the period subject to review, activities known to the District include:

- There were no Notices of Violation issued during this review period.
- 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 facility requested breakdown relief for three indicated opacity excesses and one inoperative monitor. All indicated excesses were found not to be in violation. The inoperative monitor is now online and in compliance.

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APPENDIX A

BAAQMD COMPLIANCE REPORT

APPENDIX B

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 underlying authority that allows the District 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)

NOx
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, NOx, PM10, and SO2.

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

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10
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 C

DISPERSION CALCULATIONS FOR LEAD

OFFICE MEMORANDUM

February 25, 2004

TO: Don Van Buren Via: Brian Bateman

From: Scott Lutz cc: Brenda Cabral

SUBJECT: PGE, Potrero Plant 26, REGULATION 11-1, LEAD

Regulation 11-1-302 states that a person shall not discharge any emission of lead, or compound of lead, that will result in ground level concentrations in excess of 1.0 $\mu g/m^3$, averaged over 24 hours.

Regulation 11-1-601 states that ground level emissions limited by Section 11-1-302 shall be determined by use of dispersion calculations described in the Manual of Procedures, Volume VI, Section 2, which states:

> *"Emission limitations required to meet Regulation 11-1-302 shall be determined by use of formulas 4.1 and 5.13, and figures 3-3 and 3-9, in "Workbook of Atmospheric Dispersion Estimates," by D. Bruce Turner, Public Health Service Publication No. 999-AP-26, Revised 1969, published by the U.S. Department of Health, Education and Welfare. In using said equations and figures, a neutral or "D" stability category shall be assumed, a wind shall be assumed that remains throughout the averaging period directed within a 22.5 ^{o} sector of the compass rose at an average speed of two meters per second, and an ambient air temperature of 293 K shall be assumed."*

Based on the potential to emit calculations provided, the analysis (see attached table) shows that the maximum 24-hr average ground level lead concentration caused by PGE at maximum operation is expected to be about 3.9 E-3 $\mu g/m^3$. However, six turbines exhaust through three stacks. A scenario was considered that had only three turbines operating to analyze the effect of reduced velocity. The reduced velocity creates a lower plume rise and the impact is greater for S10, S12, and S14 operating without S11, S13, and S15 than for all turbines operating at full capacity. The maximum 24-hr average ground level lead concentration caused by PGE is expected to be about 5.3 E-3 $\mu g/m^3$. Therefore, it is shown that PGE complies with Regulation 11-1-302.

Calculation of Ground Level Lead Concentration: See attached table.

Regulation 11-1-302	Plant 26	PGE	Potrero	San Francisco
	S1	S10 - S15	3 turbines	Total
1. Lead emission rates and stack parameters				
Q, g/sec	2.7E-03	3.8E-03	1.9E-03	
V_S, meters/sec	15.8	38.1	19.0	
T_S, K	383	722	722	
d, meters	3.4	3.1	3.1	
H_S, meters	91.4	9.8	9.8	
2. Calculate plume rise using formula 4.1 (Holland's Equation) in Turner's workbook:				
$\delta H = (V_S\ d/u)(1.5 + (2.68\ E\text{-}3)(p\ d)((T_S - T_A)/T_S))$ using standard/default values u = 2 m/s T_a = 293 K p = 1013 mb				
δH, meters	96	386	193	
H = Effective height of emission $H = H_S + \delta H$				
H, meters	188	396	202	
3. Determine X_{MAX} from Figure 3-9 in Turner's Workbook. assuming "D" stability as specific in the MOP and effective height, H:				
X_{MAX}, meters	8000	17000	9000	
4. Determine Vertical Dispersion Coefficient (σ_z) from Figure 3-3 in Turner's workbook assuming "D" stability and X_{MAX} from above:				
σ_z, meters	120	180	130	
5. Calculate maximum annual average (X_{AN}) and 24-hour average (X_{24}) concentrations using Formula 5.13 in Turner's Workbook				
$X_{AN} = (2.03\ E6)\ (Q/\sigma_z\ u\ X_{MAX})\ (\exp[\ -0.5\ (H/\sigma_z)^2\ ])$ X_{AN} = $\mu g/m^3$, maximum annual average $X_{24} = 4\ X_{AN}$ = $\mu g/m^3$, maximum 24-hr average				
X_{AN}, $\mu g/m^3$	8.4E-04	1.1E-04	4.9E-04	1.3E-03
X_{24}, $\mu g/m^3$	3.4E-03	4.5E-04	2.0E-03	5.3E-03

APPENDIX D

APPLICATION 8260