Bay Area Air Quality Management District

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

Proposed

MAJOR FACILITY REVIEW PERMIT

Issued To:

Creed Energy Center, LLC
Facility # B4414

Facility Address:
6150 Creed Road
Suisun City, CA 94585

Mailing Address:
~~5029 South Township~~2425 Cordelia Road
~~Yuba City~~Fairfield, CA ~~95993~~94534

Responsible Official	**Facility Contact**
Ed Warner, General Manager	Diane Tullos, Compliance Manager
530-821-2072	530-821-2074

Type of Facility: Generation of Electricity
Primary SIC: 4911

Product: Electricity

BAAQMD Permit Division Contact:
~~Art Valla~~, Air Quality Engineer
Allan Chiu

ISSUED BY THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Signed by ~~William C. Norton~~Jack P. Broadbent _____ ~~March 6, 2003~~2006
~~William C. Norton~~Jack P. Broadbent, Executive Officer/Air Pollution Control Officer
Date

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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 8/27/99);
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 2/25/99);
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 2/25/99);
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 2/25/99); and
BAAQMD Regulation 2, Rule 6 - Permits, Major Facility Review
(as amended by the District Board on 5/2/01).

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

1. This Major Facility Review Permit was issued on March 6, 2003, and expires on February 28, 2008. The permit holder shall submit a complete application for renewal of this Major Facility Review Permit no later than August 31, 2007 and no earlier than February 28, 2007. **If a complete application for renewal has not been submitted in accordance with this deadline, the facility may not operate after** February 28, 2008**.** If the permit renewal has not been issued by February, 28, 2008, but a complete application for renewal has been submitted in accordance with the above deadlines, the existing permit will continue in force until the District takes final action on the renewal application. (BAAQMD 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. (BAAQMD 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

I. Standard Conditions

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. (BAAQMD Regulation 2-6-307, 409.8, 415; MOP Volume II, Part 3, §4.11)
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. (BAAQMD 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. (BAAQMD 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. (BAAQMD Regulation 1-441, BAAQMD Regulation 2-6-409.4 & 501; MOP Volume II, Part 3, §4.11)
8. Any records required to be maintained pursuant to this permit, which the permittee considers to contain 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. (BAAQMD 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. (BAAQMD Regulation 2-6-402 & 409.13, BAAQMD Regulation 3; MOP Volume II, Part 3, §4.12)

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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. (BAAQMD Regulation 1-440, BAAQMD 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. (BAAQMD Regulation 1-441, BAAQMD Regulation 2-6-409.4)
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. (BAAQMD Regulation 2-6-501, BAAQMD 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 March 6, 2003 to April 30, 2003. The report shall be submitted by May 31, 2003. Subsequent reports shall be for the following periods: May 1st through October 31st and November 1st through April 30th, 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

(BAAQMD Regulation 2-6-502, BAAQMD 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 ~~November~~ December 1st (month and day) ~~1st~~ to ~~October~~ November ~~31st~~30th. The certification shall be submitted by ~~November 30th~~December 31 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-

I. Standard Conditions

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

(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 BAAQMD Regulation 1-208 of the District's Rules and Regulations, by following the procedures contained in BAAQMD Regulations 1-431 and 1-432. The District will thereafter determine whether breakdown relief will be granted in accordance with BAAQMD 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. (BAAQMD 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. Exceedance of the maximum allowable capacity for any source is a violation of BAAQMD Regulation 2, Rule 1, Section 301. (BAAQMD Regulation 2-1-301)

K. Accidental Release

This facility is subject to 40 CFR Part 68, Chemical Accident Prevention Provisions. The

I. Standard Conditions

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 BAAQMD Regulation 2, Rule 6. (40 CFR Part 68, BAAQMD Regulation 2, Rule 6)

L. Conditions to Implement BAAQMD 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. (BAAQMD 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. (BAAQMD Regulation 2-7, Acid Rain)
4. The permit holder shall monitor SO2 emissions in accordance with 40 CFR Part 72 and 75. (BAAQMD Regulation 2-7, Acid Rain)
5. The permit holder shall submit quarterly Electronic Data Reports (EDRs) to EPA for Turbine S-1. 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.1 and BAAQMD Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity
1	Gas Turbine Generator, Natural Gas with water injection	General Electric	LM6000PC	49.9 MW 500 MMBtu/hour (HHV)
2	Diesel Driven Firewater Pump	Clarke	JU4H-UF40	94 BHP

Table II B – Abatement Devices

A-#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
1	Oxidation catalyst	1	BAAQMD Condition #20136 Part 18.3 &18.4	All conditions except startup and shutdown	CO < 6 ppm POC < 2 ppm
2	Selective Catalytic Reduction System	1	BAAQMD Condition #20136 Part 18.1	All conditions except startup and shutdown	NOx < 2.5 ppm

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
3	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. This section also contains provisions that may apply to temporary sources.

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 http://yosemite.epa.gov/r9/r9sips.nsf/Agency?ReadForm&count=500&state=California&cat=Bay+Area+Air+Quality+Management+District-Agency-Wide+Provisions.

~~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
BAAQMD Regulation 5	Open Burning (11/2/94)	Y

III. Generally Applicable Requirements

Table III
Generally Applicable Requirements

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)
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

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.

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

1. BAAQMD regulations: The date 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.~~

The full text of each permit condition cited is included in Section VI, Permit Conditions, of this permit. Additionally, where an applicable requirement is a SIP requirement, the full language of the SIP requirement is included in Appendix A of this permit on EPA Region 9's website. The address is http://yosemite.epa.gov/r9/r9sips.nsf/Agency?ReadForm&count=500&state=California&cat=Bay+Area+Air+Quality+Management+District-Agency-Wide+Provisions. All other text may be found in the regulations themselves.

Table IV - A
Source-specific Applicable Requirements
S-1 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 (5/2/01)**		
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	

IV. Source-specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S-1 COMBUSTION GAS TURBINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
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	
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 (8/27/99)**		
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y	
1-522.7	Monitor excesses	Y	
1-523	Parametric Monitoring and Recordkeeping Procedures	Y	
1-523.3	Reports of Violations	Y	
BAAQMD Regulation 2, Rule 1	**Regulation 2, Rule 1 - Permits, General Requirements (8/1/01)**		
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	

IV. Source-specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S-1 COMBUSTION GAS TURBINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
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	
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 #20136	**Conditions to the Permit to Operate for S-1 Combustion Gas Turbine**		
Definitions	Definitions	Y	
Part 1	Minimization of emissions during commissioning period (Cumulative Increase)	Y	

IV. Source-specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S-1 COMBUSTION GAS TURBINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 2	Tuning to minimize emissions (Cumulative Increase)	Y	
Part 3	Installation of SCR and oxidation catalyst as early as possible (Cumulative Increase)	Y	
Part 4	Compliance with NOx and CO emission limits (Cumulative Increase)	Y	
Part 5	Submittal of commissioning plan (BAAQMD Regulation 2-1-403)	Y	
Part 6	Continuous emission monitors and recorders for firing hours, fuel flow rates, NOx, CO, and oxygen concentrations (Cumulative Increase)	Y	
Part 7	Monitors installed prior to first firing. (BAAQMD Regulation 2-1-403)	Y	
Part 8	Limit on uncontrolled operation during commissioning (Cumulative Increase)	Y	
Part 9	Mass emission rates during commissioning included in annual limits (Cumulative Increase)	Y	
Part 10	Source test (BAAQMD Regulation 2-1-403)	Y	
Part 11	Consistency with analyses (BAAQMD Regulation 2-1-403)	Y	
Part 12	Conflicts between conditions (BAAQMD Regulation 1-102)	Y	
Part 13	Reimbursement of costs (BAAQMD Regulation 2-1-303)	Y	
Part 14	Access to Records and Facilities (BAAQMD Regulation 1-440, 1-441)	Y	
Part 15	Notification of Commencement of Operation (BAAQMD Regulation 2-1-302)	Y	
Part 16	Operations (BAAQMD Regulation 2-1-403)	Y	
Part 17	Visible emissions (BAAQMD Regulation 6-301)	Y	
Part 18	Emission Limits		
Part 18.1	Emission Limit for NOX (BAAQMD Regulation 2-2-301 -- BACT)	Y	
Part 18.2	Emission Limit for ammonia (BAAQMD Regulation 2-2-301 -- BACT)	N	
Part 18.3	Emission Limit for carbon monoxide (BAAQMD Regulation 2-2-301 -- BACT)	Y	
Part 18.4	Emission Limit for precursor organic compounds (BAAQMD Regulation 2-2-301 -- BACT)	Y	
Part 18.5	Emission Limit for PM10 (BAAQMD Regulation 2-2-301 -- BACT, cumulative increase)	Y	
Part 18.6	Emission Limit for SOX (BAAQMD Regulation 2-2-301 -- 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	

IV. Source-specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S-1 COMBUSTION GAS TURBINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 22	Operational Limits (cumulative increase)	Y	
Part 23	Monitoring requirements (Cumulative Increase, BACT, BAAQMD Regulation 2-1-403, BAAQMD Regulation 9-1-302, 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	
Part 26	Compliance with 40 CFR 60, Subpart GG (NSPS)	Y	
Part 27	Breakdowns (BAAQMD Regulation 1-208)	Y	
Part 28	Breakdown reports (BAAQMD Regulation 1-208)	Y	
Part 29a	Records of fuel use and heat input (cumulative increase)	Y	
Part 29b	Records of startups, shutdowns, and malfunctions (BAAQMD Regulation 2-2-301 -- BACT, cumulative increase)	Y	
Part 29c	Records of emission measurements (BAAQMD Regulation 2-2-301 -- 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 (BAAQMD Regulation 2-2-301 -- BACT)	Y	
Part 29f	Records of continuous emission monitoring systems (BAAQMD Regulation 1-522)	Y	
Part 30	Records retention for five years (BAAQMD Regulation 2-6-501)	Y	
Part 31a	Reports of fuel use and heat input (cumulative increase)	Y	
Part 31b	Reports of mass emission rates (BAAQMD Regulation 2-2-301 -- BACT, cumulative increase)	Y	
Part 31c	Reports of excess emissions (BAAQMD Regulation 2-2-301 -- BACT, cumulative increase)	Y	
Part 31d	Reports of nature and cause of excess emissions (BAAQMD Regulation 2-2-301 -- BACT, cumulative increase)	Y	
Part 31e	Reports of continuous emission monitoring systems downtime (BAAQMD Regulation 1-522)	Y	
Part 31f	Negative declarations (BAAQMD Regulation 2-2-301 -- BACT, cumulative increase)	Y	
Part 31g	Reports of fuel analyses (cumulative increase, 40 CFR 75)	Y	
Part 32	District Operating permit (BAAQMD Regulation 2, Rule 2, BAAQMD Regulation 2, Rule 6)	Y	

IV. Source-specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S-1 COMBUSTION GAS TURBINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 33	Title IV and Title V permits (BAAQMD Regulation 2, Rule 6, BAAQMD Regulation 2, Rule 7)	Y	

Table IV - B
Source-specific Applicable Requirements
S-2 – DIESEL FIREWATER PUMP

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 6	**Particulate Matter and Visible Emissions (12/19/90)**		
6-301	Ringelmann No. 1 Limitation	Y	
6-305	Visible Particulates	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	
9-1-304	Fuel Burning (Liquid and Solid Fuels)	Y	
BAAQMD Regulation 9, Rule 8	**Inorganic Gaseous Pollutants (8/1/01)**		
9-8-330	Emergency Standby Engines, Hours of Operation	N	
9-8-530	Emergency standby engines, monitoring and recordkeeping	N	
BAAQMD Condition #20137	**Conditions to the Permit to Operate for S-2 Diesel Firewater Pump**		
Part 1	Emission limits for SOx (BAAQMD Regulation 9, Rule 1), PM10 (BAAQMD Regulation 6), NOx and CO (BAAQMD Regulation 9, Rule 8)	Y	
Part 2	Sulfur content of Diesel Fuel (Cumulative Increase)	Y	
Part 3	Duration limit for Maintenance/Reliability operation (Cumulative Increase)	Y	
Part 4	Diesel Fuel Certification (Cumulative Increase)	Y	

IV. Source-specific Applicable Requirements

Table IV - B
Source-specific Applicable Requirements
S-2 – DIESEL FIREWATER PUMP

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 5	Engine Run-time totalizing meter (Cumulative Increase)	Y	
Part 6	Record keeping (Cumulative Increase)	Y	

IV. Source-specific Applicable Requirements

Table IV - C
Source-specific Applicable Requirements
S-3 – 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.

BAAQMD Condition #20136
Source S-1: Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr

Definitions:

Clock Hour:	——Any continuous 60-minute period beginning on the hour.
Calendar Day:	Any continuous 24-hour period beginning at 12:00 AM or 0000 hours.
Year:	Any consecutive twelve-month period of time
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 and associated electrical delivery systems.
Commissioning Period:	The Period shall commence when all mechanical, electrical, and

VI. Permit Conditions

BAAQMD Condition #20136
Source S-1: Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr

	control systems are installed and individual system start-up has been completed, or when a gas turbine is first fired, whichever occurs first. The period shall terminate when the plant has completed performance testing and is available for commercial operation, or 180 days after commencement, whichever occurs first.
Precursor Organic Compounds (POCs):	Any compound of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate

Equipment Description

This Authority To Construct Is Issued And Is Valid For This Equipment Only While It Is In The Configuration Set Forth In The Following Description:

Installation of One Simple-Cycle Gas Turbine Generator Consisting Of:

Simple Cycle Gas Turbine, General Electric LM6000 PC, Maximum Heat Input 500 MMBtu/hr, Nominal Electrical Output 49.9 MW, Natural Gas-Fired.

Selective Catalytic Reduction NOx Control System.

Ammonia Injection System.
(including the ammonia storage tank and control system)

Oxidation Catalyst System.

Continuous emission monitoring system (CEMS) designed to continuously record the measured gaseous concentrations, and calculate and continuously monitor and record the NOx and CO concentrations in ppmvd corrected to 15% oxygen on a dry basis.

Permit Conditions for the Commissioning Period

Parts 1 through 10 shall only apply during the commissioning period as defined above.

VI. Permit Conditions

BAAQMD Condition #20136
Source S-1: Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr

Unless noted, parts 11 through 33 shall only apply after the commissioning period has ended.

1. 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. (Basis: Cumulative Increase)

2. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator of S-1 Gas Turbine combustor shall ensure that the S-1 Gas Turbine is tuned to minimize the emissions of carbon monoxide and nitrogen oxides. (Basis: Cumulative Increase)

3. At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator of S-1 Gas Turbine will ensure A-1 SCR System and A-2 OC Systems shall be installed, adjusted, and operated to minimize the emissions of nitrogen oxides and carbon monoxide from S-1 Gas Turbine. (Basis: Cumulative Increase)

4. Coincident with the steady-state operation of A-1 SCR System and A-2 OC System pursuant to Part 3 the owner/operator of Gas Turbine (S-1) shall not operate S-1 Gas Turbine unless the NOx and CO emissions are in compliance with the limitations specified in Parts 18.1 and 18.3. (Basis: Cumulative Increase)

5. The owner/operator shall submit a plan to the District Permit Services Division at least two week prior to first firing of S-1 Gas Turbine describing the procedures to be followed during the commissioning of the turbines. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall 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 S-1 Gas Turbine without abatement by their respective SCR Systems. (Basis: BAAQMD Regulation 2-1-403)

VI. Permit Conditions

BAAQMD Condition #20136
Source S-1: Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr

6. During the commissioning period, the owner/operator shall demonstrate compliance with Parts 8 and 9 through the use of properly operated and maintained continuous emission monitors and data recorders 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 monitored parameters shall be recorded at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation) for the 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 hour and each calendar day. All records shall be retained on site for at least 5 years from the date of entry and made available to District personnel upon request. (Basis: Cumulative Increase)

7. The owner/operator shall properly install, calibrate, and operate District-approved continuous monitors as specified in Part 6, prior to the first firing of the S-1 Gas turbine. After first firing of the turbine, the detection range of these continuous emission monitors shall be adjusted as necessary to accurately measure the resulting range of CO and NOx emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval. (Basis: BAAQMD Regulation 2-1-403)

8. The owner/operator shall not operate S-1 Gas Turbine without abatement by SCR or CO Systems for more than 200 hours during the commissioning period. Such operation of the S-1 Gas Turbine without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or CO system in place. Upon completion of these activities, the owner/operator shall provide written notice to the District Permit Services and Enforcement Divisions and the unused balance of the 200 firing hours without abatement shall expire. The owner/operator shall maintain records of all gas turbine firing hours without the SCR and/or OC systems in place and operational. (Basis: Cumulative Increase)

9. The total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM_{10}, and sulfur dioxide that are emitted by the S-1 Gas Turbine during the commissioning period shall accrue towards the consecutive twelve-month emission limitations specified in Part 21. (Basis: Cumulative Increase)

VI. Permit Conditions

BAAQMD Condition #20136
Source S-1: Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr

10. Within sixty (60) days of first fire, the Owner/Operator shall conduct the first RATA test and first source test required by Part 24. The source test shall determine 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 source test shall include a minimum of three start-up and three shutdown periods. Thirty (30) days before the execution of the source tests, the Owner/Operator shall submit to the District a detailed source test plan designed to satisfy the requirements of this paragraph. 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 incorporate the District comments into the test plan. The Owner/Operator shall notify the District within ten (10) days prior to the planned source testing date. Source test results shall be submitted to the District within 60 days of the source testing date. (Basis: BAAQMD Regulation 2-1-403)

<u>The Equipment For Which This Authority To Construct Is Issued May Be Operated Only When In Compliance With The Following Parts:</u>

11. <u>Consistency with Analyses</u>: Owner/Operator shall operate S-1 Gas Turbine only 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 Regulation 2-1-403)

12. <u>Conflicts Between Paragraphs</u>: In the event that any Paragraph in this condition is determined to be in conflict with any other Paragraph contained herein, then, if principles of law do not provide to the contrary, the owner/operator must comply with the Paragraph most protective of air quality and public health and safety. (Basis: BAAQMD Regulation 1-102)

13. <u>Reimbursement of Costs</u>: The owner/operator shall reimburse 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. (Basis: BAAQMD Regulation 2-1-303)

14. <u>Access to Records and Facilities</u>: 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

VI. Permit Conditions

BAAQMD Condition #20136
Source S-1: Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr

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

16. Operations: The owner/operator shall properly maintain and keep the gas turbine, emissions controls, CEMS and associated equipment in good operating condition at all times when the equipment is in operation. (Basis: BAAQMD Regulation 2-1-403)

17. Visible Emissions: The owner/operator shall not operate S-1 Gas Turbine if air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark or darker than Ringelmann 1 or equivalent 20% opacity. (Basis: BAAQMD Regulation 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 Oxides of nitrogen (NOx) emissions from the gas turbine 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 NOx emission concentration shall be verified by a District-approved continuous emission monitoring system (CEMS) and during any required source test. (Basis: BACT)

18.2 Ammonia emissions from the gas turbine shall not exceed 10 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 corrected ammonia slip calculation~~emission concentration shall be verified by 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 shall be determined~~ during ~~any required~~ a District approved source test~~, and shall not be exceeded until reestablished through another valid District approved source test~~. (Basis: ~~BACT~~TRMP)

VI. Permit Conditions

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Source S-1: Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr

18.3 Carbon monoxide (CO) emissions from the gas turbine shall not exceed 6 ppmvd @ 15 % O2 (3-hour rolling average), except during periods of startup and shutdown as defined in this permit. The CO emission concentration shall be verified by a District-approved CEMS and during any required source test. (Basis: BACT)

18.4 Precursor organic compound (POC) emissions from the gas turbine shall not exceed 2 ppmvd @ 15% O2, except during periods of startup and shutdown as defined in this permit. The POC emission concentration shall be verified during any required source test. (Basis: BACT)

18.5 Particulate matter emissions less than ten microns in diameter (PM10) from the gas turbine shall not exceed 3.0 pounds per hour, except during periods of startup and shutdown as defined in this permit. The PM10 mass emission rate shall be verified during any required source test. (Basis: BACT & cumulative increase)

18.6 Oxides of sulfur emissions (SOx) from the gas turbine shall not exceed 1.39 pounds per hour, except during periods of startup and shutdown as defined in this permit. The SOx emission rate shall be verified during any required source test. (Basis: BACT & cumulative increase)

19. Turbine Startup: Startup of the gas turbine shall not exceed a time period of 60 minutes each per occurrence, 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: Shutdown of the gas turbine shall not exceed a time period of 30 minutes each per occurrence, 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: Owner/operator can only operate S-1 Gas Turbine if the total mass emissions from the S-1 Gas Turbine do not exceed the daily and annual mass emission limits listed in Table 1 below.

VI. Permit Conditions

BAAQMD Condition #20136
Source S-1: Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr

TABLE 1 – MASS EMISSION LIMITS (INCLUDING STARTUPS AND SHUTDOWNS)

Pollutant	Daily (lb.)	Annual (tons)
NOx (as NO_2)	121	16.4
CO	163	29.1
POC	30	4.9
PM10	72	13.1
SOx (as SO_2)	33	6.0

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. (Basis: Cumulative increase)

22. Operational Limits: In order to comply with the emission limits of this rule, the owner/operator shall operate S-1 Gas Turbine only if the following operational limits are met:

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

Hourly: 500 MMBtu/hr
Daily: 12,000 MMBtu/day
Annual: 4,380,000 MMBtu/year

(b) Only PUC Quality natural gas (General Order 58-a) shall be used to fire the gas turbine. The natural gas shall not contain total sulfur in concentrations exceeding 1 gr./100 scf.

(c) The owner/operator of the gas turbine shall comply with the daily and annual emission limits listed in Table 1 by keeping running totals based on CEM data. (Basis: Cumulative increase)

VI. Permit Conditions

BAAQMD Condition #20136
Source S-1: Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr

23. Monitoring Requirements: The owner/operator shall not operate S-1 Gas Turbine unless the following monitoring systems are installed, maintained and available for service:

(a) The gas turbine exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods. (Basis: BAAQMD Regulation 2-1-403)

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

(c) The gas turbine exhaust shall be equipped with continuously recording emissions monitor(s) for NOx, CO and O_2 or CO_2. Continuous emissions monitors shall comply with the requirements of 40 CFR Part 60, Appendices B and F, and 40 CFR Part 75, and shall be capable of monitoring concentrations and mass emissions during normal operating conditions and during startups and shutdowns. (Basis: 40CFR Part 60, Appendices B and F, and 40CFR Part 75)

(d) The fuel gas supply system shall be continuously recorded using District-approved fuel flow meters along with quarterly fuel compositional analyses for the fuel's higher heating value (wet basis). (Basis: Cumulative Increase)
(e) The fuel gas system shall have sample points and the total sulfur content of the fuel gas shall be analyzed on a quarterly basis.
(Basis: BAAQMD Regulation 9-1-302)

24. Source Testing/RATA: Within sixty days after first fire of the gas turbines, and at a minimum on an annual basis thereafter, the owner/operator shall perform a relative accuracy test audit (RATA) on the CEMS in accordance with 40 CFR Part 60 Appendix B Performance Specifications. ~~and~~ A~~a~~ source test shall be performed to verify compliance with part 18 at least once every 8,000 hours of turbine operation or once every three years, whichever comes first. Additional source testing may be required at the discretion of the District to address or ascertain compliance with the requirements of this permit. The written test results of the source tests shall be provided to the District within 60 days after testing. A complete test protocol shall be submitted 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 shall be provided so that a District observer may be present. The source test protocol shall comply with the following: measurements of NOx, CO, POC, and stack gas

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BAAQMD Condition #20136
Source S-1: Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr

oxygen content shall be conducted in accordance with ARB Test Method 100; measurements of PM10 shall be conducted in accordance with ARB Test Method 5; and measurements of ammonia shall be conducted 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 initial and annual source tests shall include those parameters specified in the approved test protocol, and shall at a minimum include the following:

a. NOx (as NO2) – ppmvd at 15% O2 and lb/MMBtu;
b. Ammonia – ppmvd at 15% O2 (Exhaust);
c. CO – ppmvd at 15% O2 and lb/MMBtu (Exhaust);
d. POC – ppmvd at 15% O2 and lb/MMBtu (Exhaust);
e. PM10 – 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: Cumulative increase)

25. The owner/operator shall not operate S-1 Gas Turbine until after a written quality assurance program is established in accordance with 40 CFR Part 75, Appendix B and 40 CFR Part 60 Appendix F. (Basis: 40 CFR Part 75, Appendix B and 40 CFR Part 60 Appendix F)

26. The owner/operator shall not operate S-1 Gas turbine unless S-1 is in compliance 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.

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

VI. Permit Conditions

BAAQMD Condition #20136
Source S-1: Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr

custom schedule. (Basis: NSPS)

27. The owner/operator shall notify the District of any breakdown condition consistent with the District's breakdown regulations. (Basis: BAAQMD Regulation 1-208)

28. The District shall be notified by the owner/operator in writing in a timeframe consistent with the District's breakdown regulations following the correction of any breakdown condition. The breakdown condition shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the actions taken to restore normal operations. (Basis: BAAQMD Regulation 1-208)

29. Record keeping: The owner/operator of S-1 Gas Turbine shall not operate S-1 Gas turbine unless the following records are maintained:

    (a) hourly, daily, quarterly and annual quantity of fuel used and corresponding heat input rates (Basis: Cumulative Increase);
    (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 (Basis: BACT, Cumulative Increase);
    (c) emission measurements from all source testing, RATAs and fuel analyses (Basis: BACT, Cumulative Increase, 40CFR60, 40CFR75);
    (d) daily, quarterly and annual hours of operation (Basis: Cumulative Increase);
    (e) hourly records of NOx and CO, emission concentrations and hourly ammonia injection rates and ammonia/NOx ratio (Basis: BACT).
    (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: BAAQMD Regulation 1-522)

30. All records required to be maintained by this permit shall be retained by the owner/operator for a period of five years and shall be made readily available for District inspection upon request. (Basis: BAAQMD Regulation 2-6-501)

VI. Permit Conditions

BAAQMD Condition #20136
Source S-1: Combustion Gas Turbine with Water Injection, General Electric LM6000 PC Sprint, natural gas fired, 49.9 MW net simple-cycle, 500 MMBtu/hr

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, which shall include:

    (a) Daily and quarterly fuel use and corresponding heat input rates (Basis: Cumulative Increase);
    (b) Daily and quarterly mass emission rates for all criteria pollutants during normal operations and during other periods (startup/shutdown, breakdowns) (Basis: BACT, Cumulative Increase);
    (c) Time intervals, date, and magnitude of excess emissions (Basis: BACT, Cumulative Increase);
    (d) Nature and cause of the excess emission, and corrective actions taken (Basis: BACT, Cumulative Increase);
    (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 (Basis: BAAQMD Regulation 1-522);
    (f) A negative declaration when no excess emissions occurred (Basis: BACT, Cumulative Increase);
    (g) Results of quarterly fuel analyses for HHV and total sulfur content. (Basis: BACT, 40CFR75)

32. District Operating Permit: The owner/operator shall apply for and obtain all required operating permits from the District according to the requirements of the District's rules and regulations. . (Basis: BAAQMD Regulations 2, Rule 2 & BAAQMD 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)

VI. Permit Conditions

BAAQMD Condition # 20137
Source S-2: Diesel Firewater Pump, Clarke Model JU4H-UF40, 94 HP

1. The owner/operator of S-2 Diesel Firewater Pump shall not operate the engine unless the requirements of the following regulations are met: Regulation 9, Rule 1 ("Sulfur Dioxide"), Regulation 6 ("Particulate and Visible Emissions"), and Regulation 9, Rule 8 ("NOx and CO from Stationary Internal Combustion Engines"). [Basis: BAAQMD Regulation 9, Rule 1; BAAQMD Regulation 9, Rule 8, BAAQMD Regulation 6]

2. The owner/operator of S-2 Diesel Firewater Pump shall not operate the engine unless the liquid fuel contains less than 0.05 % Sulfur by weight. [Basis: Cumulative Increase]

3. The owner/operator of S-2 Diesel Firewater Pump shall not operate the engine for more than 100 hours each in any consecutive 12 month period, excluding periods when operation is required due to emergency response. [Basis: Cumulative Increase]

4. In order to determine compliance with Part 2 above, the owner/operator of S-2 Diesel Firewater Pump shall obtain a supplier certification for each fuel delivery stating the sulfur content. [basis: Cumulative Increase]

5. The owner/operator of S-2 Diesel Firewater Pump shall not operate S-2 unless S-2 is equipped with a non-resettable totalizing counter that records hours of operation. [Basis: Cumulative Increase]

6. The owner/operator of S-2 Diesel Firewater Pump shall not operate S-2 Diesel Firewater Pump unless the following monthly records are maintained in a District-approved log:
   total hours of operation for S-2
   hours of operation when responding to an emergency
   fuel usage at S-2
   for each emergency operation, the nature of the emergency condition.
   Owner/operator must retain these records at least 5 years and they shall be made available to the District upon request. [Basis: Cumulative Increase]

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
S – 1 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 #20136, part 23c	C	CEM
NOx	BAAQMD 9-9-301.3	Y		9 ppmv @ 15% O2, dry	BAAQMD condition #20136, part 24a	P/A	Source test <u>every 8,000 hrs or every 3 yrs, which ever comes first</u>
NOx	NSPS, 40 CFR 60.332 (a)(1)	Y		99 ppmv @ 15% O2, dry	NSPS 40 CFR 60.334(b)(2) and BAAQMD Condition 20136, Part 26	~~N~~ <u>C</u>	<u>CEM</u>
NOx	None	Y		None	40 CFR 75.10	C	CEM

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S – 1 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 condition #20136, part 18.1	Y		2.5 ppmv @ 15% O2, dry, 3-hr rolling average except during turbine startup or shutdown	BAAQMD condition #20136, part 18.1	C	CEM
NOx	BAAQMD condition #20136, part 18.1	Y		2.5 ppmv @ 15% O2, dry, 3-hr average except during turbine startup or shutdown	BAAQMD condition #20136, part 24a	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first
NOx	BAAQMD condition #20136, part 21	Y		121 lb/calendar day (as NO2)	BAAQMD condition #20136, part 23c	C	CEM
NOx	BAAQMD condition #20136, part 21	Y		16.4 tons per calendar year (as NO2)	BAAQMD condition #20136, part 23c	C	CEM
CO	BAAQMD condition #20136, part 18.3	Y		6 ppmv @ 15% O2, dry, 3-hr average except during turbine startup or shutdown	BAAQMD condition #20136, parts 18.3 and 23c	C	CEM
CO	BAAQMD condition #20136, part 18.3	Y		6 ppmv @ 15% O2, dry, 3-hr average except during turbine startup or shutdown	BAAQMD condition #20136, part 24c	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first
CO	BAAQMD condition #20136, part 21	Y		163 lb/calendar day	BAAQMD condition #20136, part 23c	C	CEM

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S – 1 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 #20136, part 21	Y		29.1 tons per calendar year	BAAQMD condition #20136, part 23c	C	CEM
CO2		Y		None	40 CFR 75.10	C	CEM (CO2) or CEM (O2) or fuel flow monitor
SO_2	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	
SO_2	BAAQMD 9-1-302	Y		300 ppm (dry)	BAAQMD condition #20136, part 23e	P/Q	Total sulfur analysis
SO_2	NSPS 40 CFR 60.333(a)	Y		0.015% (vol.) @15% O_2 (dry)	NSPS 40 CFR 60.334(b)(1) and BAAQMD Condition 20136, Part 26	N	
SO_2	None	Y		None	40 CFR 75.11(d)(2), 40 CFR 75, Appendix D, part 2.3		Fuel measure-ments, calculations
SO_2	BAAQMD condition #20136, part 18.6	Y		1.39 lb/ hr excluding startup and shutdown of turbines	BAAQMD condition #20136, part 23e	P/Q	Total sulfur analysis

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S – 1 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
SO_2	BAAQMD condition #20136, part 18.6	Y		1.39 lb/ hr excluding startup and shutdown of turbines	BAAQMD condition #20136, part 24f	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first
SO_2	BAAQMD condition #20136, part 21	Y		33 lb/calendar day	BAAQMD condition #20136, part 23e	P/Q	Total sulfur analysis
SO_2	BAAQMD condition #20136, part 21	Y		6.0 tons/calendar year	BAAQMD condition #20136, part 23e	P/Q	Total sulfur analysis
Opacity	BAAQMD 6-301	Y		> Ringelmann No. 1 for no more than 3 minutes in any hour		N	
Opacity	BAAQMD condition #20136, part 17	Y		> Ringelmann No. 1 for no more than 3 minutes in any hour or equivalent 20% opacity		N	
Filterable Particulate	BAAQMD 6-310	Y		0.15 grain/dscf		N	
PM_{10}	BAAQMD condition #20136, part 18.5	Y		3.0 lb/ hr for S-1	BAAQMD condition #20136, part 24e	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S – 1 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
PM_{10}	BAAQMD condition #20136, part 21	Y		72 lb/calendar day	BAAQMD condition #20136, part 24e	P/A	Source Test every 8,000 hrs or every 3 yrs, which ever comes first
PM_{10}	BAAQMD condition #20136, part 21	Y		13.1 tons/calendar year	BAAQMD condition #20136, part 24e	P/A	Source Test every 8,000 hrs or every 3 yrs, which ever comes first
POC	BAAQMD condition #20136, part 18.4	Y		2 ppmv @ 15% O2, dry, except during turbine startup or shutdown	BAAQMD condition #20136, part 24d	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first
POC	BAAQMD condition #20136, part 21	Y		30.0 lb/calendar day	BAAQMD condition #20136, part 24d	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first
POC	BAAQMD condition #20136, part 21	Y		4.9 ton/calendar year	BAAQMD condition #20136, part 24d	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S – 1 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
NH_3	BAAQMD condition #20136, Part 18.2	N		10 ppmv @ 15% O2, dry, except during turbine startup or shutdown	BAAQMD condition #20136, parts 18.2 and 23b	C	~~Measurement ratio NH3 to NOX inlet rate at SCR~~ District approved correct ammonia slip calculation and correction factor determined by source test
NH_3	BAAQMD condition #20136, Part 18.2	N		10 ppmv @ 15% O2, dry, except during turbine startup or shutdown	BAAQMD condition #20136, part 24b	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first
Heat input limit	BAAQMD condition #20136, part 22	Y		500 MM BTU/ hr (HHV), 3-hr average	BAAQMD condition #20136, part 23d	C	Fuel meter
Heat input limit	BAAQMD condition #20136, part 22	Y		500 MM BTU/ hr (HHV), 3-hr average	BAAQMD condition #20136, part 23d	P/Q	Fuel composition analysis

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S – 1 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
Heat input limit	BAAQMD condition #20136, part 22	Y		500 MM BTU/ hr (HHV), 3-hr average	BAAQMD condition #20136, part 24g	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first
Heat input limit	BAAQMD condition #20136, part 22	Y		12,000 MM BTU/day (HHV)	BAAQMD condition #20136, part 23d	C	fuel meter, calculations
Heat input limit	BAAQMD condition #20136, part 22	Y		12,000 MM BTU/day (HHV)	BAAQMD condition #20136, part 31g	P/Q	Fuel composition analysis
Heat input limit	BAAQMD condition #20136, part 22	Y		4,380,000 MM BTU/yr	BAAQMD condition #20136, part 23d	C	fuel meter, calculations
Heat input limit	BAAQMD condition #20136, part 22	Y		4,380,000 MM BTU/yr	BAAQMD condition #20136, part 31g	P/Q	Fuel composition analysis
Unabated firing	BAAQMD condition #20136, part 8	Y		200 hours during commissioning	BAAQMD condition #20136, part 8	P/H	Records
MW	N/A			None	BAAQMD condition #20136, part 24h	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - A
Applicable Limits and Compliance Monitoring Requirements
S – 1 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
Exhaust Gas Temp.	N/A			None	BAAQMD condition #20136, part 24j	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first
Stack gas flow	N/A			None	BAAQMD condition #20136, part 24i	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first
NH3 injection rate	N/A			None	BAAQMD condition #20136, part 24k	P/A	Source test every 8,000 hrs or every 3 yrs, which ever comes first

Table VII - B
Applicable Limits and Compliance Monitoring Requirements
S-2 - DIESEL FIREWATER PUMP

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 9-1-301 BAAQMD	N		GLC[1] of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours	BAAQMD Condition #20137 Part 4	P/E	Fuel certification by vendor

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII - B
Applicable Limits and Compliance Monitoring Requirements
S-2 - DIESEL FIREWATER PUMP

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
	BAAQMD 9-1-304	Y		Sulfur content of fuel <0.5% by weight	BAAQMD Condition #20137 Part 4	P/E	Fuel certification by vendor
	BAAQMD Condition #20137 Part 2	N		Sulfur content of fuel <0.05% by weight	BAAQMD Condition #20137 Part 4	P/E	Fuel certification by vendor
Opacity	BAAQMD Regulation 6-301	Y		< Ringelmann 1 for more than 3 min/hr		N	
FP	BAAQMD 6-310	Y		0.15 grain/dscf		N	
Hours of operation	BAAQMD 9-8-330.1 BAAQMD Condition #20137 Part 3	Y		Emergency use for an unlimited number of hours	BAAQMD 9-8-530 BAAQMD Condition #20137 Part 5	C P/E	Hour meter, recordkeeping
Hours of operation	BAAQMD 9-8-330.2 BAAQMD Condition #20137 Part 3	Y		Reliability-related activities not to exceed 100 hours in any consecutive 12-month period	BAAQMD 9-8-530 BAAQMD Condition #20137 Part 5	C P/E	Hour meter, recordkeeping

Table VII - C
Applicable Limits and Compliance Monitoring Requirements
S-3 - COOLING TOWER

VII. Applicable Limits and Compliance Monitoring Requirements

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 9-1-304	Fuel Burning (Liquid and Solid Fuels)	Manual of Procedures, Volume III, Method 10, Determination of Sulfur in Fuel Oils.
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 6-311	General Operations	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 w/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
BAAQMD Condition # 20136 for S-1 Combustion Gas Turbine		
Part 18.1	NOx Limit	ARB Method 100, Procedures for Continuous Gaseous Emission Stack Sampling
Part 18.2	NH3 Limit	Manual of Procedures, Volume IV, ST-1B, Ammonia, Integrated Sampling
Part 18.3	CO Limit	ARB Method 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	POC Limit	ARB Method 100, Procedures for Continuous Gaseous Emission Stack Sampling
Part 18.5	PM10 Limit	ARB Method 5, Determination of Particulate Matter Emissions from Stationary Sources
Part 18.6	SOx Limit	Manual of Procedures, Volume IV, ST-19A, Sulfur Dioxide, Continuous Sampling or ST-19B, Total Sulfur Oxides, Integrated Sample

IX. TITLE IV ACID RAIN PERMIT

Effective [ ], 2003 through [ ], 2008

ISSUED TO:
Calpine Corporation
Creed Energy Center, LLC
~~5029 South Township~~2425 Cordelia Road
~~Yuba City~~Fairfield, CA ~~95993~~94534

PLANT SITE LOCATION:
6150 Creed Road
Suisun City, CA 94585

ISSUED BY:

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

Date

Type of Facility: **Simple Cycle Gas Turbine Peaker Facility**
Primary SIC: **4911**
Product: **Electricity**

DESIGNATED REPRESENTATIVE
Name: **Ed Warner**
Title: **General Manager**
Address: **~~5029 South Township~~2425 Cordelia Road, ~~Yuba City~~Fairfield, CA ~~95993~~94534**
Phone: **(530) 821-2072**

FACILITY CONTACT PERSON:
Name: **Diane Tullos**
Title: **Compliance Manager**
Phone: **(530) 821-2074**

IX. Title V 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 the 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 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, Combustion 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

IX. Title V Acid Rain Permit

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.

IX. Title V Acid Rain Permit

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 X 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 20136, Part 24	Continuous emission monitoring for 2.5 ppmv limit @ 15% oxygen
40 CFR 60.334(c)(1)	Periods of excess emissions, NOx	BAAQMD Condition 20136, Part 24	Requirement for continuous emission monitor for NOx

XI. REVISION HISTORY

This section contains the details of issuance and revision for each permit.

The initial Title V permit for this facility was issued on March 6, 2003.

Application 11000:	Significant Revision	, 2006
	Change permit condition to allow for source test every 8,000 hrs of turbine operation or every 3 years. Change permit condition to allow for ammonia slip calculation and correction factor determined by source test.	

~~XI.~~XII. 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 allows 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
CEM

XII. Glossary

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.

EGT
Exhaust Gas Temperature

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

XII. 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
The District's Manual of Procedures

XII. Glossary

MSDS
Material Safety Data Sheet

MW
Megawatts

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.

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.

XII. Glossary

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.

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.

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

XII. Glossary

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
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

XII. Glossary

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 APPLICATION