Bay Area Air Quality Management District

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

Proposed

MAJOR FACILITY REVIEW PERMIT

Issued To:

Gilroy Energy Center, LLC for the Riverview Energy Center Facility #B4512

Facility Address:
795 Minaker Road
Antioch CA 94509

Mailing Address:
PO Box 551
Pittsburg CA 94565

Responsible Official	**Facility Contact**
William Ferguson, General Manager	C. David Zeiger, Compliance Manager
(925) 252-2075	(925) 252-2066

Type of Facility:	Generation of Electricity	BAAQMD Permit Division Contact:
Primary SIC:	4911	Dennis Jang
Product:	Electricity	

ISSUED BY THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT

_____ _____

Jack P. Broadbent, Executive Officer/Air Pollution Control Officer Date

TABLE OF CONTENTS

I. STANDARD CONDITIONS

A. Administrative Requirements

The permit holder shall comply with all applicable requirements in the following regulations:

BAAQMD Regulation 1 - General Provisions and Definitions
(as amended by the District Board on 5/2/01);

SIP Regulation 1 - General Provisions and Definitions
(as approved by EPA through 6/28/99);

BAAQMD Regulation 2, Rule 1 - Permits, General Requirements
(as amended by the District Board on 8/1/01);

SIP Regulation 2, Rule 1 - Permits, General Requirements
(as approved by EPA through 1/26/99);

BAAQMD Regulation 2, Rule 2 - Permits, New Source Review
(as amended by the District Board on 5/17/00);

SIP Regulation 2, Rule 2 - Permits, New Source Review and Prevention of Significant Deterioration
(as approved by EPA through 1/26/99);

BAAQMD Regulation 2, Rule 4 - Permits, Emissions Banking
(as amended by the District Board on 5/17/00);

SIP Regulation 2, Rule 4 - Permits, Emissions Banking
(as approved by EPA through 1/26/99); and

BAAQMD Regulation 2, Rule 6 - Permits, Major Facility Review
(as amended by the District Board on 5/2/01).

B. Conditions to Implement Regulation 2, Rule 6, Major Facility Review

1. This Major Facility Review Permit was issued on July 18, 2003 and expires on June 30, 2008. The permit holder shall submit a complete application for renewal of this Major Facility Review Permit no later than December 31, 2007, and no earlier than June 30, 2007. **If a complete application for renewal has not been submitted in accordance with this deadline, the facility may not operate after** June 30, 2008**.** (Regulation 2-6-307, 404.2, & 409.6; MOP Volume II, Part 3, §4.2)

2. The permit holder shall comply with all conditions of this permit. The permit consists of this document and all appendices. Any non-compliance with the terms and conditions of this permit will constitute a violation of the law and will be grounds for enforcement action; permit termination, revocation and re-issuance, or modification; or denial of a permit renewal application. (Regulation 2-6-307; MOP Volume II, Part 3, §4.11)

3. In the event any enforcement action is brought as a result of a violation of any term or condition of this permit, the fact that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with such term or condition shall not be a defense to such enforcement action. (MOP Volume II, Part 3, §4.11)

4. This permit may be modified, revoked, reopened and reissued, or terminated for cause. (Regulation 2-6-307, 409.8, 415; MOP Volume II, Part 3, §4.11)

I. Standard Conditions

5. The filing of a request by the facility for a permit modification, revocation and re-issuance, or termination, or the filing of a notification of planned changes or anticipated non-compliance does not stay the applicability of any permit condition. (Regulation 2-6-409.7; MOP Volume II, Part 3, §4.11)
6. This permit does not convey any property rights of any sort, or any exclusive privilege. (Regulation 2-6-409.7; MOP Volume II, Part 3, §4.11)
7. The permit holder shall supply within 30 days any information that the District requests in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. (Regulation 1-441, Regulation 2-6-409.4 & 501; MOP Volume II, Part 3, §4.11)
8. Any records that must be maintained pursuant to this permit that the permittee considers proprietary or trade secret information shall be prominently designated as such. Copies of any such proprietary or trade secret information which are provided to the District shall be maintained by the District in a locked confidential file, provided, however, that requests from the public for the review of any such information shall be handled in accordance with the District's procedures set forth in Section 11 of the District's Administrative Code. (Regulation 2-6-419; MOP Volume II, Part 3, §4.11)
9. Proprietary or trade secret information provided to EPA will be subject to the requirements of 40 CFR Part 2, Subpart B - Public Information, Confidentiality of Business Information. (40 CFR Part 2)
10. The emissions inventory submitted with the application for this Major Facility Review Permit is an estimate of actual emissions or the potential to emit for the time period stated and is included only as one means of determining applicable requirements for emission sources. It does not establish, or constitute a basis for establishing, any new emission limitations. (MOP Volume II, Part 3, §4.11)
11. The responsible official shall certify all documents submitted by the facility pursuant to the major facility review permit. The certification shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. The certifications shall be signed by a responsible official for the facility. (MOP Volume II, Part 3, §4.11)

C. Requirement to Pay Fees

The permit holder shall pay annual fees in accordance with District Regulation 3, including Schedule P. (Regulation 2-6-402 & 409.13, Regulation 3; MOP Volume II, Part 3, §4.12)

D. Inspection and Entry

Access to Facility: The permit holder shall provide reasonable access to the facility and equipment that is subject to this permit to the APCO and/or to his or her designee. (Regulation 1-440, Regulation 2-6-409.3; MOP Volume II, Part 3, §4.14)

E. Records

1. The permit holder must provide any information, records, and reports requested or specified by the APCO. (Regulation 1-441, Regulation 2-6-409.4)

I. Standard Conditions

2. Notwithstanding the specific wording in any requirement, all records for federally enforceable requirements shall be maintained for at least five years from the date of creation of the record. (Regulation 2-6-501, Regulation 3; MOP Volume II, Part 3, §4.7)

F. Monitoring Reports

Reports of all required monitoring must be submitted to the District at least once every six months, except where an applicable requirement specifies more frequent reporting. The first reporting period for this permit shall be July 18, 2003 to December 31, 2003. The report shall be submitted by January 31, 2004. Subsequent reports shall be for the following periods: January 1st through June 30th and July 1st through December 31st, and are due on the last day of the month after the end of the reporting period. All instances of non-compliance shall be clearly identified in these reports. The reports shall be certified by the responsible official as true, accurate, and complete. In addition, all instances of non-compliance with the permit shall be reported in writing to the District's Compliance and Enforcement Division within 10 calendar days of the discovery of the incident. Within 30 calendar days of the discovery of any incident of non-compliance, the facility shall submit a written report including the probable cause of non-compliance and any corrective or preventative actions. The reports shall be sent to the following address:

Director of Compliance and Enforcement
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109
Attn: Title V Reports

(Regulation 2-6-502, Regulation 3; MOP Volume II, Part 3, §4.7)

G. Compliance Certification

Compliance certifications shall be submitted annually by the responsible official of this facility to the Bay Area Air Quality Management District and to the Environmental Protection Agency. The certification period will be July 1st to June 30th. The certification shall be submitted by July 31st of each year. The certification must list each applicable requirement, the compliance status, whether compliance was continuous or intermittent, the method used to determine compliance, and any other specific information required by the permit. The permit holder may satisfy this requirement through submittal of District-generated Compliance Certification forms. The certification should be directed to the District's Compliance and Enforcement Division at the address above, and a copy of the certification shall be sent to the Environmental Protection Agency at the following address:

Director of the Air Division
USEPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105
Attention: Air-3

I. Standard Conditions

(MOP Volume II, Part 3, §4.5 and 4.15)

H. Emergency Provisions

1. The permit holder may seek relief from enforcement action in the event of a breakdown, as defined by Regulation 1-208 of the District's Rules and Regulations, by following the procedures contained in Regulations 1-431 and 1-432. The District will thereafter determine whether breakdown relief will be granted in accordance with Regulation 1-433. (MOP Volume II, Part 3, §4.8)
2. The permit holder may seek relief from enforcement action for a violation of any of the terms and conditions of this permit by applying to the District's Hearing Board for a variance pursuant to Health and Safety Code Section 42350. The Hearing Board will determine after notice and hearing whether variance relief should be granted in accordance with the procedures and standards set forth in Health and Safety Code Section 42350 et seq. (MOP Volume II, Part 3, §4.8)
3. The granting by the District of breakdown relief or the issuance by the Hearing Board of a variance will not provide relief from federal enforcement. (MOP Volume II, Part 3, §4.8)

I. Severability

In the event that any provision of this permit is invalidated by a court or tribunal of competent jurisdiction, or by the Administrator of the EPA, all remaining portions of the permit shall remain in full force and effect. (Regulation 2-6-409.5; MOP Volume II, Part 3, §4.10)

J. Miscellaneous Conditions

1. The maximum capacity for each source as shown in Table II-A is the maximum allowable capacity. Any exceedance of the maximum allowable capacity for any source is a violation of Regulation 2, Rule 1, Section 301. (Regulation 2-1-301)

K. Accidental Release

This facility is subject to 40 CFR Part 68, Chemical Accident Prevention Provisions. The permit holder shall submit a risk management plan (RMP) by the date specified in §68.10. The permit holder shall also certify compliance with the requirements of Part 68 as part of the annual compliance certification, as required by Regulation 2, Rule 6. (40 CFR Part 68, Regulation 2, Rule 6)

I. Standard Conditions

L. Conditions to Implement Regulation 2, Rule 7, Acid Rain

1. Every year starting January 30, 2003, the permit holder shall hold one sulfur dioxide allowance on January 30 for each ton of sulfur dioxide emitted during the preceding year from January 1 through December 31. (MOP Volume II, Part 3, §4.9)
2. The equipment installed for the continuous monitoring of CO2 and NOx shall be maintained and operated in accordance with 40 CFR Parts 72 and 75. (Regulation 2-7, Acid Rain)
3. A written Quality Assurance program must be established in accordance with 40 CFR Part 75, Appendix B for NOx which includes, but is not limited to: procedures for daily calibration testing, quarterly linearity testing, record keeping and reporting implementation, and relative accuracy testing. (Regulation 2-7, Acid Rain)
4. The permit holder shall monitor SO2 emissions in accordance with 40 CFR Part 72 and 75. (Regulation 2-7, Acid Rain)
5. The permit holder shall submit quarterly Electronic Data Reports (EDRs) to EPA for Turbine, S1. These reports must be submitted within 30 days following the end of each calendar quarter and shall include all information required in § 75.64. (40 CFR Part 75)

II. EQUIPMENT

Table II A - Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity
1	Combustion Gas Turbine, Natural Gas with water injection or dry low NOx combustors	General Electric	LM6000PC Sprint	49.6 MW 500 MMBtu/hour (HHV)

Table II B – Abatement Devices

A-#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
1	Oxidation Catalyst	1	BAAQMD Condition #20010 parts 18.~~3~~(c) & 18.~~4~~(d)	All operating modes except startup and shutdown	CO: 6 ppmv POC: 2 ppmv
2	Selective Catalytic Reduction System	1	BAAQMD Condition #20010 part 18.~~1~~(a)	All operating modes except startup and shutdown	NOx: 2.5 ppmvd

Table II C – Significant Sources

The following source is exempt from the requirement to obtain an authority to construct and permit to operate, but is defined as a significant source pursuant to BAAQMD Regulation 2-6-239.

S-#	Description	Make or Type	Model	Capacity
2	Cooling Tower	Marley	NC8312HL2	4,160 GPM

III. GENERALLY APPLICABLE REQUIREMENTS

The permit holder shall comply with all applicable requirements, including those specified in the BAAQMD and SIP rules and regulations and other federal requirements cited below. These requirements apply in a general manner to the facility and/or to sources exempt from the requirement to obtain a District Permit to Operate. The District has determined that these requirements will not be violated under normal, routine operations, and that no additional periodic monitoring or reporting to demonstrate compliance is warranted. In cases where a requirement, in addition to being generally applicable, is also specifically applicable to one or more sources, the requirement and the source are also included in Section IV, Source-Specific Applicable Requirements, of this permit.

The dates in parenthesis in the Title column identify the versions of the regulations being cited and are, as applicable:

1. BAAQMD regulation(s): The date(s) of adoption or most recent amendment of the regulation by the District Board of Directors
2. Any federal requirement, including a version of a District regulation that has been approved into the SIP: The most recent date of EPA approval of any portion of the rule, encompassing all actions on the rule through that date

The full language of SIP requirements is on EPA Region 9's website. The address is included at the end of this permit.

NOTE:

There are differences between the current BAAQMD rules and the versions of the rules in the SIP. All sources must comply with both versions of a rule until US EPA has reviewed and approved the District's revision of the regulation.

Table III
Generally Applicable Requirements

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)
BAAQMD Regulation 1	General Provisions and Definitions (5/2/01)	N
SIP Regulation 1	General Provisions and Definitions (8/27/99)	Y
BAAQMD Regulation 2, Rule 1	General Requirements (8/1/01)	N
BAAQMD 2-1-429	Federal Emissions Statement (6/7/95)	Y
SIP Regulation 2, Rule 1	General Requirements (8/27/99)	Y

III. Generally Applicable Requirements

Table III
Generally Applicable Requirements

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)
BAAQMD Regulation 5	Open Burning (3/6/02)	N
SIP Regulation 5	Open Burning (9/4/98)	Y
BAAQMD Regulation 6	Particulate Matter and Visible Emissions (12/19/90)	Y
BAAQMD Regulation 7	Odorous Substances (3/17/82)	N
BAAQMD Regulation 8, Rule 1	Organic Compounds - General Provisions (6/15/94)	Y
BAAQMD Regulation 8, Rule 2	Organic Compounds – Miscellaneous Operations (6/15/94)	Y
BAAQMD Regulation 8, Rule 3	Organic Compounds - Architectural Coatings (12/20/95)	Y
BAAQMD Regulation 8, Rule 4	Organic compounds - General Solvent and Surface Coating Operations (5/15/96)	N
SIP Regulation 8, Rule 4	Organic compounds - General Solvent and Surface Coating Operations (12/23/97)	Y
BAAQMD Regulation 8, Rule 49	Organic Compounds - Aerosol Paint Products (12/20/95)	N
SIP Regulation 8, Rule 49	Organic Compounds - Aerosol Paint Products (3/22/95)	Y
BAAQMD Regulation 8, Rule 51	Organic Compounds - Adhesive and Sealant Products (12/20/95)	N
BAAQMD Regulation 11, Rule 2	Hazardous Pollutants - Asbestos Demolition, Renovation and Manufacturing (10/7/98)	Y
BAAQMD Regulation 12, Rule 4	Miscellaneous Standards of Performance - Sandblasting (7/11/90)	N
SIP Regulation 12, Rule 4	Miscellaneous Standards of Performance - Sandblasting (9/2/81)	Y
California Health and Safety Code Section 44300 et seq.	Air Toxics “Hot Spots” Information and Assessment Act of 1987	N
40 CFR Part 61, Subpart M	National Emission Standards for Hazardous Air Pollutants – National Emission Standard for Asbestos (6/19/95)	Y

IV. SOURCE-SPECIFIC APPLICABLE REQUIREMENTS

The permit holder shall comply with all applicable requirements, including those specified in the BAAQMD and SIP rules and regulations and other federal requirements cited below. The requirements cited in the following tables apply in a specific manner to the indicated source(s).

The dates in parenthesis in the Title column identify the versions of the regulations being cited and are, as applicable:

1. BAAQMD regulation(s): The date(s) of adoption or most recent amendment of the regulation by the District Board of Directors
2. Any federal requirement, including a version of a District regulation that has been approved into the SIP: The most recent date of EPA approval of any portion of the rule, encompassing all actions on the rule through that date

The full text of each permit condition cited is included in Section VI, Permit Conditions, of this permit. The full language of SIP requirements is on EPA Region 9's website. The address is included at the end of this permit. All other text may be found in the regulations themselves.

Table IV - A
Source-specific Applicable Requirements
S1 – COMBUSTION GAS TURBINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (11/3/93)**		
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	N	
1-522.1	approval of plans and specifications	Y	
1-522.2	scheduling requirements	Y	
1-522.3	CEM performance testing	Y	
1-522.4	reporting of inoperative CEMs	Y	
1-522.5	CEM calibration requirements	Y	
1-522.6	CEM accuracy requirements	Y	
1-522.7	emission limit exceedance reporting requirements	N	
1-522.8	monitoring data submittal requirements	Y	
1-522.9	recordkeeping requirements	Y	
1-523	Parametric Monitoring and Recordkeeping Procedures	Y	
1-523.1	Parametric monitor periods of inoperation	Y	

IV. Source Specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S1 – COMBUSTION GAS TURBINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
1-523.2	Limits on periods of inoperation	Y	
1-523.3	Reports of Violations	N	
1-523.4	Records	Y	
1-523.5	Maintenance and calibration	N	
1-602	Area and Continuous Emission Monitoring Requirements	Y	
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y	
1-522.7	Monitor excesses	Y[1]	
1-523	Parametric Monitoring and Recordkeeping Procedures	Y	
1-523.3	Reports of Violations	Y[1]	
BAAQMD Regulation 2, Rule 1	**Regulation 2, Rule 1 - Permits, General Requirements (5/2/01)**		
2-1-501	Monitors	Y	
BAAQMD Regulation 6	**Particulate Matter and Visible Emissions (12/19/90)**		
6-301	Ringelmann Number 1 Limitation	Y	
6-305	Visible Particles	Y	
6-310	Particulate Weight Limitation	Y	
6-401	Appearance of Emissions	Y	
BAAQMD Regulation 9, Rule 1	**Inorganic Gaseous Pollutants – Sulfur Dioxide (3/15/95)**		
9-1-301	Limitations on Ground Level Concentrations	Y	
9-1-302	General Emission Limitations	Y	
BAAQMD Regulation 9, Rule 9	**Inorganic Gaseous Pollutants-Nitrogen Oxides from Stationary Gas Turbines (9/21/94)**		
9-9-113	Exemption – Inspection/Maintenance	Y	
9-9-114	Exemption – Start-Up/Shutdown	Y	
9-9-301	Emission Limits, General	Y	
9-9-301.3	Emission Limits- Turbines Rated ≥ 10 MW w/SCR	Y	
9-9-501	Monitoring and recordkeeping requirements	Y	

IV. Source Specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S1 – COMBUSTION GAS TURBINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Manual of Procedures, Volume V	**Continuous Emission Monitoring Policy and Procedures (1/20/82)**	Y	
40 CFR 60	**Standards of Performance for New Stationary Sources (12/23/71)**	Y	
Subpart A	**General Provisions**	Y	
60.7(a)	Written notification	Y	
60.7(b)	Records	Y	
60.8	Performance Tests	Y	
60.9	Availability of Information	Y	
60.11(a)	Compliance with standards and maintenance requirements	Y	
60.11(d)	Minimizing emissions	Y	
60.12	Circumvention	Y	
60.13	Monitoring Requirements	Y	
60.19	General notification and reporting requirements	Y	
Subpart GG	**Standards of Performance for Stationary Gas Turbines (1/27/82)**		
60.332(a)(1)	NOx limit	Y	
60.333	Performance Standards, SO2	Y	
60.334(b)(2)	Sulfur and nitrogen content of fuel	Y	
60.335	Test Methods and Procedures	Y	
40 CFR Part 72	**Permits Regulation (Title IV – Acid Rain Program)**	Y	
40 CFR Part 75	**Continuous Emissions Monitoring**	Y	
BAAQMD Condition #20010			
Definitions	Definitions	Y	
~~part 1~~	~~Minimization of emissions during commissioning period (Cumulative increase)~~	~~Y~~	
~~part 2~~	~~Tuning to minimize emissions (cumulative increase)~~	~~Y~~	
~~part 3~~	~~Installation of SCR and oxidation catalyst as early as possible (cumulative increase)~~	~~Y~~	

IV. Source Specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S1 – COMBUSTION GAS TURBINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
~~part 4~~	~~Compliance with NOx and CO emission limits (BACT, offsets)~~	~~Y~~	
~~part 5~~	~~Submittal of commissioning plan (cumulative increase)~~	~~Y~~	
~~part 6~~	~~Continuous emission monitors and recorders for firing hours, fuel flow rates, NOx, CO, and oxygen concentrations (9-9-501, BACT, offsets, cumulative increase)~~	~~Y~~	
~~part 7~~	~~Monitors installed prior to first firing (9-9-501, BACT, offsets)~~	~~Y~~	
~~part 8~~	~~Limit on uncontrolled operation during commissioning (offsets)~~	~~Y~~	
~~part 9~~	~~Mass emission rates during commissioning included in annual limits (offsets)~~	~~Y~~	
~~part 10~~	~~Startup/shutdown source test (offsets)~~	~~Y~~	
part 11	Consistency with analyses (2-1-403)	Y	
part 12	Conflicts between conditions (1-102)	Y	
part 13	Reimbursement of costs (2-1-303)	Y	
part 14	Access to Records and Facilities (1-440, 1-441)	Y	
part 15	Notification of Commencement of Operation (2-1-302)	Y	
part 16	Operations (2-1-307)	Y	
part 17	Visible emissions (6-301)	Y	
Part 18	Emission Limits		
Part 18~~.1~~(a)	Emission Limit for NOX (BACT)	Y	
Part 18~~.2~~(b)	Emission Limit for ammonia (BACT)	N	
Part 18~~.3~~(c)	Emission Limit for carbon monoxide (BACT)	Y	
Part 18~~.4~~(d)	Emission Limit for precursor organic compounds (BACT)	Y	
Part 18~~.5~~(e)	Emission Limit for PM10 (BACT, cumulative increase)	Y	
Part 18~~.6~~(f)	Emission Limit for SOX (BACT, cumulative increase)	Y	
Part 19	Turbine Startup (cumulative increase)	Y	
Part 20	Turbine Shutdown (cumulative increase)	Y	
Part 21	Mass emission limits (cumulative increase)	Y	
part 22	Operational Limits (cumulative increase)	Y	
part 23	Monitoring requirements (Cumulative Increase, BACT, 40 CFR 75, 40 CFR 60)	Y	
part 24	Source testing/RATA (40 CFR 60, BAAQMD Manual of Procedures Volume IV)	Y	
part 25	Quality assurance program (40 CFR Part 75, Appendix B and 40 CFR Part 60, Appendix F)	Y	

IV. Source Specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S1 – COMBUSTION GAS TURBINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
part 26	Compliance with 40 CFR 60, Subpart GG (NSPS)	Y	
part 27	Breakdowns (1-208)	Y	
part 28	Breakdown reports (1-208)	Y	
part 29a	Records of fuel use and heat input (cumulative increase)	Y	
part 29b	Records of startups, shutdowns, and malfunctions (BACT, cumulative increase)	Y	
part 29c	Records of emission measurements (BACT, cumulative increase, 40 CFR 60, 40 CFR 75)	Y	
part 29d	Records of hours of operation (cumulative increase)	Y	
part 29e	Records of NOX, CO, and ammonia emissions (BACT)	Y	
part 29f	Records of continuous emission monitoring systems (1-522)	Y	
part 30	Records retention for five years (2-6-501)	Y	
part 31a	Reports of fuel use and heat input (cumulative increase)	Y	
part 31b	Reports of mass emission rates (BACT, cumulative increase)	Y	
part 31c	Reports of excess emissions (BACT, cumulative increase)	Y	
part 31d	Reports of nature and cause of excess emissions (BACT, cumulative increase)	Y	
part 31e	Reports of continuous emission monitoring systems downtime (1-522)	Y	
part 31f	Negative declarations (BACT, cumulative increase)	Y	
part 31g	Reports of fuel analyses (cumulative increase, 40 CFR 75)	Y	
part 32	District Operating permit (2-2, 2-6)	Y	
part 33	Title IV and Title V permits (2-6, 2-7)	Y	

[1]This section has been removed from BAAQMD Regulations because it has been superseded. Nevertheless, the source must comply with this regulation until US EPA has reviewed and approved the District's revision of the regulation.

IV. Source Specific Applicable Requirements

Table IV - B
Source-specific Applicable Requirements
S2 – COOLING TOWER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
6-301	Ringelmann No. 1 Limitation	Y	
6-305	Visible Particulates	Y	
6-310	Particulate Weight Limitation	Y	
6-401	Appearance of Emissions	Y	

V. SCHEDULE OF COMPLIANCE

The permit holder shall comply with all applicable requirements cited in this permit. The permit holder shall also comply with applicable requirements that become effective during the term of this permit on a timely basis.

VI. PERMIT CONDITIONS

Any condition that is preceded by an asterisk is not federally enforceable.

Condition #20010

For S – 1 COMBUSTION GAS TURBINE:

Definitions:

Clock Hour:	Any consecutive 60-minute period beginning on the hour
Day:	Any continuous 24-hour period beginning at 12:00 AM or 0000 hours.
Year:	Any consecutive twelve-month period
Heat Input:	All heat inputs refer to the heat input at the higher heating value (HHV) of the fuel, in Btu/scf.
Firing Hours:	Period of time, during which fuel is flowing to a unit, measured in fifteen-minute increments.
MM Btu:	million British thermal units
Gas Turbine Start-up Mode:	The time beginning with the introduction of continuous fuel flow to the Gas Turbine until the requirements listed in Part 18 are met, but not to exceed 60 minutes.
Gas Turbine Shutdown Mode:	The time from non-compliance with any requirement listed in Part 18 until termination of fuel flow to the Gas Turbine, but not to exceed 30 minutes.
Corrected Concentration:	The concentration of any pollutant (generally NO_x, CO or NH_3) corrected to a standard stack gas oxygen concentration. For an emission point (exhaust of a Gas Turbine) the standard stack gas oxygen concentration is 15% O_2 by volume on a dry basis
Commissioning Activities:	All testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the construction contractor to insure safe and reliable steady state operation of the gas turbines, heat recovery steam generators, steam turbine, and associated electrical delivery systems.
Commissioning Period:	The Period shall commence when a gas turbine is first fired. The period shall terminate when the plant has completed performance testing and is available for commercial operation. The

VI. Permit Conditions

	commissioning period shall not exceed 180 days under any circumstances.
Precursor Organic Compounds (POCs):	Any compound of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate

Conditions for the Commissioning Period

1. Deleted under applications 10568 and 10569 ~~The owner/operator shall minimize emissions of carbon monoxide and nitrogen oxides from S-1 Gas Turbine to the maximum extent possible during the commissioning period. Parts 1 through 10 shall only apply during the commissioning period as defined above. Unless noted, parts 11 through 34 shall only apply after the commissioning period has ended. (Basis: Cumulative Increase)~~

2. Deleted under applications 10568 and 10569 ~~At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator shall tune S-1 Gas Turbine combustor to minimize the emissions of carbon monoxide and nitrogen oxides. (Basis: Cumulative Increase)~~

3. Deleted under applications 10568 and 10569 ~~At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator shall install, adjust, and operate the A-2 Selective Catalytic Reduction (SCR) System and A-1 Oxidation Catalyst (OC) to minimize the emissions of nitrogen oxides and carbon monoxide from S-1 Gas Turbine. (Basis: Cumulative Increase)~~

4. Deleted under applications 10568 and 10569 ~~Coincident with the steady-state operation of A-2 Selective Catalytic Reduction (SCR) System and A-1 Oxidation Catalyst (OC) pursuant to condition 3, the owner/operator shall comply with the Gas Turbine (S-1) NOx and CO emission limitations specified in parts 18.1 and 18.3. (Basis: BACT, Offsets)~~

5. Deleted under applications 10568 and 10569 ~~The owner/operator shall submit a plan to the District Permit Services Division at least two weeks prior to first firing of S-1 Gas Turbine describing the procedures to be followed during the commissioning of the turbines. The plan must include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described must include, but not be limited to, the tuning of the water injection, the installation and operation of the required emission control systems, the installation, calibration, and testing of the CO and NOx continuous emission monitors, and any activities requiring the firing of the Gas Turbine (S-1) without abatement by its SCR System and OC. (Basis: Cumulative Increase)~~

VI. Permit Conditions

6. Deleted under applications 10568 and 10569 ~~During the commissioning period, the owner/operator shall properly install, operate and maintain continuous emission monitors and data recorders to demonstrate compliance with parts 8 through 10 for the following parameters:~~

   ~~firing hours~~
   ~~fuel flow rates~~
   ~~stack gas nitrogen oxide emission concentrations,~~
   ~~stack gas carbon monoxide emission concentrations~~
   ~~stack gas oxygen concentrations.~~

   ~~The owner/operator shall record and monitor the above parameters at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation) for S-1 Gas Turbine. The owner/operator shall use District-approved methods to calculate heat input rates, nitrogen dioxide mass emission rates, carbon monoxide mass emission rates, and NO_x and CO emission concentrations, summarized for each clock hour and each day. The owner/operator shall retain all records on site for at least 5 years from the date of entry and shall make them available to District personnel upon request. (Basis: BAAQMD 9-9-501, BACT, Offsets, Cumulative Increase)~~

7. Deleted under applications 10568 and 10569~~The owner/operator shall properly install, calibrate, and operate District-approved continuous monitors as specified in part 6 prior to first firing of S-1 Gas Turbine. After the first firing of the turbine, the detection range of the continuous emission monitors must be adjusted as necessary to accurately measure the resulting range of CO and NOx emission concentrations. (Basis: BAAQMD 9-9-501, BACT, offsets)~~

8. Deleted under applications 10568 and 10569 ~~The owner/operator operate shall not operate S-1 Gas Turbine for more than 100 hours without the SCR or OC Systems during the commissioning period. Such operation of the S-1 Gas Turbine without abatement will be limited to discrete commissioning activities. Upon completion of these activities, the owner/operator shall provide written notice to the District Permit Services and Enforcement Divisions. The owner/operator shall maintain records of all gas turbine firing hours without the SCR and/or OC systems in place and operational. (Basis: offsets)~~

9. Deleted under applications 10568 and 10569 ~~The total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM_{10}, and sulfur dioxide that will be emitted by the S-1 Gas Turbine, including the commissioning period shall accrue towards the consecutive twelve-month emission limitations specified in part 21. (Basis: offsets)~~

10. Deleted under applications 10568 and 10569~~Within sixty (60) days of first fire, the owner/operator shall conduct the first RATA test and the first source test required by part 24.~~

VI. Permit Conditions

~~The source test shall include NOx, CO, and POC emissions during start-up and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The owner/operator shall conduct, at a minimum, source tests during three start-up and three shutdown periods. No less than thirty (30) days before conducting source tests, the owner/operator shall submit to the District a detailed source test plan designed to satisfy the requirements of this condition. The owner/operator shall be notified of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The owner/operator shall notify the District within ten (10) days prior to the planned source testing dates and shall submit source test results to the District within 60 days of the source testing date. (Basis: offsets)~~

The Equipment For Which This Authority To Construct Is Issued May Be Operated Only When In Compliance With The Following Conditions:

11. Consistency with Analyses: The owner/operator shall operate all equipment in accordance with all information submitted with the application (and supplements thereof) and the analyses under which this permit is issued unless otherwise noted below. (Basis: BAAQMD 2-1-403)

12. Conflicts Between Conditions: In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible. (Basis: BAAQMD 1-102)

13. Reimbursement of Costs: All reasonable expenses, as set forth in the District's rules or regulations, incurred by the District for all activities that follow the issuance of this permit, including but not limited to permit condition implementation, compliance verification and emergency response, directly and necessarily related to enforcement of the permit shall be reimbursed by the owner/operator as required by the District's rules or regulations. (Basis: BAAQMD 2-1-303)

14. Access to Records and Facilities: As to any condition that requires for its effective enforcement the inspection of records or facilities by representatives of the District, the Air Resources Board (ARB), the U.S. Environmental Protection Agency (U.S. EPA), or the California Energy Commission (CEC), the owner/operator shall make such records available or provide access to such facilities upon notice from representatives of the District, ARB, U.S. EPA, or CEC. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A. (Basis: BAAQMD 1-440, 1-441)

15. Notification of Commencement of Operation: The owner/operator shall notify the District of the date of anticipated commencement of turbine operation not less than 10 days prior to

VI. Permit Conditions

such date. Temporary operations under this permit are granted consistent with the District's rules and regulations. (Basis: BAAQMD 2-1-302)

16. Operations: The owner/operator shall properly maintain the gas turbine, emission controls, CEMs and associated equipment in good operating condition at all times when the equipment is in operation. (Basis: BAAQMD 2-1-307)

17. Visible Emissions: The owner/operator shall not discharge air contaminants into the atmosphere for a period or periods aggregating more than three minutes in any one hour that is as dark or darker than Ringelmann 1 or equivalent 20% opacity. (Basis: BAAQMD 6-301)

18. Emissions Limits: The owner/operator shall only operate S-1 Gas Turbine if all of the following emission limits are met:

~~18.1~~(a) Oxides of nitrogen (as NO2) emissions from S-1 Gas Turbine into the atmosphere shall not exceed 2.5 ppmvd @ 15% O2 (3-hour rolling average), except during periods of startup and shutdown as defined in this permit. The owner/operator shall verify the NOx concentrations from the stack of S-1 by a District-approved continuous emission monitoring system (CEMS) and during any required source test. (basis: BACT)

~~18.2~~(b) Ammonia emissions from S-1 Gas Turbine into the atmosphere shall not exceed 10.0 ppmvd @ 15% O2 (1-hour rolling average), except during periods of startup and shutdown as defined in this permit. The owner/operator shall verify the ammonia concentration by a District-approved ammonia slip calculation. ~~the continuous recording of the ratio of the ammonia injection rate to the NOx inlet rate to the SCR control system (molar ratio)~~. The owner/operator shall establish the correction factor ~~maximum allowable NH_3/NO_x molar ratio~~ during a District approved source test, ~~and shall not exceed the established limits unless a new ratio has been established during another District approved source test.~~ (basis: ~~BACT~~ TRMP)

~~18.3~~(c) Carbon monoxide (CO) emissions from S-1 Gas Turbine into the atmosphere shall not exceed 6.0 ppmvd @ 15 % O2 (3-hour rolling average), except during periods of startup and shutdown as defined in this permit. The owner/operator shall verify the CO concentration of S-1 by a District-approved CEMS and during any required source test. (basis: BACT)

~~18.4~~(d) Precursor organic compound (POC) emissions from S-1 Gas Turbine into the atmosphere shall not exceed 2.0 ppmvd @ 15% O2 (1-hour rolling average), except during periods of startup and shutdown as defined in this permit. The owner/operator

VI. Permit Conditions

shall verify the POC concentration from the stack of S-1 during any required source test. (basis: BACT)

~~18.5~~(e) Emissions of particulate matter of less than 10 microns in diameter (PM10) from S-1 Gas Turbine into the atmosphere shall not exceed 3.0 pounds per hour, except during periods of startup and shutdown as defined in this permit. The owner/operator shall verify PM10 mass emission rate from the stack of S-1 during any required source test. (basis: BACT, cumulative increase)

~~18.6~~(f) Oxides of sulfur (as SO2) emissions from S-1 Gas Turbine into the atmosphere shall not exceed 1.38 pounds per hour, except during periods of startup and shutdown as defined in this permit. The owner/operator shall verify the SOx emission rate during any required source test. (basis: BACT, cumulative increase)

19. Turbine Startup: The owner/operator of S-1 shall not exceed a time period of 60 minutes per start-up, or another time period based on good engineering practice and approved in advance by the District. The startup clock begins with the turbine's initial firing and continues until the unit meets the emission concentration limits. (Basis: Cumulative increase)

20. Turbine Shutdown: The owner/operator of S-1 shall not exceed a time period of 30 minutes each per shutdown, or another time period based on good engineering practice and approved in advance by the District. Shutdown begins with initiation of the turbine shutdown sequence and ends with the cessation of turbine firing. (Basis: Cumulative increase)

21. Mass Emission Limits: The owner/operator of S-1 shall not exceed the mass emission limits listed in Table 1 below.

Table 1 – Mass Emission Limits (Including Startups and Shutdowns)

Pollutant	Daily (lb/day)	Annual (ton/year)
NOx (as NO_2)	~~109~~ 121	14.7
CO	~~159~~ 163	21.5
POC	31	4.1
PM10	72	9.8
SOx (as SO_2)	32	4.5

The daily and annual mass limits are on a calendar basis. Daily limits shall be based on average one-hour readings and annual limits shall be based on 12-month rolling average one-hour readings from the process monitors (e.g., fuel use meters), CEMS, and source test results; and the monitoring, recordkeeping and reporting conditions of this permit.

VI. Permit Conditions

(Basis: Cumulative increase)

22. Operational Limits: In order to assure compliance with the emission limits of this permit, the owner/operator shall comply with the following operational limits:

(a) The heat input to the gas turbine not to exceed:

Hourly:	500 MMBtu/hr (HHV)
Daily:	12,000 MMBtu/day (HHV)
Annual:	3,250,000 MMBtu/year (HHV)

(b) The owner/operator shall use only PUC Quality natural gas to fire the gas turbine (General Order 58-a). The owner/operator shall not use natural gas with sulfur concentrations in excess of 1 gr/100 scf.

(Basis: Cumulative Increase)

23. Monitoring Requirements: The owner/operator shall comply with the following monitoring requirements for the gas turbine:

(a) install and maintain exhaust stack platform with permanent provisions to allow collection of stack gas samples consistent with EPA test methods. (Basis: NSPS, BACT)

(b) install and maintain an ammonia injection system with an operational ammonia flowmeter and injection pressure indicator accurate to plus or minus five percent at full scale and to be calibrated once every twelve months. (Basis: BACT)

(c) install and maintain a continuously recording emissions monitor(s) for NOx, CO and O_2, or CO2. Continuous emissions monitors must comply with the requirements of 40 CFR Part 60, Appendices B and F, and 40 CFR Part 75, and be capable of monitoring concentrations and mass emissions during normal operating conditions and during startups and shutdowns. The owner/operator shall record the NOx, CO, and O2 or CO2 concentrations at least once every 15 consecutive minutes. (Basis: NSPS, 40 CFR 75)

(d) continuously record the fuel flow rate using District-approved fuel flow meters along with quarterly fuel compositional analyses for the measuring the fuel's higher heating value (wet basis). (Basis: Cumulative Increase)

(e) analyze the total sulfur content of the fuel gas on a quarterly basis. (Basis: BACT, Cumulative Increase, BAAQMD 9-1-302)

VI. Permit Conditions

24. Source Testing/RATA: Within sixty days after first fire of the gas turbines, and at a minimum on an annual basis thereafter, a relative accuracy test audit (RATA) shall be conducted on the CEMS in accordance with 40 CFR Part 60 Appendix B Performance Specifications~~,~~. ~~and a~~ The owner/operator shall conduct a source test ~~shall be conducted.~~ at least once every 8,000 operating hours or three years, whichever comes first. The owner/operator shall provide written test results of the source tests to the District within thirty days after testing. The owner/operator shall submit a complete test protocol to the District no later than 30 days prior to testing, and notification to the District at least ten days prior to the actual date of testing. The owner/operator shall comply with the source test protocol for the following: measurements of NOx, CO, POC, and stack gas oxygen content in accordance with ARB Test Method 100; measurements of PM10 in accordance with ARB Test Method 5; and measurements of ammonia in accordance with Bay Area Air Quality Management District test method ST-1B. Alternative test methods, and source testing scope, may also be used to address the source testing requirements of the permit if approved in advance by the District. The owner/operator shall include initial and ~~annual~~ periodic source tests parameters specified in the approved test protocol, and at a minimum include the following:

    (a) NOx (as NO_2) – ppmvd at 15% O_2 and lb/MMBtu;
    (b) Ammonia – ppmvd at 15% O_2 (Exhaust);
    (c) CO – ppmvd at 15% O_2 and lb/MMBtu (Exhaust);
    (d) POC – ppmvd at 15% O_2 and lb/MMBtu (Exhaust);
    (e) PM_{10} – lb/hr (Exhaust);
    (f) SOx – lb/hr (Exhaust);
    (g) Natural gas consumption, fuel High Heating Value (HHV), and total fuel sulfur content;
    (h) Turbine load in megawatts;
    (i) Stack gas flow rate (SDCFM) calculated according to procedures in U.S. EPA Method 19.
    (j) Exhaust gas temperature (°F)
    (k) Ammonia injection rate (lb/hr or moles/hr)

    (Basis: BAAQMD Manual of Procedures, Volume IV, BACT, Cumulative Increase)

25. The owner/operator shall establish a written quality assurance program in accordance with 40 CFR Part 75, Appendix B and 40 CFR Part 60 Appendix F. (Basis: 40 CFR 75)

26. The owner/operator shall comply with the applicable requirements of 40 CFR Part 60 Subpart GG, excluding sections 60.334(a) and 60.334(c)(1). The sulfur content of the natural gas fuel shall be monitored in accordance with the following custom schedule approved by the USEPA on August 14, 1987:
    a. The sulfur content shall be measured twice per month for the first six months of operation.

VI. Permit Conditions

b. If the results of the testing required by Part 26a are below 0.2% sulfur by weight, the sulfur content shall be measured quarterly for the next year of operation.
c. If the results of the testing required by Part 26b are below 0.2% sulfur by weight, the sulfur shall be measured semi-annually for the remainder of the permit term.
d. The nitrogen content of the fuel gas shall not be monitored in accordance with the custom schedule. (Basis: NSPS)

27. The owner/operator shall notify the District in writing of any breakdown condition consistent with the District's breakdown regulations. (Basis: BAAQMD 1-432)

28. The owner/operator shall include a breakdown condition description of the equipment malfunction or failure, the date and cause of the initial failure, the estimate of the emissions excess of those allowed, and the actions taken to restore normal operations. (Basis: BAAQMD 1-431)

29. Recordkeeping: The owner/operator shall maintain the following records:

(a) hourly, daily, quarterly and yearly quantity of fuel used and corresponding heat input rates;
(b) the date and time of each occurrence, duration, and type of any startup, shutdown, or malfunction along with the resulting mass emissions during such time period;
(c) emission measurements from all source testing, RATAs and fuel analyses;
(d) daily, quarterly and yearly hours of operation;
(e) hourly records of NOx and CO, emission concentrations and hourly ammonia injection rates and ammonia/NOx ratio.
(f) for the continuous emissions monitoring system; performance testing, evaluations, calibrations, checks, maintenance, adjustments, and any period of non-operation of any continuous emissions monitor.

(Basis: Cumulative Increase, BACT)

30. The owner/operator shall maintain all records for at least five years and shall make them available for District inspection upon request. (Basis: BAAQMD 2-6-501)

31. Reporting: The owner/operator shall submit to the District a written report for each calendar quarter, within 30 days of the end of the quarter. The required written report shall include:

(a) Daily and quarterly fuel use and corresponding heat input rates;
(b) Daily, and quarterly mass emission rates for all criteria pollutants during normal operations and during other periods (startup/shutdown, breakdowns);
(c) Time intervals, date, and magnitude of excess emissions;
(d) Nature and cause of the excess emission, and corrective actions taken;

VI. Permit Conditions

(e) Time and date of each period during which the CEM was inoperative, except for zero and span checks, and the nature of system repairs and adjustments;
(f) A declaration stating periods during which no excess emissions occurred;
(g) Results of quarterly fuel analyses for HHV and total sulfur content.
(Basis: BACT, Cumulative Increase)

32. District Operating Permit: The owner/operator shall apply for and obtain all the necessary permits to operate in accordance with the requirements of the District's rules and regulations. (Basis: BAAQMD Regulation 2, Rule 2, Regulation 2, Rule 6)

33. Title IV and Title V Permits: The acid rain monitors (Title IV) must be certified within the earlier of 90 operational days or 180 calendar days of first-fire. (Basis: BAAQMD Regulation 2, Rule 7)

VII. APPLICABLE LIMITS & COMPLIANCE MONITORING REQUIREMENTS

This section has been included to summarize the applicable emission limits contained in Section IV, Source-Specific Applicable Requirements, of this permit. The following tables show the relationship between each emission limit and the associated compliance monitoring provisions, if any. The monitoring frequency column indicates whether periodic (P) or continuous (C) monitoring is required. For periodic monitoring, the frequency of the monitoring has also been shown using the following codes: annual (A), quarterly (Q), monthly (M), weekly (W), daily (D), hourly (H), or on an event basis (E). No monitoring (N) has been required if the current applicable rule or regulation does not require monitoring, and the operation is unlikely to deviate from the applicable emission limit based upon the nature of the operation.

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S1 – COMBUSTION GAS TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	BAAQMD 9-9-301.3	Y		9 ppmv @ 15% O2, dry	BAAQMD 9-9-501 and BAAQMD condition #20010, part 23c	C	CEM
	BAAQMD 9-9-301.3	Y		9 ppmv @ 15% O2, dry	BAAQMD condition #20010, part 24a	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source test
NOx	NSPS, 40 CFR 60.332 (a)(1)	Y		99 ppmv @ 15% O2, dry	Monitoring requirement subsumed by monitoring for BACT limit. See Permit Shield.	N	

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S1 – COMBUSTION GAS TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	None	Y		None	40 CFR 75.10	C	CEM
NOx	BAAQMD condition #20010, part 18.1(a)	Y		2.5 ppmv @ 15% O2, dry, 3-hr average except during turbine startup or shutdown	BAAQMD condition #20010, part 18.1(a)	C	CEM
	BAAQMD condition #20010, part 18.1(a)	Y		2.5 ppmv @ 15% O2, dry, 3-hr average except during turbine startup or shutdown	BAAQMD condition #20010, part 24a	P/A	Source test
	BAAQMD condition #20010, part 21	Y		109 lb/ day (as NO2)	BAAQMD condition #20010, part 23c	C	CEM
NOx	BAAQMD condition #20010, part 21	Y		14.7 tons per year (as NO2)	BAAQMD condition #20010, part 23c	C	CEM
CO	BAAQMD condition #20010, part 18.3(c)	Y		6 ppmv @ 15% O2, dry, 3-hr average except during turbine startup or shutdown	BAAQMD condition #20010, parts 18.3(c) and 23c	C	CEM
	BAAQMD condition #20010, part 18.3(c)	Y		6 ppmv @ 15% O2, dry, 3-hr average except during turbine startup or shutdown	BAAQMD condition #20010, part 24c	P/A Once every 8,000 operating hours or three years, whichever comes first	Source test
	BAAQMD condition #20010, part 21	Y		159 lb/ day	BAAQMD condition #20010, part 23c	C	CEM

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S1 – COMBUSTION GAS TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
CO	BAAQMD condition #20010, part 21	Y		21.5 tons per year	BAAQMD condition #20010, part 23c	C	CEM
CO2		Y		None	40 CFR 75.10	C	CEM (CO2) or CEM (O2) or fuel flow monitor
SO2	BAAQMD 9-1-301	Y		GLC[1] of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N	
	BAAQMD 9-1-302	Y		300 ppm (dry)	BAAQMD condition #20010, part 23e	P/Q	Fuel Gas Total sulfur content analysis
SO2	NSPS 40 CFR 60.333(a)	Y		0.015% (vol.) @15% O_2 (dry)	Monitoring Requirement subsumed by requirement for PUC quality natural gas. See Permit Shield.	N	
SO2	None	Y		None	40 CFR 75.11, 40 CFR 75, Appendix D, part 2.3		Fuel measure-ments, calculations
	BAAQMD condition #20010, part 18.6(f)	Y		1.38 lb/hr	BAAQMD condition #20010, part 23e	P/Q	Fuel gas Total sulfur content analysis

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S1 – COMBUSTION GAS TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
SO2	BAAQMD condition #20010, part 18~~.6~~(f)	Y		1.38 lb/hr	BAAQMD condition #20010, part 24f	P/A	Source test
	BAAQMD condition #20010, part 21	Y		32 lb/ day	BAAQMD condition #20010, part 23e	P/Q	Fuel Gas Total sulfur content analysis
	BAAQMD condition #20010, part 21	Y		4.5 tons/year	BAAQMD condition #20010, part 23e	P/Q	Fuel gas Total sulfur content analysis
Opacity	BAAQMD 6-301	Y		> Ringelmann No. 1 for no more than 3 minutes in any hour		N	
Opacity	BAAQMD condition #20010, part 18	Y		> Ringelmann No. 1 for no more than 3 minutes in any hour or equivalent 20% opacity		N	
FP	BAAQMD 6-310	Y		0.15 grain/dscf		N	
PM10	BAAQMD condition #20010, part 18~~.5~~(e)	Y		3 lb/ hr	BAAQMD condition #20010, part 24e	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source test

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S1 – COMBUSTION GAS TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD condition #20010, part 21	Y		72 lb/day	BAAQMD condition #20010, parts 23d, 24e	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source Test
PM10	BAAQMD condition #20010, part 21	Y		9.8 tons/year	BAAQMD condition #20010, part 24e	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source Test
POC	BAAQMD condition #20010, part 18.~~4~~(d)	Y		2 ppmv @ 15% O2, dry, 1-hr average except during turbine startup or shutdown	BAAQMD condition #20010, part 24d	C	Source test
	BAAQMD condition #20010, part 18.~~4~~(d)	Y		2 ppmv @ 15% O2, dry, 1-hr average except during turbine startup or shutdown	BAAQMD condition #20010, part 24d	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source test
	BAAQMD condition #20010, part 21	Y		31 lb/calendar day	BAAQMD condition #20010, part 24d	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source test

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S1 – COMBUSTION GAS TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD condition #20010, part 21	Y		4.1 ton/year	BAAQMD condition #20010, part 24d	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source test
NH3	BAAQMD condition #20010, Part 18.~~2~~(b)	N		10 ppmv @ 15% O2, dry, averaged over 1 hr except during turbine startup or shutdown	BAAQMD condition #20010, parts 18.2 and 23b	C	Measure-ment ratio NH3 to NOX inlet rate at SCR
	BAAQMD condition #20010, Part 18.~~2~~(b)	N		10 ppmv @ 15% O2, dry, averaged over 1 hr except during turbine startup or shutdown	BAAQMD condition #20010, part 24b	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source test
Heat input limit	BAAQMD condition #20010, part 22	Y		500 MM BTU/hr (HHV)	BAAQMD condition #20010, part 23d	C	Fuel meter, firing monitor
Heat input limit	BAAQMD condition #20010, part 22	Y		500 MM BTU/hr (HHV)	BAAQMD condition #20010, part 23d	P/Q	Fuel composition analysis
	BAAQMD condition #20010, part 22	Y		500 MM BTU/hr (HHV)	BAAQMD condition #20010, part 24g	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source test

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S1 – COMBUSTION GAS TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD condition #20010, part 22	Y		12,000 MM BTU/day (HHV)	BAAQMD condition #20010, part 23d	C	fuel meter, firing monitor, calculations
	BAAQMD condition #20010, part 22	Y		12,000 MM BTU/day (HHV)	BAAQMD condition #20010, part 23d	P/Q	Fuel composition analysis
Heat input limit	BAAQMD condition #20010, part 22	Y		3,250,000 MM BTU/yr (HHV)	BAAQMD condition #20010, part 23d	C	fuel meter, firing monitor, calculations
	BAAQMD condition #20010, part 22	Y		3,250,000 MM BTU/yr (HHV)	BAAQMD condition #20010, part 24d	P/Q	Fuel composition analysis
~~Unabated firing~~	~~BAAQMD condition #20010, part 8~~	~~Y~~		~~100 hours during commissioning~~	~~BAAQMD condition #20010, part 8~~	~~P/H~~	~~Records~~
MW				None	BAAQMD condition #20010, part 24h	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source test
Exhaust Gas tempe-rature				None	BAAQMD condition #20010, part 24j	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source test

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S1 – COMBUSTION GAS TURBINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Stack gas flow rate				None	BAAQMD condition #20010, part 24i	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source test
NH3 injection rate				None	BAAQMD condition #20010, part 24k	~~P/A~~ Once every 8,000 operating hours or three years, whichever comes first	Source test
Start-up Period	BAAQMD condition #20010, part 19			60 minutes per start-up	BAAQMD condition #20010, part ~~30~~29(b)	P/E	Records
Shutdown Period	BAAQMD condition #20010, part 20			30 minutes per shutdown	BAAQMD condition #20010, part ~~30~~29(b)	P/E	Records

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - B
Applicable Limits and Compliance Monitoring Requirements
S2 - COOLING TOWER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Opacity	BAAQMD Regulation 6-301	Y		< Ringelmann 1 for more than 3 min/hr		N	
Particulate Weight	BAAQMD Regulation 6-310	Y		0.15 grains per dscf		N	

VIII. TEST METHODS

The test methods associated with the emission limit of a District regulation are generally referenced in Section 600 et seq. of the regulation. The following table indicates only the test methods associated with the emission limits referenced in Section VII, Applicable Limits & Compliance Monitoring Requirements, of this permit.

Table VIII
Test Methods

Applicable Requirement	Description of Requirement	Acceptable Test Methods
BAAQMD 6-301	Ringelmann No. 1 Limitation	Manual of Procedures, Volume I, Evaluation of Visible Emissions
BAAQMD 6-310	Particulate Weight Limitation	Manual of Procedures, Volume IV, ST-15, Particulates Sampling
BAAQMD 9-1-302	General Emission Limitation	Manual of Procedures, Volume IV, ST-19A, Sulfur Dioxide, Continuous Sampling, or ST-19B, Total Sulfur Oxides Integrated Sample
BAAQMD 9-9-301.3	Emission Limits – Turbines Rated > 10 MW s/SCR	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
NSPS Subpart GG	**Standards of Performance for Stationary Gas Turbines (1/27/82)**	
60.332 (a)(1)	Performance Standard, NOx	EPA Method 20, Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines
60.333 (a)	SO2 Volumetric Emission Limit	EPA Method 20, Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines
60.333 (b)	Fuel Sulfur Limit (gaseous fuel)	ASTM D 1072-80, Standard Method for Total Sulfur in Fuel Gases ASTM D 3031-81, Standard Test Method for Total Sulfur in Natural Gas by Hydrogenation
NSPS 40 CFR 60.8	40 CFR 60, Appendix A	EPA Method 7, Determination of Nitrogen Oxide Emissions from Stationary Sources EPA Method 20, Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines
BAAQMD Cond# 19684		
Part 18~~.1~~(a)	NOx Limit	Test Procedure ARB 100, Procedures for Continuous Gaseous Emission Stack Sampling
Part 18~~.2~~(b)	NH3 Limit	BAAQMD Test Procedure ST-1B, Ammonia, Integrated Sampling
Part 18~~.3~~(c)	CO Limit	Test Procedure ARB 100, Procedures for Continuous Gaseous Emission Stack Sampling

VIII. Test Methods

Table VIII
Test Methods

Applicable Requirement	Description of Requirement	Acceptable Test Methods
Part 18.4(d)	POC Limit	Test Procedure ARB 100, Procedures for Continuous Gaseous Emission Stack Sampling
Part 18.5(e)	PM10 Limit	Test Procedure ARB 5, Determination of Particulate Matter Emissions from Stationary Sources and EPA Method 202, Condensable Particulate Matter
Part 18.6(f)	SOx Limit	Test Procedure, MOP Vol.4, ST-19A, Sulfur Dioxide, Continuous Sampling, or ST-19B, Total Sulfur Oxides Integrated Sample

IX. TITLE IV ACID RAIN PERMIT

Effective July 18, 2003 through June 30, 2008

ISSUED TO:

Gilroy Energy Center, LLC for the Riverview Energy Center
PO Box 551
Pittsburg, CA 94565

PLANT SITE LOCATION:

795 Minaker Road
Antioch, CA 94509

ISSUED BY:

~~William C. Norton~~Jack P. Broadbent, Air Pollution Control Officer Date

Type of Facility: **Simple-Cycle Generation Facility**
Primary SIC: **4911**
Product: **Electricity**

DESIGNATED REPRESENTATIVE
Name: **William Ferguson**
Title: **General Manager**
Phone: **(925) 821-2072**

FACILITY CONTACT PERSON:
Name: **Michael Staib**
Title: **Operations Manager**
Phone: **(925) 431-1304**

IX. Title IV Acid Rain Permit

ACID RAIN PERMIT CONTENTS

1) Statement of Basis

2) SO_2 allowance allocated under this permit and NOx requirements for each affected unit.

3) Comments, notes and justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements of conditions.

4) The permit application submitted for this source. The owners and operators of the source must comply with the standard requirements and special provisions set forth in he application.

1) STATEMENT OF BASIS

Statutory and Regulatory Authorities: In accordance with District Regulation 2, Rule 7 and Titles IV and V of the Clean Air Act, the Bay Area Air Quality Management District issues this permit pursuant to District Rule Regulation 2, Rule 7.

2) SO2 ALLOWANCE ALLOCATIONS

	Year	2003	2004	2005	2006	2007
	SO_2 allowances under Table 2 of 40 CFR Part 73	**None**	**None**	**None**	**None**	**None**
S-1, Turbine	**NOx Limit**	**This unit is not subject to the NOx requirements from 40 CFR Part 76 as this unit is not capable of firing on coal.**				

3) COMMENTS, NOTES AND JUSTIFICATIONS

None

4) PERMIT APPLICATION

Attached

X. PERMIT SHIELD

A. Non-applicable Requirements

Pursuant to District Regulations 2-6-233 and 2-6-409.12, the federally enforceable regulations and/or standards cited in the following table[s] do not apply to the source or group of sources identified at the top of the table[s]. Enforcement actions and litigation may not be initiated against the source or group of sources covered by this shield based on the regulatory and/or statutory provisions cited, as long as the reasons listed below remain valid for the source or group of sources covered by this shield.

Table X A - 1
Permit Shield for Non-applicable Requirements
S-1 – COMBUSTION GAS TURBINE

Citation	Title or Description (Reason not applicable)
BAAQMD Regulation 4	Air Pollution Episode Plan (3/20/91)
SIP Regulation 4	Air Pollution Episode Plan (8/06/90)

BAAQMD Regulation 4 requires facilities emitting more than 100 tons/yr of any pollutant to submit an air pollution episode plan. Because the facility's potential to emit is limited by permit conditions to less than 100 tons/yr for all pollutants, Regulation 4 is not applicable to the facility.

X. Permit Shield

B. Subsumed Requirements:

Pursuant to District Regulations 2-6-233.2 and 2-6-409.12, as of the date this permit is issued, the federally enforceable monitoring, recordkeeping, and reporting requirements cited in the following table for the source or group of sources identified at the top of the table[s] are subsumed by the monitoring, recordkeeping, and reporting for more stringent requirements or by a "hybrid" monitoring scheme. The District has determined that compliance with the requirements listed below and elsewhere in this permit will assure compliance with the substantive requirements of the subsumed monitoring requirements. Enforcement actions and litigation may not be initiated against the source or group of sources covered by this shield based on the subsumed monitoring requirements cited.

Table IX B - 1
Permit Shield for Subsumed Requirements
S 1 – COMBUSTION GAS TURBINE

Subsumed Requirement Citation	Title or Description	Streamlined Requirements	Title or Description
40 CFR 60.334 (a)	Fuel-to-water monitoring	BAAQMD Condition 19684, part 23	Continuous emission monitoring for 2.5 ppmv NOx limit @ 15% oxygen
40 CFR 60.334(c)(1)	Periods of excess emissions, NOx	BAAQMD Condition 19684, Part 23	Requirement for continuous emission monitor for NOx

XI. GLOSSARY

ACT
Federal Clean Air Act

APCO
Air Pollution Control Officer

API
American Petroleum Institute

ARB
Air Resources Board

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

BARCT
Best Available Retrofit Control Technology

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

C5
An Organic chemical compound with five carbon atoms

C6
An Organic chemical compound with six carbon atoms

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

CEC
California Energy Commission

CEQA
California Environmental Quality Act

X. Glossary

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

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

CO
Carbon Monoxide

CO2
Carbon Dioxide

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

District
The Bay Area Air Quality Management District

dscf
Dry Standard Cubic Feet

dscm
Dry Standard Cubic Meter

E 6, E 9, E 12
Very large or very small number values are commonly expressed in a form called scientific notation, which consists of a decimal part multiplied by 10 raised to some power. For example, 4.53 E 6 equals (4.53) x (10^6) = (4.53) x (10 x 10 x 10 x 10 x 10 x 10) = 4,530,000. Scientific notation is used to express large or small numbers without writing out long strings of zeros.

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

X. Glossary

52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (HAP), and Part 72 (Permits Regulation, Acid Rain), and also including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

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

FR
Federal Register

GDF
Gasoline Dispensing Facility

GLM
Ground Level Monitor

grains
1/7000 of a pound

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

H2S
Hydrogen Sulfide

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

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

Major Facility
A facility with potential emissions of: (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 Act and implemented by District Regulation 2, Rule 6.

MOP

X. Glossary

The District's Manual of Procedures

MSDS
Material Safety Data Sheet

NA
Not Applicable

NAAQS
National Ambient Air Quality Standards

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

NMHC
Non-methane Hydrocarbons

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 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 air pollutants for which the District is classified "non-attainment". Mandated by Title I of the Clean Air Act and implemented by 40 CFR Parts 51 and 52 as well as District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O2
The chemical name for naturally occurring oxygen gas.

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

Oxidation Catalyst
A material used in combustion systems to reduce emissions of carbon monoxide and organics

X. Glossary

by promoting oxidation reactions.

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
Total 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 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.

RATA
Stands for Relative Accuracy Test Audit. A test conducted to certify the accuracy of the Continuous Emission Monitor (CEM).

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

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

SO2
Sulfur dioxide

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

X. Glossary

SO3
Sulfur trioxide

THC
Total Hydrocarbons (NMHC + Methane)

therm
100,000 British Thermal Unit

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

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

TRMP
Toxic Risk Management Plan

TSP
Total Suspended Particulate

TVP
True Vapor Pressure

VOC
Volatile Organic Compounds

Units of Measure:

bbl	=	barrel of liquid (42 gallons)
bhp	=	brake-horsepower
btu	=	British Thermal Unit
C	=	degrees Celsius
F	=	degrees Fahrenheit
f^3	=	cubic feet
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound

X. Glossary

in	=	inches
max	=	maximum
m^2	=	square meter
min	=	minute
M	=	thousand
Mg	=	mega-gram, one thousand grams
µg	=	micro-gram, one millionth of a gram
MM	=	million
mm	=	millimeter
MMbtu	=	million btu
mm Hg	=	millimeters of Mercury (pressure)
MW	=	megawatts
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year

Symbols:

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

XII. APPLICABLE STATE IMPLEMENTATION PLAN

The Bay Area Air Quality Management District's portion of the State Implementation Plan can be found at EPA Region 9's website. The address is:

http://yosemite1.epa.gov/r9/r9sips.nsf/California?ReadForm&Start=1&Count=30&Expand=3.1

XIII. TITLE IV ACID RAIN APPLICATION