Bay Area Air Quality Management District

375 Beale Street, Suite 600
San Francisco, CA 94105
(415) 771-6000

Proposed

Major Facility Review Permit

Issued To:

Russell City Energy Company, LLC
Facility #B8136

Facility Address:
3862 Depot Road
Hayward, CA 94545

Mailing Address:
3862 Depot Road
Hayward, CA 94545

Responsible Official	**Facility Contact**
Eugene Fahey	Laura Bresnahan
Plant Manager	EHS Specialist
510-731-1414	510-731-1407

Type of Facility: Power Plant
Primary SIC: 4911
Product: Generation of Electricity

BAAQMD Engineering Division Contact:
Dennis Jang

ISSUED BY THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT

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 5/04/11);
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 4/18/12);
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 6/15/05);
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 12/19/12);
SIP Regulation 2, Rule 4 - Permits, Emissions Banking
(as approved by EPA through 1/26/99);
BAAQMD Regulation 2, Rule 5 – New Source Review of Toxic Air Contaminants
(as adopted by the District Board on 1/6/10);
BAAQMD Regulation 2, Rule 6 - Permits, Major Facility Review
(as amended by the District Board on 4/16/03), and
SIP Regulation 2, Rule 6 – Permits, Major Facility Review
(as approved by EPA through 6/23/95).

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

1. This Major Facility Review Permit was issued [DATE], and expires on [DATE]. The permit holder shall submit a complete application for renewal of this Major Facility Review Permit no later than [DATE] and no earlier than [DATE]. If a complete application for renewal has not been submitted in accordance with this deadline, the facility may not operate after [DATE]. If the permit renewal has not been issued by [DATE], but a complete application for renewal has been submitted in accordance with the above deadlines, the existing permit will continue in force until the District takes final action on the renewal application." This is the "application shield" pursuant to BAAQMD Regulation 2-6-407. (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

I. Standard Conditions

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)
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 required to 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 2-6-420; 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)
12. The permit holder is responsible for compliance, and certification of compliance, with all conditions of the permit, regardless whether it acts through employees, agents, contractors, or subcontractors. (Regulation 2-6-307).

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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)

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 [date of issuance] to [six months later]. The report shall be submitted by [one month after end of reporting period]. Subsequent reports shall be for the following periods: [_____ 1st through _____ 30th or 31st] and [_____ 1st through _____ 30th or 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 by e-mail to compliance@baaqmd.gov or postal mail to the following address:

Director of Compliance and Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Attn: Title V Reports

(Regulation 2-6-502; 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

I. Standard Conditions

Protection Agency. The certification period will be _____ 1st through _____ 30th or 31st. The certification shall be submitted by _____ 30th or 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 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 by e-mail to r9.aeo@epa.gov or postal mail to the Environmental Protection Agency at the following address:

Director
Enforcement Division, TRI & Air Section (ENF-2-1)
USEPA Region 9
75 Hawthorne Street
San Francisco, California 94105

(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

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 Regulation 2, Rule 1, Section 301. (Regulation 2-1-301)

I. Standard Conditions

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)

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

1. The permit holder shall hold one sulfur dioxide allowance on March 1 of each year (February 29th during a leap year) 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 O_2 and NO_x 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 NO_x 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 SO_2 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 S-1 and S-3, Turbines, and S-2 and S-4, Heat Recovery Steam Generators. 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	Gas Turbine (natural gas) 200 MW nominal	Siemens/ Westinghouse	501F	2,038.6 MM BTU/hr (HHV) 2,238.6 MM BTU/hr combined with S-2.
2	Heat Recovery Steam Generator (natural gas)			200 MM BTU/hr (HHV)
3	Gas Turbine (natural gas) 200 MW nominal	Siemens/ Westinghouse	501F	2,038.6 MM BTU/hr (HHV) 2,238.6 MM BTU/hr combined with S-2.
4	Heat Recovery Steam Generator (natural gas)			200 MM BTU/hr (HHV)
5	Cooling Tower, 9-cell			141,352 gallons/minute
6	Diesel Fire Pump Engine	Clarke	JW6H-UF40	300 bhp 2.02 MMBTU/hr (HHV) 496 cubic-inch displacement

II. Equipment

Table II B – Abatement Devices

A-#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
1	Selective Catalytic Reduction System	S-1, S-2	BAAQMD Condition #23763, part 19a and Federal PSD Permit Condition #26117, part 19a	None	16.5 lb/hr NO_x or 0.00735 lb/MM BTU HHV, 1-hr average
		S-1, S-2	BAAQMD Condition #23763, Part 19b and Federal PSD Permit Condition #26117, part 19b	None	2.0 ppmv NO_x @ 15% O_2, dry, 1-hr average
2	Oxidation Catalyst	S-1, S-2	BAAQMD Condition #23763, parts 19(c) Federal PSD Permit Condition #26117, part 19c	None	10 lb/hr CO or 0.0045 lb/MM BTU HHV, 1-hr average
		S-1, S-2	BAAQMD Condition #23763, Part 19d Federal PSD Permit Condition #26117, part 19d	None	2.0 ppmv CO @ 15% O_2, dry, 1-hr average

II. Equipment

Table II B – Abatement Devices

A-#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
3	Selective Catalytic Reduction System	S-3, S-4	BAAQMD Condition #23763, part 19a and Federal PSD Permit Condition #26117, part 19a	None	16.5 lb/hr NO_x or 0.00735 lb/MM BTU HHV, 1-hr average
		S-3, S-4	BAAQMD Condition #23763, Part 19b and Federal PSD Permit Condition #26117, part 19b	None	2.0 ppmv NO_x @ 15% O_2, dry, 1-hr average
4	Oxidation Catalyst	S-3, S-4	BAAQMD Condition #23763, parts 19(c) Federal PSD Permit Condition #26117, part 19c	None	10 lb/hr CO or 0.0045 lb/MM BTU HHV, 1-hr average
		S-3, S-4	BAAQMD Condition #23763, Part 19d Federal PSD Permit Condition #26117, part 19d	None	2.0 ppmv CO @ 15% O_2, dry, 1-hr average

II. Equipment

Table II C – Exempt Sources

The following sources are exempt from the requirement to obtain a District authority to construct and permit to operate. In addition, these sources are not significant sources pursuant to BAAQMD Regulation 2-6-239.

S-#	Description	Make or Type	Model	Capacity
7	Circuit Breaker	Alstom	HGF	245 KV
8	Circuit Breaker	Alstom	HGF	245 KV
9	Circuit Breaker	Alstom	HGF	245 KV
10	Circuit Breaker	Alstom	HGF	245 KV
11	Circuit Breaker	Alstom	HGF	245 KV
n/a	Hydrogen Chloride Storage Tank	None	None	2000 gallons
n/a	Aqueous Ammonia Storage Tank	None	None	15,000 gallons

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 as a whole, including to sources exempt from the requirement to obtain a District Permit to Operate. The District has determined that these requirements would 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.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They are specifically described in the Title V permit if they are significant sources pursuant to the definition in BAAQMD Rule 2-6-239.

Portable equipment operating in accordance with the ARB portable equipment registration program and temporary equipment such as sandblasting equipment may be operated at the facility as long as the source is not significant under Rule 2-6-239. If the source is a significant source, it must be included in the Title V permit.

In the following table, the dates in parentheses 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 SIP requirements are available on the EPA Region 9 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

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 the rule until US EPA has reviewed and approved the District's revision of the regulation.

III. Generally Applicable Requirements

Table III
Generally Applicable Requirements

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)
BAAQMD Regulation 1	General Provisions and Definitions (5/4/11)	N
SIP Regulation 1	General Provisions and Definitions (6/28/99)	Y
BAAQMD Regulation 2, Rule 1	General Requirements (4/18/12)	N
SIP Regulation 2, Rule 1	General Requirements (1/26/99)	Y
BAAQMD 2-1-429	Federal Emissions Statement (12/21/04)	N
SIP Regulation 2-1-429	Federal Emissions Statement (4/3/95)	Y
BAAQMD Regulation 2, Rule 2	Permits, New Source Review (6/15/05)	N
SIP Regulation 2, Rule 2	Permits, New Source Review (1/26/99)	Y
BAAQMD Regulation 2, Rule 3	Permits, Power Plants (12/20/79)	Y
BAAQMD Regulation 2, Rule 4	Permits, Emissions Banking (12/20/12)	N
SIP Regulation 2, Rule 4	Permits, Emissions Banking (01/26/99)	Y
BAAQMD Regulation 2, Rule 5	New Source Review of Toxic Air Contaminants (1/6/10)	N
BAAQMD Regulation 2, Rule 6	Permits, Major Facility Review (4/16/03)	N
SIP Regulation 2, Rule 6	Permits, Major Facility Review (6/23/95)	Y
BAAQMD Regulation 2, Rule 9	Permits, Interchangeable Emission Reduction Credits (6/15/05)	N
BAAQMD Regulation 4	Air Pollution Episode Plan (3/20/91)	N
SIP Regulation 4	Air Pollution Episode Plan (8/6/90)	Y
BAAQMD Regulation 5	Open Burning (6/19/13)	N
SIP Regulation 5	Open Burning (9/4/98)	Y
BAAQMD Regulation 6, Rule 1	Particulate Matter, General Requirements (12/5/07)	N
SIP Regulation 6	Particulate Matter and Visible Emissions (9/4/98)	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 (7/19/05)	N
SIP Regulation 8, Rule 2	Organic Compounds – Miscellaneous Operations (3/22/95)	Y
BAAQMD Regulation 8, Rule 3	Organic Compounds - Architectural Coatings (7/1/09)	N
SIP Regulation 8, Rule 3	Organic Compounds - Architectural Coatings (1/2/04)	Y
BAAQMD Regulation 8, Rule 4	Organic Compounds – General Solvent and Surface Coating Operations (10/16/02)	Y
BAAQMD Regulation 8, Rule 15	Organic Compounds – Emulsified and Liquid Asphalts (6/1/94)	Y
BAAQMD Regulation 8, Rule 40	Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks (6/15/05)	N

III. Generally Applicable Requirements

Table III
Generally Applicable Requirements

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)
SIP Regulation 8, Rule 40	Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks (4/19/01)	Y
BAAQMD Regulation 8, Rule 47	Organic Compounds – Air Stripping and Soil Vapor Extraction Operations (6/15/05)	N
SIP Regulation 8, Rule 47	Organic Compounds – Air Stripping and Soil Vapor Extraction Operations (4/26/95)	Y
BAAQMD Regulation 8, Rule 49	Organic Compounds - Aerosol Paint Products (12/19/95)	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 (7/17/02)	N
SIP Regulation 8, Rule 51	Organic Compounds - Adhesive and Sealant Products (2/26/02)	Y
BAAQMD Regulation 9, Rule 7	Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (5/4/11)	N
SIP Regulation 9, Rule 7	Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (12/15/97))	Y
BAAQMD Regulation 11, Rule 2	Hazardous Pollutants - Asbestos Demolition, Renovation and Manufacturing (10/7/98)	N
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
California Health and Safety Code Section 41750 et seq.	Portable Equipment	N
California Health and Safety Code Title 17, Section 93115 et seq.	Airborne Toxic Control Measure for Stationary Compression Ignition Engines	N
California Health and Safety Code Title 17, Section 93116	Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater	N

III. Generally Applicable Requirements

Table III
Generally Applicable Requirements

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)
40 CFR Part 61, Subpart M	National Emission Standards for Hazardous Air Pollutants – National Emission Standard for Asbestos (6/19/95)	Y
EPA Regulation 40 CFR 82	Protection of Stratospheric Ozone (03/12/04)	Y
Subpart F, 40 CFR 82.156	Recycling and Emissions Reductions – Required Practices (04/13/05)	Y
Subpart F, 40 CFR 82.161	Recycling and Emissions Reductions – Technician Certification (04/13/05)	Y
Subpart F, 40 CFR 82.166	Recycling and Emissions Reductions – Reporting and Recordkeeping Provisions (04/13/05)	Y
40 CFR Part 82, Subpart H	Protection of Stratospheric Ozone; Halon Emissions Reduction (03/05/98)	Y
Title 40 Part 82 Subpart H 82.270(b)	Prohibitions, Halon (03/05/98)	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).

In the following tables, the dates in parentheses 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 SIP requirements are available on the EPA Region 9 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

Table IV – A
Source-specific Applicable Requirements
S-1, S-3 GAS TURBINES
S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (5/4/11)**		
1-107	Combination of Emissions	Y	
1-519	Continuous Emission Monitoring	Y	
1-519.1	Monitoring of NO_x, CO_2, or O_2	Y	
1-519.8	Monitors required per Reg. 2-1-403	Y	
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y	
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	

IV. Source-specific Applicable Requirements

Table IV – A
Source-specific Applicable Requirements
S-1, S-3 GAS TURBINES
S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
1-523	Parametric Monitoring and Recordkeeping Procedures	Y	
1-523.1	Parametric monitor periods of non-operation	Y	
1-523.2	Limits on periods of non-operation	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	N	
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y	
1-522.7	Emission limit exceedance reporting requirements	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 (7/19/06)**		
2-1-501	Monitors	Y	
BAAQMD Regulation 6, Rule 1	**Particulate Matter, General Requirements (12/5/07)**		
6-1-301	Ringelmann Number 1 Limitation	N	
6-1-304	Tube Cleaning (HRSG Only)	N	
6-1-305	Visible Particles	N	
6-1-310	Particulate Weight Limitation	N	
6-1-310.3	Heat Transfer Operations (HRSG Only)	N	
6-1-401	Appearance of Emissions	N	
SIP Regulation 6	**Particulate Matter and Visible Emissions (9/4/98)**		
6-301	Ringelmann Number 1 Limitation	Y	
6-304	Tube Cleaning (HRSG Only)	Y	
6-305	Visible Particles	Y	
6-310	Particulate Weight Limitation	Y	
6-310.3	Heat Transfer Operations	Y	
6-401	Appearance of Emissions	Y	

IV. Source-specific Applicable Requirements

Table IV – A
Source-specific Applicable Requirements
S-1, S-3 GAS TURBINES
S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
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 3	**Inorganic Gaseous Pollutants, Nitrogen Oxides From Heat Transfer Operations (3/17/82)**		
9-3-303	New or Modified Heat Transfer Operation Limits	N	
BAAQMD Regulation 9, Rule 9	**Inorganic Gaseous Pollutants-Nitrogen Oxides from Stationary Gas Turbines (12/6/06)**		
9-9-113	Exemption – Inspection/Maintenance	N	
9-9-114	Exemption – Start-Up/Shutdown	N	
9-9-301	Emission Limits, General	N	
9-9-301.1.3	Emission Limits- Turbines Rated ≥ 10 MW w/SCR	N	
9-9-301.2	Emission Limits, General	N	
9-9-401	Certification, Efficiency	N	
9-9-501	Monitoring and recordkeeping requirements	N	
SIP Regulation 9 Rule 9	**Inorganic Gaseous Pollutants-Nitrogen Oxides from Stationary Gas Turbines (12/15/97)**		
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 greater than 10 MW with SCR, NO_x less than 9 ppmv (dry, 15% O_2)	Y	
9-9-501	Monitoring and recordkeeping requirements	Y	
BAAQMD Manual of Procedures, Volume V	**Continuous Emission Monitoring Policy and Procedures (1/19/82)**	Y	
40 CFR Part 60 Subpart A	**Standards of Performance for New Stationary Sources – General Provisions (1/28/09)**	Y	
60.7	Notification and Recordkeeping	Y	

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Table IV – A
Source-specific Applicable Requirements
S-1, S-3 GAS TURBINES
S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.8	Performance Tests	Y	
60.9	Availability of Information	Y	
60.11(a)	Compliance with standards in this part	Y	
60.11(d)	Minimizing emissions	Y	
60.12	Circumvention	Y	
60.13	Monitoring Requirements	Y	
60.19	General notification and reporting requirements	Y	
40 CFR 60 Subpart KKKK	**Standards of Performance for Stationary Combustion Turbines (7/6/06)**		
60.4300	Control of emissions from stationary combustion turbines (SCT) that commenced construction, modification, or reconstruction after February 18, 2005	Y	
60.4305(a)	Applicable to SCT with heat input ≥ 10 MMBtu/hr (at turbine only).	Y	
60.4305(b)	SCT exempt from Subpart GG	Y	
60.4320(a)	Comply with Table 1 NOx requirements for new, modified, or reconstructed turbine firing natural gas ≥ 850 MMBtu/hr: 15 ppm at 15% O2 or 0.43 lb/MW-hr	Y	
60.4330(a)	Turbines located in continental area must comply with SO_2 limits in (a)(1), (a)(2), or (a)(3)	Y	
60.4330(a)(2)	SO_2 emissions to not exceed 0.060 lb/MMBtu	Y	
60.4333(a)	General Requirements for operation and maintenance	Y	
60.4340	How do I demonstrate compliance for NOx if I do not use water or steam injection		
60.4340(b)(1)	NOx and CO_2 or O_2 CEMs to determine NOx emissions	Y	
60.4345	What are the requirements for the continuous emission monitoring system equipment, if I choose to use this option?	Y	
60.4345(a)	NOx CEMs installed and certified pursuant to Performance Specification 2 in appendix B, or appendix A of Part 75. The RATA shall be performed on a lb/MMBtu basis.	Y	
60.4345(b)	NOx CEMs operating requirements	Y	
60.4345(c)	Fuel flow meter requirements	Y	
60.4345(e)	QA plan for CEMs	Y	
60.4350	How do I use data from the continuous emission monitoring equipment to identify excess emissions?	Y	

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Table IV – A
Source-specific Applicable Requirements
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S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.4365	How can I be exempted from monitoring the total sulfur content of the fuel?	Y	
60.4365	Exemption from sulfur content monitoring for firing natural gas with less than 20 grains of sulfur per 100 scf	Y	
60.4375(a)	Reporting requirements in accordance with 60.7(c)	Y	
60.4380	How are excess emissions and monitor downtime defined for NOX?	Y	
60.4380(b)	NOx excess emissions and downtime for turbines with CEMs	Y	
60.4380(b)(1)	Excess emissions is any unit operating period in which the 4-hour rolling average NO_X emission rate exceeds the applicable emission limit in § 60.4320		
60.4395	When must I submit my reports? All reports must be postmarked by the 30th day following the end of each 6-month period as set forth in the Standard Conditions	Y	
60.4405	Alternative NOx initial performance test for turbines with NOx CEMs and diluent CEM	Y	
60.4415	SO_2 initial and subsequent performance test requirements and methodologies	Y	
60.4420	Definitions	Y	
40 CFR Part 72	**Title IV – Acid Rain Program**	Y	
	Subpart A – Acid Rain Program General Requirements		
72.6	Applicability	Y	
72.6(a)(3)	New utility unit (at the time of commencement of commercial operation)	Y	
72.9	Standard Requirements	Y	
72.9(a)	Permit Requirements	Y	
72.9(a)(1)(i)	Submittal of a complete acid rain permit application	Y	
72.9(a)(1)(iii)	Submittal of information in a timely manner	Y	
72.9(a)(2)(i)	Operation in compliance with Acid Rain permit	Y	
72.9(a)(2)(ii)	Have an Acid Rain Permit	Y	
72.9(b)	Monitoring Requirements	Y	
72.9(c)	Sulfur Dioxide Requirements	Y	
72.9(c)(1)	Requirement to hold allowances as of allowance transfer deadline	Y	
72.9(c)(2)	Each ton of excess SO_2 emissions is a separate violation of the CAA	Y	
72.9(c)(3)	Initial deadline to hold allowances	Y	

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S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
72.9(c)(3)(iv)	Deadline at time of monitor certification	Y	
72.9(c)(4)	Use of Allowance Tracking System	Y	
72.9(c)(5)	Allowances may not be deducted prior to year for which allowance was allocated	Y	
72.9(c)(6)	Limited authorization	Y	
72.9(e)	Excess emissions requirements	Y	
72.9(f)	Recordkeeping and Reporting Requirements	Y	
72.9(g)	Liability	Y	
72.9(h)	Effect on Other Authorities	Y	
	Subpart C – Acid Rain Permit Applications		
72.30(a)	Requirement to apply	Y	
72.30(c)	Duty to reapply. Requirement to submit complete acid rain application 6 months prior to expiration of current acid rain permit.	Y	
72.31	Information requirements for Acid Rain permit applications	Y	
72.31(a)	Identification of affected source	Y	
72.31(b)	Identification of each affected emissions unit	Y	
72.31(c)	Complete compliance plan	Y	
72.31(d)	Standard requirements under 40 CFR 72.9	Y	
72.31(e)	If the Acid Rain permit application is for Phase II and the unit is a new unit, the date that the unit has commenced or will commence operation and the deadline for monitor certification.	Y	
72.32	Permit application shield and binding effect of permit application	Y	
	Subpart E – Acid Rain Permit Contents		
72.50	General	Y	
72.50(a)	Acid Rain Permits	Y	
72.50(a)(1)	Permits must contain all elements of complete Acid Rain Application under 40 CFR 72.31	Y	
72.50(b)	Permits include terms in 40 CFR 72.2	Y	
72.51	Permit Shield	Y	
40 CFR Part 75	**Code of Federal Regulations, Continuous Emissions Monitoring**	Y	
	Subpart A – General	Y	
75.2	Applicability	Y	

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S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
75.2(a)	Applicability to affected units subject to Acid Rain emission limitations	Y	
75.2(c)	The provisions of this part apply to sources subject to a State or federal NO_X mass emission reduction program, to the extent these provisions are adopted as requirements under such a program	Y	
75.4	Compliance Dates	Y	
75.4(b)	New affected unit (at the time of the commencement of commercial operation) shall ensure that all monitoring systems required under this part for monitoring of SO_2, NO_x, CO_2, opacity, and volumetric flow are installed and all certification tests are completed on or before the later of the following dates	Y	
75.4(b)(2)	The earlier of 90 unit operating days or 180 calendar days after the date the unit commences commercial operation, notice of which date shall be provided under subpart G of this part.	Y	
75.5	Prohibitions	Y	
	Subpart B – Monitoring Provisions	Y	
75.10	General Operating Requirements	Y	
75.10(a)	Primary Measurement Requirement	Y	
75.10(a)(1)	SO_2 Emissions, except as provided in §§75.11 and 75.16 and subpart E of this part	Y	
75.10(a)(2)	NO_x Emissions, except as provided in §§75.12 and 75.17 and subpart E of this part	Y	
75.10(a)(3)	CO_2 Emissions	Y	
75.10(a)(3)(ii)	CO_2 Emissions estimated using Carbon Content of fuel and procedures in Appendix G.	Y	
75.10(b)	Primary Equipment Performance Requirements Requires each CEM to meet equipment, installation, and performance specifications in part 75, Appendix A and quality assurance/quality control requirements in part 75 Appendix B.	Y	
75.10(c)	Heat Input Rate Measurement Requirement	Y	
75.10(d)	Primary equipment hourly operating requirements	Y	
75.10(d)(1)	Cycles of operation for each 15-minute period. Hourly average calculated from a minimum of four 15-minute periods.	Y	
75.10(d)(3)	Validity of data and data substitution	Y	

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Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
75.10(f)	Minimum measurement capability requirement	Y	
75.10(g)	Minimum recording and recordkeeping requirements	Y	
75.11	Specific provisions for monitoring SO_2 emissions	Y	
75.11(d)	Gas-fired and oil-fired units	Y	
75.11(d)(2)	Allows the use of Appendix D Optional SO_2 Emissions Data Protocol for Gas-Fired and Oil-Fired Units to monitor SO_2 emissions.	Y	
75.12	Specific provisions for monitoring NO_x emission rates	Y	
75.12(a)	NO_x continuous emission monitor and diluent monitoring requirement	Y	
75.12(c)	NO_x mass emission rate determination according to Appendix F	Y	
75.13	Specific provisions for monitoring CO_2 emissions	Y	
75.13(b)	Determination of CO_2 emissions using Appendix G	Y	
75.14	Specific Provisions for monitoring opacity	Y	
75.14(c)	Gas-Fired Units Exempt from Opacity Monitoring	Y	
	Subpart C – Operation and Maintenance Requirements	Y	
75.20	Initial certification and recertification procedures	Y	
75.20(a)	Initial certification and approval process	Y	
75.20(b)	Recertification approval process	Y	
75.20(c)	Initial certification and recertification procedures	Y	
75.20(g)	Initial certification and recertification procedures for excepted monitoring systems under appendices D and E	Y	
75.21	Quality assurance and quality control requirements	Y	
75.21(a)	Continuous emission monitoring systems	Y	
75.21(c)	Calibration gases	Y	
75.21(d)	Notification for periodic Relative Accuracy Test Audits	Y	
75.21(e)	Consequences of audits	Y	
75.22	Reference test methods	Y	
75.24	Out-of-control periods and adjustment for system bias	Y	
	Subpart D – Missing Data Substitution Procedures	Y	
75.30	General Provisions	Y	
75.30(a)	Owner/operator shall provide substitute data for each affected unit using a continuous emission monitor according to this subpart whenever the unit is combusting fuel.	Y	
75.31	Initial missing data procedures	Y	

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Table IV – A
Source-specific Applicable Requirements
S-1, S-3 GAS TURBINES
S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
75.32	Determination of monitor data availability for standard missing data procedures	Y	
75.33	Standard missing data procedures for SO, NO, Hg, and flow rate	Y	
75.33(a)	Following initial certification and after following initial missing data procedures for 2,160 quality assured operating hours for NO_x continuous emissions monitors system the owner/operator shall follow the data substitution procedures in paragraph (b) and (c) of this section.	Y	
75.33(c)	Volumetric flow rate, NO_x emission rate and NO_x concentration data	Y	
75.34	Units with add-on emission controls	Y	
75.35	Missing data procedures for CO_2	Y	
75.36	Missing data procedures for heat input rate determinations	Y	
	Subpart F – Recordkeeping Requirements	Y	
75.53	Monitoring plan	Y	
75.53(a)	General provisions	Y	
75.53(b)	Updates to monitoring plan	Y	
75.53(e)	Contents of monitoring plan	Y	
75.53(f)	Contents of monitoring plan for specific situations	Y	
75.53(g)	Contents of the monitoring plan after January 1, 2009	Y	
75.53(h)	Contents of monitoring plan for specific situations	Y	
75.57	General recordkeeping provisions	Y	
75.57(a)	General recordkeeping provisions for affected sources	Y	
75.57(b)	Operating parameter record provisions. The owner or operator shall record for each hour the following information on unit operating time, heat input rate, and load, separately for each affected unit.	Y	
75.57(c)	SO_2 emission record provisions	Y	
75.57(d)	NO_x emission record provisions	Y	
75.57(e)	CO_2 emission record provisions	Y	
75.57(g)	Diluent record provisions	Y	
75.57(h)	Missing data records	Y	
75.58	General recordkeeping provisions for specific situations	Y	
75.58(b)	Specific parametric data record provisions for calculating substitute emissions data for units with add-on emission controls	Y	

IV. Source-specific Applicable Requirements

Table IV – A
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S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
75.58(c)	Specific SO_2 emission record provisions for gas-fired or oil-fired units using optional protocol in appendix D to this part. In lieu of recording the information in §75.57(c), the owner or operator shall record the applicable information in this paragraph for each affected gas-fired or oil-fired unit for which the owner or operator is using the optional protocol in appendix D to this part for estimating SO_2 mass emissions	Y	
75.59	Certification, quality assurance, and quality control record provisions	Y	
75.59(a)	Continuous emission or opacity monitoring systems	Y	
75.59(b)	Excepted monitoring systems for gas-fired and oil-fired units. The owner or operator shall record the applicable information in this section for each excepted monitoring system following the requirements of appendix D to this part or appendix E to this part for determining and recording emissions from an affected unit.	Y	
75.59(c)	Except as otherwise provided in §75.58(b)(3)(i), units with add-on SO_2 or NO_x emission controls following the provisions of §75.34(a)(1) or (a)(2), and for units with add-on Hg emission controls, the owner or operator shall keep the following records on-site in the quality assurance/quality control plan required by section 1 of appendix B to this part:	Y	
75.59(f)	DAHS Verification. For each DAHS (missing data and formula) verification that is required for initial certification, recertification, or for certain diagnostic testing of a monitoring system, record the date and hour that the DAHS verification is successfully completed. (This requirement only applies to units that report monitoring plan data in accordance with §75.53(g) and (h).)	Y	
	Subpart G – Reporting Requirements	Y	
75.60	General Provisions	Y	
75.61	Notifications	Y	
75.62	Monitoring plan submittals	Y	
75.63	Initial certification or recertification application	Y	
75.64	Quarterly reports	Y	
75.66	Petitions to the administrator	Y	
BAAQMD Condition #23763			

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Table IV – A
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S-1, S-3 GAS TURBINES
S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Definitions	Definitions	Y	
part 1	Minimize CO and NOx emissions during commissioning period	Y	
part 2	Tune gas turbine combustors and HRSG Duct burners to minimize CO and NOx emissions at earliest opportunity	Y	
part 3	Adjust and operate oxidation catalysts and SCR systems as soon as possible	Y	
part 4	Submittal of commissioning plan to Engineering Division	Y	
part 5	Demonstrate compliance with mass emission limits	Y	
part 6	Install and operate CEMs to demonstrate compliance with mass emission limits	Y	
part 7	Limited firing of S-1 and S-3 without operational abatement equipment	Y	
part 8	Limited firing of S-2 and S-4 without operational abatement equipment	Y	
part 9	Mass emissions accrue towards annual mass emission totals	Y	
part 10	Daily mass emission limits for NOx, CO, and PM	Y	
part 11	Source testing requirement	Y	
part 12	Requirement to exclusively combust natural gas (BACT for SO_2 and PM_{10})	Y	
part 13	Hourly heat input limit (PSD for NO_x)	Y	
part 14	Daily heat input limit (PSD for PM_{10})	Y	
part 15	Annual heat input limit (Offsets)	Y	
part 16	Duct burners shall not be fired unless turbines are in operation (BACT for NO_x)	Y	
part 17	SCR and oxidation catalyst requirement for S-1 and S-2 (BACT for NO_x and CO)	Y	
part 18	SCR and oxidation catalyst requirement for S-3 and S-4 (BACT for NO_x and CO)	Y	
part 19	Emission limits (BACT, PSD, and Regulation 2, Rule 5)	Y	
part 19a	Hourly and heat-input rate NO_x limits (PSD for NO_x)	Y	
part 19b	NO_x concentration limit (BACT for NO_x)	Y	
part 19c	Hourly and heat-input rate CO limits (PSD for CO)	Y	
part 19d	CO concentration limit (BACT for CO)	Y	
part 19e	Ammonia concentration limit and monitoring (Regulation 2, Rule 5)	N	
part 19f	Hourly and heat-input rate POC limits (BACT for POC)	Y	
part 19g	Hourly and heat-input rate SO_2 limits (BACT for SO_2)	Y	

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S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
part 19h	Hourly and heat-input rate PM_{10} limits (BACT for PM_{10})	Y	
part 20	Mass emission limits during startup, shutdown, steam turbine cold start-up or combustor tuning (PSD)	Y	
part 21	Combustor tuning frequency limit (offsets, cumulative increase)	Y	
part 22	Facility daily emission limits (CEQA, PSD, BACT, cumulative increase)	Y	
part 23	Facility annual heat input limit (Offsets, PSD, cumulative increase)	Y	
part 24	Sulfuric acid mist emission limit (PSD)	Y	
part 25	Toxic air contaminant and HAP annual emission limits (Regulation 2, Rule 5)	N	
part 26	Monitoring (1-519.1, 9-9-501, BACT, Offsets, NSPS, PSD, Cumulative Increase)	Y	
part 27	Calculation of emissions and recordkeeping (Offsets, PSD, Cumulative Increase)	Y	
part 28	Calculation of emissions and recordkeeping for toxic air contaminants (Regulation 2, Rule 5)	N	
part 29	Ammonia source test requirements (Regulation 2, Rule 5)	Y	
part 30	Source to assure compliance with part 19(a), (b), (c), (d), (f), (g), and (h) (BACT, offsets)	Y	
part 31	District review of source test procedures (BACT)	N	
part 32	Initial and biennial source tests for toxic air contaminants (Regulation 2, Rule 5)	N	
part 33	SAM emission calculation (PSD)	Y	
part 34	SAM emission source testing requirement (PSD)	Y	
Part 35	Reporting (2-6-502)	Y	
part 36	Retention of records for five years (2-6-502)	Y	
part 37	Notification of violations to District (2-1-403)	Y	
part 38	Stack heights (PSD, Regulation 2, Rule 5)	Y	
part 39	Sampling ports and platforms (1-501)	Y	
part 40	Contact technical services regarding requirements for continuous monitors, sampling ports, platforms, and source tests. All source testing and monitoring shall be conducted in accordance with the BAAQMD Manual of Procedures (1-501)	Y	
part 41	Submit Title V application within 12 months of first firing of any gas turbines or HSRSG (2-6-404.1)	Y	

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Table IV – A
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S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
part 42	Owner/operator shall not operate until a Title IV operating permit has been issued, or 24 months after a Title IV operating permit application has been submitted (Regulation 2, Rule 7)	Y	
part 43	Comply with the continuous emission monitoring requirements of 40 CFR Part 75 (Regulation 2, Rule 7)	Y	
Federal PSD Permit Condition #26117	**PSD Permit Conditions**		
Definitions	Definitions	Y	
part 1	Minimize CO and NOx emissions during commissioning period	Y	
part 2	Tune gas turbine combustors and HRSG Duct burners to minimize CO and NOx emissions at earliest opportunity	Y	
part 3	Adjust and operate oxidation catalysts and SCR systems as soon as possible	Y	
part 4	Submittal of commissioning plan to Engineering Division	Y	
part 5	Demonstrate compliance with mass emission limits	Y	
part 6	Install and operate CEMs to demonstrate compliance with mass emission limits	Y	
part 7	Limited firing of S-1 and S-3 without operational abatement equipment	Y	
part 8	Limited firing of S-2 and S-4 without operational abatement equipment	Y	
part 9	Mass emissions accrue towards annual mass emission totals	Y	
part 10	Daily mass emission limits for NOx, CO, and PM	Y	
part 11	Source testing requirement	Y	
part 12	Requirement to exclusively combust natural gas (BACT for PM_{10})	Y	
part 13	Hourly heat input limit (PSD for NO_x)	Y	
part 14	Daily heat input limit (PSD for PM_{10})	Y	
part 15	Annual heat input limit (Offsets)	Y	
part 16	Duct burners shall not be fired unless turbines are in operation (BACT for NO_x)	Y	
part 17	SCR and oxidation catalyst requirement for S-1 and S-2 (BACT for NO_x and CO)	Y	
part 18	SCR and oxidation catalyst requirement for S-3 and S-4 (BACT for NO_x and CO)	Y	
part 19	Emission limits (BACT, PSD)	Y	

IV. Source-specific Applicable Requirements

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S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
part 19a	Hourly and heat-input rate NO_x limits (PSD for NO_x)	Y	
part 19b	NO_x concentration limit (BACT for NO_x)	Y	
part 19c	Hourly and heat-input rate CO limits (PSD for CO)	Y	
part 19d	CO concentration limit (BACT for CO)	Y	
part 19h	Hourly and heat-input rate PM_{10} limits (BACT for PM_{10})	Y	
part 20	Mass emission limits during startup, shutdown, steam turbine cold start-up or combustor tuning (PSD)	Y	
part 21	Combustor tuning frequency limit (offsets, cumulative increase)	Y	
part 22	Facility daily emission limits (PSD, cumulative increase)	Y	
part 23	Facility annual heat input limit (Offsets, PSD, cumulative increase)	Y	
part 24	Sulfuric acid mist emission limit (PSD)	Y	
part 26	Monitoring (1-519.1, 9-9-501, BACT, Offsets, NSPS, PSD, Cumulative Increase)	Y	
part 27	Calculation of emissions and recordkeeping (Offsets, PSD, Cumulative Increase)	Y	
part 30	Source to assure compliance with part 19(a), (b), (c), (d), and (h) (BACT, offsets)	Y	
part 31	District review of source test procedures (BACT)	Y	
part 33	SAM emission calculation (PSD)	Y	
part 34	SAM emission source testing requirement (PSD)	Y	
Part 35	Reporting (2-6-502)	Y	
part 36	Retention of records for five years (2-6-502)	Y	
part 37	Notification of violations to District (2-1-403)	Y	
part 38	Stack heights (PSD, Regulation 2, Rule 5)	Y	
part 39	Sampling ports and platforms (1-501)	Y	
part 40	Contact technical services regarding requirements for continuous monitors, sampling ports, platforms, and source tests. All source testing and monitoring shall be conducted in accordance with the BAAQMD Manual of Procedures (1-501)	Y	
part 41	Submit Title V application within 12 months of first firing of any gas turbines or HSRSG (2-6-404.1)	Y	
part 42	Owner/operator shall not operate until a Title IV operating permit has been issued, or 24 months after a Title IV operating permit application has been submitted (Regulation 2, Rule 7)	Y	

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S-2, S-4 HEAT RECOVERY STEAM GENERATORS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
part 43	Comply with the continuous emission monitoring requirements of 40 CFR Part 75 (Regulation 2, Rule 7)	Y	
part 50	Hourly CO_2E mass emission rate limit (Voluntary Greenhouse Gas BACT Requirement)	Y	
part 51	Daily CO_2E mass emission rate limit (Voluntary Greenhouse Gas BACT Requirement)	Y	
part 52	Annual CO_2E mass emission rate limit (Voluntary Greenhouse Gas BACT Requirement)	Y	
part 53	S-1 and S-3 Gas Turbine hourly heat rate limit (Voluntary Greenhouse Gas BACT Requirement)	Y	
part 54	Recordkeeping (Voluntary Greenhouse Gas BACT Requirement)	Y	
part 55	Heat rate performance test (Voluntary Greenhouse Gas BACT Requirement)	Y	

IV. Source-specific Applicable Requirements

Table IV-B
Source-specific Applicable Requirements
S-5, COOLING TOWER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 6, Rule 1	**Particulate Matter, General Requirements (12/5/07)**		
6-1-303	Ringelmann Number 2 Limitation	N	
6-1-305	Visible Particles	N	
6-1-310	Particulate Weight Limitation	N	
6-1-401	Appearance of Emissions	N	
SIP Regulation 6	**Particulate Matter and Visible Emissions (9/4/98)**		
6-303	Ringelmann Number 2 Limitation	Y	
6-305	Visible Particles	Y	
6-310	Particulate Weight Limitation	Y	
6-401	Appearance of Emissions	Y	
BAAQMD Condition #23763			
part 22	Facility daily emission limits (CEQA, PSD, BACT, cumulative increase)	Y	
part 23	Facility annual heat input limit (Offsets, PSD, cumulative increase)	Y	
part 44	Maximum drift rate and total dissolved solids limit (PSD)	Y	
part 45	Visual inspection requirement (PSD)	Y	
Federal PSD Permit Condition #26117	**PSD Permit Conditions**		
part 22	Facility daily emission limits (PSD, cumulative increase)	Y	
part 23	Facility annual heat input limit (Offsets, PSD, cumulative increase)	Y	
part 44	Maximum drift rate and total dissolved solids limit (PSD)	Y	
part 45	Visual inspection requirement (PSD)	Y	

IV. Source-specific Applicable Requirements

Table IV-C
Source-specific Applicable Requirements
S-6, FIRE PUMP DIESEL ENGINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 6, Rule 1	**Particulate Matter, General Requirements (12/5/07)**		
6-1-303	Ringelmann Number 2 Limitation	N	
6-1-305	Visible Particles	N	
6-1-310	Particulate Weight Limitation	N	
6-1-401	Appearance of Emissions	N	
SIP Regulation 6	**Particulate Matter and Visible Emissions (9/4/98)**		
6-303	Ringelmann Number 2 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	
9-1-304	Fuel Burning (Liquid and Solid Fuels)	Y	
BAAQMD Regulation 9, Rule 8	**Inorganic Gaseous Pollutants-Nitrogen Oxides from Stationary Engines (7/25/07)**		
9-8-110	Exemptions		
9-8-110.5	Limited Exemption Emergency Standby Engines	N	
9-8-330	Emergency Standby Engines, Hours of Operation	N	
9-8-330.1	Unlimited hours for emergency use	N	
9-8-330.3	50 hours for reliability and maintenance	N	
9-8-530	Emergency standby engines, monitoring and recordkeeping	N	
40 CFR Part 60 Subpart A	Standards of Performance for New Stationary Sources – General Provisions (1/28/09)	Y	
60.7	Notification and Recordkeeping	Y	
60.8	Performance Tests	Y	
60.9	Availability of Information	Y	
60.11(a)	Compliance with standards in this part	Y	
60.11(d)	Minimizing emissions	Y	
60.12	Circumvention	Y	

IV. Source-specific Applicable Requirements

Table IV-C
Source-specific Applicable Requirements
S-6, FIRE PUMP DIESEL ENGINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.13	Monitoring Requirements	Y	
60.19	General notification and reporting requirements	Y	
40 CFR Part 60 Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines		
60.4200	Am I subject to this subpart?	Y	
60.4200(a)(2)(ii)	Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.	Y	
60.4205(c)	Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.	Y	
60.4206	Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§ 60.4204 and 60.4205 over the entire life of the engine.	Y	
60.4207	Fuel sulfur requirements	Y	
60.4211(a)	Owner/operators that must comply with emission standards specified in this subpart, you must do all of the following, except as permitted under (g) of this section: (1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; (2) Change only those emission-related settings that are permitted by the manufacturer; and (3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.	Y	
60.4211(c)	Requirement to purchase a certified fire pump engine that meets emissions limitations in 60.4205(c). The engine must be installed and configured according to manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.	Y	
60.4211(f)	Limitation of maintenance checks and readiness testing to 100 hour per year for emergency stationary ICE.	Y	
62.4211(g)	Demonstrating compliance if the owner/operator does not configure, operate, and maintain the engine according to the manufacturer's instructions.	Y	
60.4214	Notification, reporting, and recordkeeping requirements.	Y	
60.4214(b)	Emergency engines are not required to submit an initial notification.	Y	
40 CFR Part 63 Subpart A	National Emissions Standards for Hazardous Air Pollutants for Source Categories, Subpart A – General Provisions		
63.1	General Applicability of the General Provisions	Y	
63.2	Definitions	Y	
63.3	Units and Abbreviations	Y	

IV. Source-specific Applicable Requirements

Table IV-C
Source-specific Applicable Requirements
S-6, FIRE PUMP DIESEL ENGINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
63.4	Prohibited activities and circumvention	Y	
63.6(a)	Compliance with standards and maintenance requirements - Applicability	Y	
63.6(c)	Compliance dates for existing sources	Y	
63.6(f)(2)	Methods for determining compliance	Y	
63.6(f)(3)	Finding of compliance	Y	
63.6(g)	Use of an alternative non-opacity emission standard	Y	
63.6(i)	Compliance extension procedures and criteria	Y	
63.6(j)	Presidential compliance exemption	Y	
63.10(a)	Recordkeeping and reporting requirements, applicability and general information	Y	
63.10(b)(1)	Record retention	Y	
63.10(f)	Administrator waiver of recordkeeping or reporting requirements	Y	
63.12	State authority and delegations	Y	
63.13	Addresses of air pollution control agencies and EPA Regional Offices	Y	
63.14	Incorporation by reference	Y	
63.15	Availability of information and confidentiality	Y	
40 CFR Part 63, Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)		
63.6585	Applicability		
63.6585(a)	Applicable to Stationary RICE		
63.6585(c)	Applicable to Area Source of HAPs		
63.6590(a)(2)(iii)	A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.	Y	
63.6590(c)	Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.		
63.6590(c)(1)	A new or reconstructed stationary RICE located at an area source (HAP);		
Section 93115, title 17, CCR	**Airborne Toxic Control Measure for Stationary Compression Ignition Engines**		
93115.5(b)	Fuel Requirements	N	
93115.6(b)(3)(A)	PM Emission Standards & Maximum Hours of Operation for Maintenance and Testing	N	

IV. Source-specific Applicable Requirements

Table IV-C
Source-specific Applicable Requirements
S-6, FIRE PUMP DIESEL ENGINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
93115.6(b)(3)(B)	Applicable Emissions Standards for HC, NO_x, NMHC+NO_x, and CO	N	
93115.10	Recordkeeping, Reporting and Monitoring Requirements	N	
93115.10(a)	Reporting	N	
93115.10(c)	Demonstration of Compliance with Emission Limits	N	
93115.10(e)	Monitoring Equipment	N	
93115.10(g)	Monthly Log: Data Required	N	
93115.10(g).	Data Log Retention	N	
93115.12	Tiered Compliance Schedule	N	
BAAQMD Condition #23763			
part 9	Mass emissions accrue towards annual mass emission totals	Y	
part 22	Facility daily emission limits (CEQA, PSD, BACT, cumulative increase)	Y	
part 23	Facility annual heat input limit (Offsets, PSD, cumulative increase)	Y	
part 46	50 hours/year operation for maintenance and testing (Stationary Diesel Engine ATCM section 93115, title 17 CCR, offsets)	Y	
part 47	Unlimited Emergency Use, (Stationary Diesel Engine ATCM section 93115, title 17 CCR)	N	
part 48	Totalizing Meter (Stationary Diesel Engine ATCM section 93115, title 17 CCR, cumulative increase)	Y	
part 49	Recordkeeping (Stationary Diesel Engine ATCM section 93115, title 17 CCR, Regulation 2-6-501, cumulative increase)	Y	
Federal PSD Permit Condition #26117	**PSD Permit Conditions**		
part 9	Mass emissions accrue towards annual mass emission totals	Y	
part 22	Facility daily emission limits (PSD, cumulative increase)	Y	
part 23	Facility annual heat input limit (Offsets, PSD, cumulative increase)	Y	
part 46	50 hours per year operation for maintenance and testing (Stationary Diesel Engine ATCM section 93115, title 17 CCR, offsets)	Y	

IV. Source-specific Applicable Requirements

Table IV-C
Source-specific Applicable Requirements
S-6, FIRE PUMP DIESEL ENGINE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
part 47	Unlimited Emergency Use, (Stationary Diesel Engine ATCM section 93115, title 17 CCR)	Y	
part 48	Totalizing Meter (Stationary Diesel Engine ATCM section 93115, title 17 CCR, cumulative increase)	Y	
part 49	Recordkeeping (Stationary Diesel Engine ATCM section 93115, title 17 CCR, Regulation 2-6-501, cumulative increase)	Y	
part 56	Annual CO_2E mass emission rate limit (Voluntary Greenhouse Gas BACT Requirement)	Y	
part 57	May operate only when totalizing fuel use meter is installed and in operation (Voluntary Greenhouse Gas BACT Requirement)	Y	
part 58	Recordkeeping (Voluntary Greenhouse Gas BACT Requirement)	Y	

IV. Source-specific Applicable Requirements

Table IV-D
Source-specific Applicable Requirements
S-7, S-8, S-9, S-10, & S-11 CIRCUIT BREAKERS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Condition #23763			
part 59	Annual CO_2E mass emission limit (Voluntary Greenhouse Gas BACT Requirement)	Y	
part 60	Recordkeeping (Voluntary Greenhouse Gas BACT Requirement)	Y	
part 61	Dielectric fluid leak detection system (Voluntary Greenhouse Gas BACT Requirement)	Y	
Federal PSD Permit Condition #26117	**PSD Permit Conditions**		
part 59	Annual CO_2E mass emission limit (Voluntary Greenhouse Gas BACT Requirement)	Y	
part 60	Recordkeeping (Voluntary Greenhouse Gas BACT Requirement)	Y	
part 61	Dielectric fluid leak detection system (Voluntary Greenhouse Gas BACT Requirement)	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

There are two permit conditions in effect for the Russell City Energy Center: Permit Condition #23763, which is a permit condition imposed by the Air District through the Air District's authority to construct and permit to operate for the facility issued under Air District Regulation 2; and Permit Condition #26117, which is a permit condition imposed by the Air District acting on behalf of the US Environmental Protection Agency through the federal PSD Permit issued under the federal PSD regulations in Section 52.21 of Title 40 of the Code of Federal Regulations.

Air District Permit Condition

CONDITION #23763

(A) 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 minutes
MM BTU:	million British thermal units
Gas Turbine Warm and Hot Start-up Mode:	The lesser of the first 180 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of conditions 19(b) and 19(d)
Gas Turbine Cold Start-up Mode:	The lesser of the first 360 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of conditions 19(b) and 19(d)
Gas Turbine Shutdown Mode:	The lesser of the 30 minute period immediately prior to the termination of fuel flow to the Gas Turbine or the period of time from non-compliance with any requirement listed in Conditions 19(b) through 19(d) until termination of fuel flow to the Gas Turbine
Gas Turbine Combustor Tuning Mode:	The period of time, not to exceed 360 minutes, in which testing, adjustment, tuning, and calibration operations are performed, as recommended by the gas turbine manufacturer, to insure safe and

VI. Permit Conditions

	reliable steady-state operation, and to minimize NO_x and CO emissions. The SCR and oxidation catalyst are not operating during the tuning operation.
Gas Turbine Cold Start-up:	A gas turbine start-up that occurs more than 48 hours after a gas turbine shutdown
Gas Turbine Hot Start-up:	A gas turbine start-up that occurs within 8 hours of a gas turbine shutdown
Gas Turbine Warm Start-up:	A gas turbine start-up that occurs between 8 hours and 48 hours of a gas turbine shutdown
Specified PAHs:	The polycyclic aromatic hydrocarbons listed below shall be considered to be Specified PAHs for these permit conditions. Any emission limits for Specified PAHs refer to the sum of the emissions for all six of the following compounds Benzo[a]anthracene Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[a]pyrene Dibenzo[a,h]anthracene Indeno[1,2,3-cd]pyrene
Corrected Concentration:	The concentration of any pollutant (generally NO_x, CO, or NH_3) corrected to a standard stack gas oxygen concentration. For emission points P-1 (combined exhaust of S-1 Gas Turbine and S-3 HRSG duct burners), P-2 (combined exhaust of S-2 Gas Turbine and S-4 HRSG duct burners), 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 RCEC 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 during the commissioning period
Commissioning Period:	The Period shall commence when all mechanical, electrical, and 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, is available for commercial operation, and has initiated sales to the power exchange.
Precursor Organic Compounds (POCs):	Any compound of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate
CEC CPM:	California Energy Commission Compliance Program Manager
RCEC:	Russell City Energy Center
CO_2E:	Combined emissions of CO_2, CH_4, and N_2O, expressed in terms of

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the amount of CO_2 emissions that would have the equivalent impact on global climate change.

(B) Applicability:

Conditions 1 through 11 shall only apply during the commissioning period as defined above. Unless otherwise indicated, Conditions 12 through 49 shall apply after the commissioning period has ended. Conditions 50 through 61 shall apply at all times.

A. Conditions for the Commissioning Period

1. The owner/operator of the RCEC shall minimize emissions of carbon monoxide and nitrogen oxides from S-1 & S-3 Gas Turbines and S-2 & S-4 Heat Recovery Steam Generators (HRSGs) to the maximum extent possible during the commissioning period.

2. At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator shall tune the S-1 & S-3 Gas Turbines combustors and S-2 & S-4 Heat Recovery Steam Generators duct burners to minimize the emissions of carbon monoxide and nitrogen oxides.

3. At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, owner/operator shall install, adjust, and operate the A-2 & A-4 Oxidation Catalysts and A-1 & A-3 SCR Systems to minimize the emissions of carbon monoxide and nitrogen oxides from S-1 & S-3 Gas Turbines and S-2 & S-4 Heat Recovery Steam Generators.

4. The owner/operator of the RCEC shall submit a plan to the District Engineering Division and the CEC CPM at least four weeks prior to first firing of S-1 & S-3 Gas Turbines describing the procedures to be followed during the commissioning of the gas turbines, HRSGs, and steam 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 Dry-Low-NO_x combustors, the installation and operation of the required emission control systems, the installation, calibration, and testing of the CO and NO_x continuous emission monitors, and any activities requiring the firing of the Gas Turbines (S-1 & S-3) and HRSGs (S-2 & S-4) without abatement by their respective oxidation catalysts and/or SCR Systems. The owner/operator shall not fire any of the Gas Turbines (S-1 or S-3) sooner than 28 days after the District receives the commissioning plan.

5. During the commissioning period, the owner/operator of the RCEC shall demonstrate compliance with conditions 7, 8, 9, and 10 through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:
   firing hours

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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 Gas Turbines (S-1 & S-3), HRSGs (S-2 & S-4). 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 calendar day. The owner/operator shall retain records on site for at least 5 years from the date of entry and make such records available to District personnel upon request.

6. The owner/operator shall install, calibrate, and operate the District-approved continuous monitors specified in condition 5 prior to first firing of the Gas Turbines (S-1 & S-3) and Heat Recovery Steam Generators (S-2 & S-4). After first firing of the turbines, the owner/operator shall adjust the detection range of these continuous emission monitors as necessary to accurately measure the resulting range of CO and NO_x emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval.

7. The owner/operator shall not fire the S-1 Gas Turbine and S-2 Heat Recovery Steam Generator without abatement of nitrogen oxide emissions by A-1 SCR System and/or abatement of carbon monoxide emissions by A-2 Oxidation Catalyst for more than 300 hours during the commissioning period. Such operation of S-1 Gas Turbine and S-2 HRSG without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system and/or oxidation catalyst in place. Upon completion of these activities, the owner/operator shall provide written notice to the District Engineering and Enforcement Divisions and the unused balance of the 300 firing hours without abatement shall expire.

8. The owner/operator shall not fire the S-3 Gas Turbine and S-4 Heat Recovery Steam Generator without abatement of nitrogen oxide emissions by A-3 SCR System and/or abatement of carbon monoxide emissions by A-4 Oxidation Catalyst for more than 300 hours during the commissioning period. Such operation of S-3 Gas Turbine and S-4 HRSG without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system and/or oxidation catalyst in place. Upon completion of these activities, the owner/operator shall provide written notice to the District Engineering and Enforcement Divisions and the unused balance of the 300 firing hours without abatement shall expire.

9. The total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM_{10} and $PM_{2.5}$, and sulfur dioxide that are emitted by the Gas Turbines (S-1 & S-3), Heat Recovery Steam Generators (S-2 & S-4) and S-6 Fire Pump Diesel Engine during

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the commissioning period shall accrue towards the consecutive twelve-month emission limitations specified in condition 23.

10. The owner/ operator shall not operate the Gas Turbines (S-1 & S-3) and Heat Recovery Steam Generators (S-2 & S-4) in a manner such that the combined pollutant emissions from these sources will exceed the following limits during the commissioning period. These emission limits shall include emissions resulting from the start-up and shutdown of the Gas Turbines (S-1 & S-3).

NO_x (as NO_2)	4,805 pounds per calendar day	400 pounds per hour
CO	20,000 pounds per calendar day	5,000 pounds per hour
POC (as CH_4)	495 pounds per calendar day	
$PM_{2.5}/PM_{10}$	413 pounds per calendar day	
SO_2	298 pounds per calendar day	

11. No less than 90 days after startup, the Owner/Operator shall conduct District and CEC approved source tests to determine compliance with the emission limitations specified in condition 19. The source tests shall determine NO_x, 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 and shall include at least one cold start, one warm start, and one hot start. Thirty working days before the execution of the source tests, the Owner/Operator shall submit to the District and the CEC Compliance Program Manager (CPM) a detailed source test plan designed to satisfy the requirements of this condition. The District and the CEC CPM will notify the Owner/Operator 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 and CEC CPM comments into the test plan. The Owner/Operator shall notify the District and the CEC CPM within seven (7) working days prior to the planned source testing date. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of the source testing date.

B. Conditions for the Gas Turbines (S-1 & S-3) and the Heat Recovery Steam Generators (HRSGs; S-2 & S-4)

12. The owner/operator shall fire the Gas Turbines (S-1 & S-3) and HRSG Duct Burners (S-2 & S-4) exclusively on PUC-regulated natural gas with a maximum sulfur content of 1 grain per 100 standard cubic feet. To demonstrate compliance with this limit, the operator of S-1 through S-4 shall sample and analyze the gas from each supply source at least monthly to determine the sulfur content of the gas. PG&E monthly sulfur data may be used provided that such data can be demonstrated to be representative of the gas delivered to the RCEC. In the event that the rolling 12-month annual average sulfur content exceeds 0.25 grain per 100 standard cubic feet, a reduced annual heat input rate may be utilized to calculate the maximum projected annual emissions. The reduced annual heat input rate shall be subject to District review and approval. (BACT for SO_2 and-PM_{10}/ $PM_{2.5}$)

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13. The owner/operator shall not operate the units such that the combined heat input rate to each power train consisting of a Gas Turbine and its associated HRSG (S-1 & S-2 and S-3 & S-4) exceeds 2,238.6 MM BTU (HHV) per hour. (PSD for NO_x)
14. The owner/operator shall not operate the units such that the combined heat input rate to each power train consisting of a Gas Turbine and its associated HRSG (S-1 & S-2 and S-3 & S-4) exceeds 53,726 MM BTU (HHV) per day. (PSD for PM_{10}/ $PM_{2.5}$)

15. The owner/operator shall not operate the units such that the combined cumulative heat input rate for the Gas Turbines (S-1 & S-3) and the HRSGs (S-2 & S-4) exceeds 35,708,858 MM BTU (HHV) per year. (Offsets)

16. The owner/operator shall not fire the HRSG duct burners (S-2 & S-4) unless its associated Gas Turbine (S-1 & S-3, respectively) is in operation. (BACT for NO_x)

17. The owner/operator shall ensure that the S-1 Gas Turbine and S-2 HRSG are abated by the properly operated and properly maintained A-1 Selective Catalytic Reduction (SCR) System and A-2 Oxidation Catalyst System whenever fuel is combusted at those sources and the A-1 SCR catalyst bed has reached minimum operating temperature. (BACT for NO_x, POC and CO)

18. The owner/operator shall ensure that the S-3 Gas Turbine and S-4 HRSG are abated by the properly operated and properly maintained A-3 Selective Catalytic Reduction (SCR) System and A-4 Oxidation Catalyst System whenever fuel is combusted at those sources and the A-3 SCR catalyst bed has reached minimum operating temperature. (BACT for NO_x, POC and CO)

19. The owner/operator shall ensure that the Gas Turbines (S-1 & S-3) and HRSGs (S-2 & S-4) comply with requirements (a) through (h) under all operating scenarios, including duct burner firing mode. Requirements (a) through (h) do not apply during a gas turbine start-up, combustor tuning operation or shutdown. (BACT, PSD, and Regulation 2, Rule 5)
    (a) Nitrogen oxide mass emissions (calculated as NO_2) at P-1 (the combined exhaust point for S-1 Gas Turbine and S-2 HRSG after abatement by A-1 SCR System) shall not exceed 16.5 pounds per hour or 0.00735 lb/MM BTU (HHV) of natural gas fired. Nitrogen oxide mass emissions (calculated as NO_2) at P-2 (the combined exhaust point for S-3 Gas Turbine and S-4 HRSG after abatement by A-3 SCR System) shall not exceed 16.5 pounds per hour or 0.00735 lb/MM BTU (HHV) of natural gas fired. (PSD for NOx)
    (b) The nitrogen oxide emission concentration at emission points P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15% O_2, averaged over any 1-hour period. (BACT for NO_x)
    (c) Carbon monoxide mass emissions at P-1 and P-2 each shall not exceed 10 pounds per hour or 0.0045 lb/MM BTU of natural gas fired, averaged over any 1-hour period. (PSD for CO)
    (d) The carbon monoxide emission concentration at P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15% O_2 averaged over any 1-hour period. (BACT for CO)

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(e) Ammonia (NH_3) emission concentrations at P-1 and P-2 each shall not exceed 5 ppmv, on a dry basis, corrected to 15% O_2, averaged over any rolling 3-hour period. This ammonia emission concentration shall be verified by the continuous recording of the ammonia injection rate to A-2 and A-4 SCR Systems. The correlation between the gas turbine and HRSG heat input rates, A-2 and A-4 SCR System ammonia injection rates, and corresponding ammonia emission concentration at emission points P-1 and P-2 shall be determined in accordance with permit condition 29 or District approved alternative method. (Regulation 2-5)

(f) Precursor organic compound (POC) mass emissions (as CH_4) at P-1 and P-2 each shall not exceed 2.86 pounds per hour or 0.00128 lb/MM BTU of natural gas fired. (BACT)

(g) Sulfur dioxide (SO_2) mass emissions at P-1 & P-2 each shall not exceed 6.21 pounds per hour or 0.0028 lb/MM BTU of natural gas fired. (BACT)

(h) Particulate matter (PM_{10} and $PM_{2.5}$) mass emissions at P-1 & P-2 each shall not exceed 7.5 pounds per hour or 0.0036 lb PM_{10}/ $PM_{2.5}$ per MM BTU of natural gas fired. (BACT)

20. The owner/operator shall ensure that the regulated air pollutant mass emission rates from each of the Gas Turbines (S-1 & S-3) during a start-up or shutdown do not exceed the limits established below. The owner/operator shall not operate both of the Gas Turbines (S-1 & S-3) in Startup Mode at the same time. (PSD, CEC Conditions of Certification)

Pollutant	Cold Start-Up Combustor Tuning	Hot Start-Up	Warm Start-Up	Shutdown
	lb/start-up	lb/start-up	lb/start-up	lb/shutdown
NO_x (as NO_2)	480.0	95	125	40
CO	2514	891	2514	100
POC (as CH_4)	83	35.3	79	16

21. The owner/operator shall not perform combustor tuning on Gas Turbines more than once every rolling 365-day period for each S-1 and S-3. The owner/operator shall notify the District no later than 7 days prior to combustor tuning activity. (Offsets, Cumulative Emissions)

22. The owner/operator shall not allow total combined emissions from the Gas Turbines and HRSGs (S-1, S-2, S-3 & S-4), S-5 Cooling Tower, and S-6 Fire Pump Diesel Engine, including emissions generated during gas turbine start-ups, combustor tuning, and shutdowns to exceed the following limits during any calendar day:

(a) 1,453 pounds of NO_x (as NO_2) per day (Cumulative Emissions)

(b) 1,225 pounds of NO_x per day during ozone season from June 1 to September 30. (CEC Condition of Certification)

(c) 7,360 pounds of CO per day (PSD)

(d) 295 pounds of POC (as CH_4) per day (Cumulative Emissions)

(e) 413 pounds of PM_{10} and $PM_{2.5}$ per day (PSD)

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(f) 292 pounds of SO_2 per day (BACT)

23. The owner/operator shall not allow cumulative combined emissions from the Gas Turbines and HRSGs (S-1, S-2, S-3 & S-4), S-5 Cooling Tower, and S-6 Fire Pump Diesel Engine, including emissions generated during gas turbine start-ups, combustor tuning, and shutdowns to exceed the following limits during any consecutive twelve-month period:
    (a) 127 tons of NO_x (as NO_2) per year (Offsets, PSD)
    (b) 330 tons of CO per year (Cumulative Increase, PSD)
    (c) 28.5 tons of POC (as CH_4) per year (Offsets)
    (d) 71.8 tons of PM_{10} and $PM_{2.5}$ per year (Cumulative Increase, PSD)
    (e) 12.2 tons of SO_2 per year (Cumulative Increase, PSD)

24. The owner/operator shall not allow sulfuric acid emissions (SAM) from stacks P-1 and P-2 combined to exceed 7 tons in any consecutive 12-month period. (Basis: PSD)

25. The owner/operator shall not allow the maximum projected annual toxic air contaminant emissions (per condition 28) from the Gas Turbines and HRSGs (S-1, S-2, S-3 & S-4) combined to exceed the following limits:

formaldehyde	10,912 pounds per year
benzene	226 pounds per year
Specified polycyclic aromatic hydrocarbons (PAHs)	1.8 pounds per year

    unless the following requirement is satisfied:

    The owner/operator shall perform a health risk assessment to determine the total facility risk using the emission rates determined by source testing and the most current Bay Area Air Quality Management District approved procedures and unit risk factors in effect at the time of the analysis. The owner/operator shall submit the risk analysis to the District and the CEC CPM within 60 days of the source test date. The owner/operator may request that the District and the CEC CPM revise the carcinogenic compound emission limits specified above. If the owner/operator demonstrates to the satisfaction of the APCO that these revised emission limits will not result in a significant cancer risk, the District and the CEC CPM may, at their discretion, adjust the carcinogenic compound emission limits listed above. (Regulation 2, Rule 5)

26. The owner/operator shall demonstrate compliance with conditions 13 through 16, 19(a) through 19(d), 20, 22(a), 22(b), 23(a) and 23(b) by using properly operated and maintained continuous monitors (during all hours of operation including gas turbine start-up, combustor tuning, and shutdown periods) for all of the following parameters:
    (a) Firing Hours and Fuel Flow Rates for each of the following sources: S-1 & S-3 combined, S-2 & S-4 combined.
    (b) Oxygen (O_2) concentration, Nitrogen Oxides (NO_x) concentration, and Carbon Monoxide (CO) concentration at exhaust points P-1 and P-2.
    (c) Ammonia injection rate at A-1 and A-3 SCR Systems

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The owner/operator shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the owner/operator shall calculate and record the total firing hours, the average hourly fuel flow rates, and pollutant emission concentrations.

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

(d) Heat Input Rate for each of the following sources: S-1 & S-3 combined, S-2 & S-4 combined.

(e) Corrected NO_x concentration, NO_x mass emission rate (as NO_2), corrected CO concentration, and CO mass emission rate at each of the following exhaust points: P-1 and P-2.

For each source, source grouping, or exhaust point, the owner/operator shall record the parameters specified in conditions 26(d) and 26(e) at least once every 15 minutes (excluding normal calibration periods). As specified below, the owner/operator shall calculate and record the following data:

(f) total Heat Input Rate for every clock hour.

(g) on an hourly basis, the cumulative total Heat Input Rate for each calendar day for the following: each Gas Turbine and associated HRSG combined and all four sources (S-1, S-2, S-3 and S-4) combined.

(h) the average NO_x mass emission rate (as NO_2), CO mass emission rate, and corrected NO_x and CO emission concentrations for every clock hour.

(i) on an hourly basis, the cumulative total NO_x mass emissions (as NO_2) and the cumulative total CO mass emissions, for each calendar day for the following: each Gas Turbine and associated HRSG combined and all four sources (S-1, S-2, S-3 and S-4) combined.

(j) For each calendar day, the average hourly Heat Input Rates, corrected NO_x emission concentration, NO_x mass emission rate (as NO_2), corrected CO emission concentration, and CO mass emission rate for each Gas Turbine and associated HRSG combined.

(k) on a monthly basis, the cumulative total NO_x mass emissions (as NO_2) and cumulative total CO mass emissions, for the previous consecutive twelve-month period for all four sources (S-1, S-2, S-3 and S-4) combined.

(1-520.1, 9-9-501, BACT, Offsets, NSPS, PSD, Cumulative Increase)

27. To demonstrate compliance with conditions 19(f), 19(g), 19(h), 22(c), 22(d),-22(e), 23(c),-23(d), 23(e),-the owner/operator shall calculate and record on a daily basis, the Precursor Organic Compound (POC) mass emissions, Fine Particulate Matter (PM_{10} and $PM_{2.5}$) mass emissions (including condensable particulate matter), and Sulfur Dioxide (SO_2) mass emissions from each power train. The owner/operator shall use the actual heat input rates measured pursuant to condition 26, actual Gas Turbine start-up times, actual Gas Turbine shutdown times, and CEC and District-approved emission factors developed pursuant to source testing under condition 30 to calculate these emissions. The owner/operator shall present the calculated emissions in the following format:

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(a) For each calendar day, POC, PM_{10} and $PM_{2.5}$, and SO_2 emissions, summarized for each power train (Gas Turbine and its respective HRSG combined) and all four sources (S-1, S-2, S-3 & S-4) combined
(b) on a monthly basis, the cumulative total POC, PM_{10} and $PM_{2.5}$, and SO_2 mass emissions, for each year for all four sources (S-1, S-2, S-3 & S-4) combined
(Offsets, PSD, Cumulative Increase)

28. To demonstrate compliance with Condition 25, the owner/operator shall calculate and record on an annual basis the maximum projected annual emissions of: Formaldehyde, Benzene, and Specified PAH's. The owner/operator shall calculate the maximum projected annual emissions using the maximum annual heat input rate of 35,708,858 MM BTU/year and the highest emission factor (pounds of pollutant per MM BTU of heat input) determined by any source test of the S-1 and S-3 Gas Turbines and/or S-2 and S-4 Heat Recovery Steam Generators. If the highest emission factor for a given pollutant occurs during minimum-load turbine operation, a reduced annual heat input rate may be utilized to calculate the maximum projected annual emissions to reflect the reduced heat input rates during gas turbine start-up and minimum-load operation. The reduced annual heat input rate shall be subject to District review and approval. (Regulation 2, Rule 5)

29. Within 90 days of start-up of the RCEC, the owner/operator shall conduct a District-approved source test on exhaust point P-1 or P-2 to determine the corrected ammonia (NH_3) emission concentration to determine compliance with condition 19(e). The source test shall determine the correlation between the heat input rates of the gas turbine and associated HRSG, A-2 or A-4 SCR System ammonia injection rate, and the corresponding NH_3 emission concentration at emission point P-1 or P-2. The source test shall be conducted over the expected operating range of the turbine and HRSG (including, but not limited to, minimum and full load modes) to establish the range of ammonia injection rates necessary to achieve NO_x emission reductions while maintaining ammonia slip levels. The owner/operator shall repeat the source testing on an annual basis thereafter. Ongoing compliance with condition 19(e) shall be demonstrated through calculations of corrected ammonia concentrations based upon the source test correlation and continuous records of ammonia injection rate. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of conducting the tests. (Regulation 2, Rule 5)

30. Within 90 days of start-up of the RCEC and on an annual basis thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-1 and P-2 while each Gas Turbine and associated Heat Recovery Steam Generator are operating at maximum load to determine compliance with Conditions 19(a), 19(b), 19(c), 19(d), 19(f), 19(g),-and 19(h) and while each Gas Turbine and associated Heat Recovery Steam Generator are operating at minimum load to determine compliance with Conditions 19(c) and 19(d), and to verify the accuracy of the continuous emission monitors required in condition 26. The owner/operator shall test for (as a minimum): water content, stack gas flow rate, oxygen concentration, precursor organic compound concentration and mass emissions, nitrogen oxide concentration and mass emissions (as NO_2), carbon monoxide concentration and mass emissions, sulfur

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dioxide concentration and mass emissions, methane, ethane,-and particulate matter (PM_{10} and $PM_{2.5}$) emissions including condensable particulate matter. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of conducting the tests. (BACT, offsets)

31. The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section and the CEC CPM prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emission monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section and the CEC CPM in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). As indicated above, the Owner/Operator shall measure the contribution of condensable PM (back half) to the total PM_{10} and $PM_{2.5}$ emissions. However, the Owner/Operator may propose alternative measuring techniques to measure condensable PM such as the use of a dilution tunnel or other appropriate method used to capture semi-volatile organic compounds. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of conducting the tests. (BACT)

32. Within 90 days of start-up of the RCEC and on a biennial basis (once every two years) thereafter, the owner/operator shall conduct a District-approved source test on exhaust point P-1 or P-2 while the Gas Turbine and associated Heat Recovery Steam Generator are operating at maximum allowable operating rates to demonstrate compliance with Condition 25. The owner/operator shall also test the gas turbine while it is operating at minimum load. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to condition 25 for any of the compounds listed below are less than the BAAQMD trigger levels, pursuant to Regulation 2, Rule 5, shown, then the owner/operator may discontinue future testing for that pollutant:

Benzene	≤	6.4 pounds/year and 2.9 pounds/hour
Formaldehyde	≤	30 pounds/year and 0.21 pounds/hour
Specified PAHs	≤	0.011 pounds/year

(Regulation 2, Rule 5)

33. The owner/operator shall calculate the SAM emission rate using the total heat input for the sources and the highest results of any source testing conducted pursuant to condition 34. If this SAM mass emission limit of condition #24 is exceeded, the owner/operator must utilize air dispersion modeling to determine the impact (in $\mu g/m^3$) of the sulfuric acid mist emissions pursuant to Regulation 2-2-306. (PSD)

34. Within 90 days of start-up of the RCEC and on an annual basis thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-1 and P-2 while each gas turbine and HRSG duct burner is operating at maximum heat input rates to demonstrate compliance with the SAM emission rates specified in condition 24. The owner/operator shall test for (as a minimum) SO_2, SO_3, and H_2SO_4. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of conducting the tests. (PSD)

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35. The owner/operator of the RCEC shall submit all reports (including, but not limited to monthly CEM reports, monitor breakdown reports, emission excess reports, equipment breakdown reports, etc.) as required by District Rules or Regulations and in accordance with all procedures and time limits specified in the Rule, Regulation, Manual of Procedures, or Enforcement Division Policies & Procedures Manual. (Regulation 2-6-502)

36. The owner/operator of the RCEC shall maintain all records and reports on site for a minimum of 5 years. These records shall include but are not limited to: continuous monitoring records (firing hours, fuel flows, emission rates, monitor excesses, breakdowns, etc.), source test and analytical records, natural gas sulfur content analysis results, emission calculation records, records of plant upsets and related incidents. The owner/operator shall make all records and reports available to District and the CEC CPM staff upon request. (Regulation 2-6-501)

37. The owner/operator of the RCEC shall notify the District and the CEC CPM of any violations of these permit conditions. Notification shall be submitted in a timely manner, in accordance with all applicable District Rules, Regulations, and the Manual of Procedures. Notwithstanding the notification and reporting requirements given in any District Rule, Regulation, or the Manual of Procedures, the owner/operator shall submit written notification (facsimile is acceptable) to the Enforcement Division within 96 hours of the violation of any permit condition. (Regulation 2-1-403)

38. The owner/operator shall ensure that the stack height of emission points P-1 and P-2 is each at least 145 feet above grade level at the stack base. (PSD, Regulation 2-5)

39. The Owner/Operator of RCEC shall provide adequate stack sampling ports and platforms to enable the performance of source testing. The location and configuration of the stack sampling ports shall comply with the District Manual of Procedures, Volume IV, Source Test Policy and Procedures, and shall be subject to BAAQMD review and approval. (Regulation 1-501)

40. Within 180 days of the issuance of the Authority to Construct for the RCEC, the Owner/Operator shall contact the BAAQMD Technical Services Division regarding requirements for the continuous emission monitors, sampling ports, platforms, and source tests required by conditions 29, 30, 32, 34, and 43. The owner/operator shall conduct all source testing and monitoring in accordance with the District approved procedures. (Regulation 1-501)

41. Pursuant to BAAQMD Regulation 2, Rule 6, section 404.1, the owner/operator of the RCEC shall submit an application to the BAAQMD for a major facility review permit within 12 months of completing construction as demonstrated by the first firing of any gas turbine or HRSG duct burner. (Regulation 2-6-404.1)

42. Pursuant to 40 CFR Part 72.30(b)(2)(ii) of the Federal Acid Rain Program, the owner/operator of the Russell City Energy Center shall submit an application for a Title IV

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operating permit to the BAAQMD at least 24 months before operation of any of the gas turbines (S-1, S-3, S-5, or S-7) or HRSGs (S-2, S-4, S-6, or S-8). (Regulation 2, Rule 7)

43. The owner/operator shall ensure that the Russell City Energy Center complies with the continuous emission monitoring requirements of 40 CFR Part 75. (Regulation 2, Rule 7)

C. Permit Conditions for Cooling Towers

44. The owner/operator shall properly install and maintain the S-5 cooling tower to minimize drift losses. The owner/operator shall equip the cooling towers with high-efficiency mist eliminators with a maximum guaranteed drift rate of 0.0005%. The maximum total dissolved solids (TDS) measured at the base of the cooling towers or at the point of return to the wastewater facility shall not be higher than 6,200 ppmw (mg/l). The owner/operator shall sample and test the cooling tower water at least once per day to verify compliance with this TDS limit. (PSD)

45. The owner/operator shall perform a visual inspection of the cooling tower drift eliminators at least once per calendar year, and repair or replace any drift eliminator components which are broken or missing. Prior to the initial operation of the Russell City Energy Center, the owner/operator shall have the cooling tower vendor's field representative inspect the cooling tower drift eliminators and certify that the installation was performed in a satisfactory manner. Within 60 days of the initial operation of the cooling tower, the owner/operator shall perform an initial performance source test to determine the PM_{10} and $PM_{2.5}$ emission rate from the cooling tower to verify compliance with the vendor-guaranteed drift rate specified in condition 44. The CEC CPM may require the owner/operator to perform source tests to verify continued compliance with the vendor-guaranteed drift rate specified in condition (PSD)

D. Permit Conditions for S-6 Fire Pump Diesel Engine

46. The owner/operator shall not operate S-6 Fire Pump Diesel Engine more than 50 hours per year for reliability-related activities. ("Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3), offsets)

47. The owner/operator shall operate S-6 Fire Pump Diesel Engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, state or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating hours while mitigating emergency conditions or while emission testing to show compliance with District, state or Federal emission limits is not limited. ("Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3))

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48. The owner/operator shall operate S-6 Fire Pump Diesel Engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained. ("Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(G)(1), cumulative increase)

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

    (Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(I), cumulative increase)

Federal PSD Permit Condition

CONDITION #26117

The permit conditions set forth below in plain type are the conditions of the federal Prevention of Significant Deterioration ("PSD") Permit issued by the Bay Area Air Quality Management District ("District") for the Russell City Energy Center pursuant to 40 C.F.R. section 52.21 and the Delegation Agreement between the District and Region 9 of the United States Environmental Protection Agency. Conditions set forth in ~~strikethrough~~ type are not conditions of the PSD permit. These conditions are conditions of the related District Authority to Construct issued for the facility. They are set forth here only for convenience in comparing the two permits and are not part of the PSD permit.

(A) 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

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	minutes
MM BTU:	million British thermal units
Gas Turbine Warm and Hot Start-up Mode:	The lesser of the first 180 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of conditions 19(b) and 19(d)
Gas Turbine Cold Start-up Mode:	The lesser of the first 360 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of conditions 19(b) and 19(d)
Gas Turbine Shutdown Mode:	The lesser of the 30 minute period immediately prior to the termination of fuel flow to the Gas Turbine or the period of time from non-compliance with any requirement listed in Conditions 19(b) through 19(d) until termination of fuel flow to the Gas Turbine
Gas Turbine Combustor Tuning Mode:	The period of time, not to exceed 360 minutes, in which testing, adjustment, tuning, and calibration operations are performed, as recommended by the gas turbine manufacturer, to insure safe and reliable steady-state operation, and to minimize NO_x and CO emissions. The SCR and oxidation catalyst are not operating during the tuning operation.
Gas Turbine Cold Start-up:	A gas turbine start-up that occurs more than 48 hours after a gas turbine shutdown
Gas Turbine Hot Start-up:	A gas turbine start-up that occurs within 8 hours of a gas turbine shutdown
Gas Turbine Warm Start-up:	A gas turbine start-up that occurs between 8 hours and 48 hours of a gas turbine shutdown
Specified PAHs:	The polycyclic aromatic hydrocarbons listed below shall be considered to be Specified PAHs for these permit conditions. Any emission limits for Specified PAHs refer to the sum of the emissions for all six of the following compounds Benzo[a]anthracene Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[a]pyrene Dibenzo[a,h]anthracene Indeno[1,2,3-cd]pyrene
Corrected Concentration:	The concentration of any pollutant (generally NO_x, CO, or NH_3) corrected to a standard stack gas oxygen concentration. For emission points P-1 (combined exhaust of S-1 Gas Turbine and

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	S-3 HRSG duct burners), P-2 (combined exhaust of S-2 Gas Turbine and S-4 HRSG duct burners), 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 RCEC 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 during the commissioning period
Commissioning Period:	The Period shall commence when all mechanical, electrical, and 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, is available for commercial operation, and has initiated sales to the power exchange.
Precursor Organic Compounds (POCs):	Any compound of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate
CEC CPM:	California Energy Commission Compliance Program Manager
RCEC:	Russell City Energy Center
CO_2E:	Combined emissions of CO_2, CH_4, and N_2O, expressed in terms of the amount of CO_2 emissions that would have the equivalent impact on global climate change.

(B) Applicability:

Conditions 1 through 11 shall only apply during the commissioning period as defined above. Unless otherwise indicated, Conditions 12 through 49 shall apply after the commissioning period has ended. Conditions 50 through 61 shall apply at all times.

A. Conditions for the Commissioning Period

1. The owner/operator of the RCEC shall minimize emissions of carbon monoxide and nitrogen oxides from S-1 & S-3 Gas Turbines and S-2 & S-4 Heat Recovery Steam Generators (HRSGs) to the maximum extent possible during the commissioning period.

2. At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator shall tune the S-1 & S-3 Gas Turbines combustors and S-2 & S-4 Heat Recovery Steam Generators duct burners to minimize the emissions of carbon monoxide and nitrogen oxides.

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3. At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, owner/operator shall install, adjust, and operate the A-2 & A-4 Oxidation Catalysts and A-1 & A-3 SCR Systems to minimize the emissions of carbon monoxide and nitrogen oxides from S-1 & S-3 Gas Turbines and S-2 & S-4 Heat Recovery Steam Generators.

4. The owner/operator of the RCEC shall submit a plan to the District Engineering Division and the CEC CPM at least four weeks prior to first firing of S-1 & S-3 Gas Turbines describing the procedures to be followed during the commissioning of the gas turbines, HRSGs, and steam 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 Dry-Low-NO_x combustors, the installation and operation of the required emission control systems, the installation, calibration, and testing of the CO and NO_x continuous emission monitors, and any activities requiring the firing of the Gas Turbines (S-1 & S-3) and HRSGs (S-2 & S-4) without abatement by their respective oxidation catalysts and/or SCR Systems. The owner/operator shall not fire any of the Gas Turbines (S-1 or S-3) sooner than 28 days after the District receives the commissioning plan.

5. During the commissioning period, the owner/operator of the RCEC shall demonstrate compliance with conditions 7, 8, 9, and 10 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 Gas Turbines (S-1 & S-3), HRSGs (S-2 & S-4). 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 calendar day. The owner/operator shall retain records on site for at least 5 years from the date of entry and make such records available to District personnel upon request.

6. The owner/operator shall install, calibrate, and operate the District-approved continuous monitors specified in condition 5 prior to first firing of the Gas Turbines (S-1 & S-3) and Heat Recovery Steam Generators (S-2 & S-4). After first firing of the turbines, the owner/operator shall adjust the detection range of these continuous emission monitors as necessary to accurately measure the resulting range of CO and NO_x emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval.

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7. The owner/operator shall not fire the S-1 Gas Turbine and S-2 Heat Recovery Steam Generator without abatement of nitrogen oxide emissions by A-1 SCR System and/or abatement of carbon monoxide emissions by A-2 Oxidation Catalyst for more than 300 hours during the commissioning period. Such operation of S-1 Gas Turbine and S-2 HRSG without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system and/or oxidation catalyst in place. Upon completion of these activities, the owner/operator shall provide written notice to the District Engineering and Enforcement Divisions and the unused balance of the 300 firing hours without abatement shall expire.

8. The owner/operator shall not fire the S-3 Gas Turbine and S-4 Heat Recovery Steam Generator without abatement of nitrogen oxide emissions by A-3 SCR System and/or abatement of carbon monoxide emissions by A-4 Oxidation Catalyst for more than 300 hours during the commissioning period. Such operation of S-3 Gas Turbine and S-4 HRSG without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system and/or oxidation catalyst in place. Upon completion of these activities, the owner/operator shall provide written notice to the District Engineering and Enforcement Divisions and the unused balance of the 300 firing hours without abatement shall expire.

9. The total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM_{10} and $PM_{2.5}$, and sulfur dioxide that are emitted by the Gas Turbines (S-1 & S-3), Heat Recovery Steam Generators (S-2 & S-4) and S-6 Fire Pump Diesel Engine during the commissioning period shall accrue towards the consecutive twelve-month emission limitations specified in condition 23.
10. The owner/ operator shall not operate the Gas Turbines (S-1 & S-3) and Heat Recovery Steam Generators (S-2 & S-4) in a manner such that the combined pollutant emissions from these sources will exceed the following limits during the commissioning period. These emission limits shall include emissions resulting from the start-up and shutdown of the Gas Turbines (S-1 & S-3).

NO_x (as NO_2)	4,805 pounds per calendar day	400 pounds per hour
CO	20,000 pounds per calendar day	5,000 pounds per hour
~~POC (as CH_4)~~	~~495 pounds per calendar day~~	
$PM_{2.5}/PM_{10}$	413 pounds per calendar day	
~~SO_2~~	~~298 pounds per calendar day~~	

11. No less than 90 days after startup, the Owner/Operator shall conduct District and CEC approved source tests to determine compliance with the emission limitations specified in condition 19. The source tests shall determine NO_x, 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 and shall include at least one cold start, one warm start, and one hot start. Thirty working days before the execution of the source tests, the Owner/Operator shall submit to the District and the CEC Compliance Program Manager (CPM) a detailed source

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test plan designed to satisfy the requirements of this condition. The District and the CEC CPM will notify the Owner/Operator 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 and CEC CPM comments into the test plan. The Owner/Operator shall notify the District and the CEC CPM within seven (7) working days prior to the planned source testing date. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of the source testing date.

B. Conditions for the Gas Turbines (S-1 & S-3) and the Heat Recovery Steam Generators (HRSGs; S-2 & S-4)

12. The owner/operator shall fire the Gas Turbines (S-1 & S-3) and HRSG Duct Burners (S-2 & S-4) exclusively on PUC-regulated natural gas with a maximum sulfur content of 1 grain per 100 standard cubic feet. To demonstrate compliance with this limit, the operator of S-1 through S-4 shall sample and analyze the gas from each supply source at least monthly to determine the sulfur content of the gas. PG&E monthly sulfur data may be used provided that such data can be demonstrated to be representative of the gas delivered to the RCEC. In the event that the rolling 12-month annual average sulfur content exceeds 0.25 grain per 100 standard cubic feet, a reduced annual heat input rate may be utilized to calculate the maximum projected annual emissions. The reduced annual heat input rate shall be subject to District review and approval. (BACT for ~~SO_2 and~~ PM_{10}/ $PM_{2.5}$)
13. The owner/operator shall not operate the units such that the combined heat input rate to each power train consisting of a Gas Turbine and its associated HRSG (S-1 & S-2 and S-3 & S-4) exceeds 2,238.6 MM BTU (HHV) per hour. (PSD for NO_x)

14. The owner/operator shall not operate the units such that the combined heat input rate to each power train consisting of a Gas Turbine and its associated HRSG (S-1 & S-2 and S-3 & S-4) exceeds 53,726 MM BTU (HHV) per day. (PSD for PM_{10}/ $PM_{2.5}$)

15. The owner/operator shall not operate the units such that the combined cumulative heat input rate for the Gas Turbines (S-1 & S-3) and the HRSGs (S-2 & S-4) exceeds 35,708,858 MM BTU (HHV) per year. (Offsets)

16. The owner/operator shall not fire the HRSG duct burners (S-2 & S-4) unless its associated Gas Turbine (S-1 & S-3, respectively) is in operation. (BACT for NO_x)

17. The owner/operator shall ensure that the S-1 Gas Turbine and S-2 HRSG are abated by the properly operated and properly maintained A-1 Selective Catalytic Reduction (SCR) System and A-2 Oxidation Catalyst System whenever fuel is combusted at those sources and the A-1 SCR catalyst bed has reached minimum operating temperature. (BACT for NO_x, ~~POC~~ and CO)

18. The owner/operator shall ensure that the S-3 Gas Turbine and S-4 HRSG are abated by the properly operated and properly maintained A-3 Selective Catalytic Reduction (SCR) System

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and A-4 Oxidation Catalyst System whenever fuel is combusted at those sources and the A-3 SCR catalyst bed has reached minimum operating temperature. (BACT for NO_x~~, POC~~ and CO)

19. The owner/operator shall ensure that the Gas Turbines (S-1 & S-3) and HRSGs (S-2 & S-4) comply with requirements (a) through (h) under all operating scenarios, including duct burner firing mode. Requirements (a) through (h) do not apply during a gas turbine start-up, combustor tuning operation or shutdown. (BACT, PSD~~, and Regulation 2, Rule 5~~)
    (a) Nitrogen oxide mass emissions (calculated as NO_2) at P-1 (the combined exhaust point for S-1 Gas Turbine and S-2 HRSG after abatement by A-1 SCR System) shall not exceed 16.5 pounds per hour or 0.00735 lb/MM BTU (HHV) of natural gas fired. Nitrogen oxide mass emissions (calculated as NO_2) at P-2 (the combined exhaust point for S-3 Gas Turbine and S-4 HRSG after abatement by A-3 SCR System) shall not exceed 16.5 pounds per hour or 0.00735 lb/MM BTU (HHV) of natural gas fired.
    (b) The nitrogen oxide emission concentration at emission points P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15% O_2, averaged over any 1-hour period. (BACT for NO_x)
    (c) Carbon monoxide mass emissions at P-1 and P-2 each shall not exceed 10 pounds per hour or 0.0045 lb/MM BTU of natural gas fired, averaged over any 1-hour period. (PSD for CO)
    (d) The carbon monoxide emission concentration at P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15% O_2 averaged over any 1-hour period. (BACT for CO)
    ~~(e) Ammonia (NH_3) emission concentrations at P-1 and P-2 each shall not exceed 5 ppmv, on a dry basis, corrected to 15% O_2, averaged over any rolling 3-hour period. This ammonia emission concentration shall be verified by the continuous recording of the ammonia injection rate to A-2 and A-4 SCR Systems. The correlation between the gas turbine and HRSG heat input rates, A-2 and A-4 SCR System ammonia injection rates, and corresponding ammonia emission concentration at emission points P-1 and P-2 shall be determined in accordance with permit condition 29 or District approved alternative method. (Regulation 2-5)~~
    ~~(f) Precursor organic compound (POC) mass emissions (as CH_4) at P-1 and P-2 each shall not exceed 2.86 pounds per hour or 0.00128 lb/MM BTU of natural gas fired. (BACT)~~
    ~~(g) Sulfur dioxide (SO_2) mass emissions at P-1 & P-2 each shall not exceed 6.21 pounds per hour or 0.0028 lb/MM BTU of natural gas fired. (BACT)~~
    (h) Particulate matter (PM_{10} and $PM_{2.5}$) mass emissions at P-1 & P-2 each shall not exceed 7.5 pounds per hour or 0.0036 lb PM_{10}/ $PM_{2.5}$ per MM BTU of natural gas fired. (BACT)

20. The owner/operator shall ensure that the regulated air pollutant mass emission rates from each of the Gas Turbines (S-1 & S-3) during a start-up or shutdown do not exceed the limits established below. The owner/operator shall not operate both of the Gas Turbines (S-1 & S-3) in Startup Mode at the same time. (PSD, CEC Conditions of Certification)

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Pollutant	Cold Start-Up Combustor Tuning	Hot Start-Up	Warm Start-Up	Shutdown
	lb/start-up	lb/start-up	lb/start-up	lb/shutdown
NO_x (as NO_2)	480.0	95	125	40
CO	2514	891	2514	100
~~POC (as CH_4)~~	~~83~~	~~35.3~~	~~79~~	~~16~~

21. The owner/operator shall not perform combustor tuning on Gas Turbines more than once every rolling 365 day period for each S-1 and S-3. The owner/operator shall notify the District no later than 7 days prior to combustor tuning activity. (Offsets, Cumulative Emissions)

22. The owner/operator shall not allow total combined emissions from the Gas Turbines and HRSGs (S-1, S-2, S-3 & S-4), S-5 Cooling Tower, and S-6 Fire Pump Diesel Engine, including emissions generated during gas turbine start-ups, combustor tuning, and shutdowns to exceed the following limits during any calendar day:
    (a) 1,453 pounds of NO_x (as NO_2) per day (Cumulative Emissions)
    ~~(b) 1,225 pounds of NO_x per day during ozone season from June 1 to September 30. (CEC Condition of Certification)~~
    (c) 7,360 pounds of CO per day (PSD)
    ~~(d) 295 pounds of POC (as CH_4) per day (Cumulative Emissions)~~
    (e) 413 pounds of PM_{10} and $PM_{2.5}$ per day (PSD)
    ~~(f) 292 pounds of SO_2 per day (BACT)~~

23. The owner/operator shall not allow cumulative combined emissions from the Gas Turbines and HRSGs (S-1, S-2, S-3 & S-4), S-5 Cooling Tower, and S-6 Fire Pump Diesel Engine, including emissions generated during gas turbine start-ups, combustor tuning, and shutdowns to exceed the following limits during any consecutive twelve-month period:
    (a) 127 tons of NO_x (as NO_2) per year (Offsets, PSD)
    (b) 330 tons of CO per year (Cumulative Increase, PSD)
    ~~(c) 28.5 tons of POC (as CH_4) per year (Offsets)~~
    (d) 71.8 tons of PM_{10} and $PM_{2.5}$ per year (Cumulative Increase, PSD)
    ~~(e) 12.2 tons of SO_2 per year (Cumulative Increase, PSD)~~

24. The owner/operator shall not allow sulfuric acid emissions (SAM) from stacks P-1 and P-2 combined to exceed 7 tons in any consecutive 12-month period. (Basis: PSD)

~~25. The owner/operator shall not allow the maximum projected annual toxic air contaminant emissions (per condition 28) from the Gas Turbines and HRSGs (S-1, S-2, S-3 & S-4) combined to exceed the following limits:~~

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~~formaldehyde 10,912 pounds per year~~
~~benzene 226 pounds per year~~
~~Specified polycyclic aromatic hydrocarbons (PAHs) 1.8 pounds per year~~

~~unless the following requirement is satisfied:~~

~~The owner/operator shall perform a health risk assessment to determine the total facility risk using the emission rates determined by source testing and the most current Bay Area Air Quality Management District approved procedures and unit risk factors in effect at the time of the analysis. The owner/operator shall submit the risk analysis to the District and the CEC CPM within 60 days of the source test date. The owner/operator may request that the District and the CEC CPM revise the carcinogenic compound emission limits specified above. If the owner/operator demonstrates to the satisfaction of the APCO that these revised emission limits will not result in a significant cancer risk, the District and the CEC CPM may, at their discretion, adjust the carcinogenic compound emission limits listed above. (Regulation 2, Rule 5)~~

26. The owner/operator shall demonstrate compliance with conditions 13 through 16, 19(a) through 19(d), 20, 22(a), 22(b), 23(a) and 23(b) by using properly operated and maintained continuous monitors (during all hours of operation including gas turbine start-up, combustor tuning, and shutdown periods) for all of the following parameters:
    (a) Firing Hours and Fuel Flow Rates for each of the following sources: S-1 & S-3 combined, S-2 & S-4 combined.
    (b) Oxygen (O_2) concentration, Nitrogen Oxides (NO_x) concentration, and Carbon Monoxide (CO) concentration at exhaust points P-1 and P-2.
    ~~(c) Ammonia injection rate at A-1 and A-3 SCR Systems~~

    The owner/operator shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the owner/operator shall calculate and record the total firing hours, the average hourly fuel flow rates, and pollutant emission concentrations.

    The owner/operator shall use the parameters measured above and District-approved calculation methods to calculate the following parameters:
    (d) Heat Input Rate for each of the following sources: S-1 & S-3 combined, S-2 & S-4 combined.
    (e) Corrected NO_x concentration, NO_x mass emission rate (as NO_2), corrected CO concentration, and CO mass emission rate at each of the following exhaust points: P-1 and P-2.

    For each source, source grouping, or exhaust point, the owner/operator shall record the parameters specified in conditions 26(d) and 26(e) at least once every 15 minutes (excluding normal calibration periods). As specified below, the owner/operator shall calculate and record the following data:
    (f) total Heat Input Rate for every clock hour.

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(g) on an hourly basis, the cumulative total Heat Input Rate for each calendar day for the following: each Gas Turbine and associated HRSG combined and all four sources (S-1, S-2, S-3 and S-4) combined.

(h) the average NO_x mass emission rate (as NO_2), CO mass emission rate, and corrected NO_x and CO emission concentrations for every clock hour.

(i) on an hourly basis, the cumulative total NO_x mass emissions (as NO_2) and the cumulative total CO mass emissions, for each calendar day for the following: each Gas Turbine and associated HRSG combined and all four sources (S-1, S-2, S-3 and S-4) combined.

(j) For each calendar day, the average hourly Heat Input Rates, corrected NO_x emission concentration, NO_x mass emission rate (as NO_2), corrected CO emission concentration, and CO mass emission rate for each Gas Turbine and associated HRSG combined.

(k) on a monthly basis, the cumulative total NO_x mass emissions (as NO_2) and cumulative total CO mass emissions, for the previous consecutive twelve month period for all four sources (S-1, S-2, S-3 and S-4) combined.

(1-520.1, 9-9-501, BACT, Offsets, NSPS, PSD, Cumulative Increase)

27. To demonstrate compliance with conditions ~~19(f), 19(g),~~ 19(h), ~~22(d),~~ 22(e), ~~22(f)~~ ~~23(e),~~ 23(d), ~~23(e),~~ the owner/operator shall calculate and record on a daily basis, the ~~Precursor Organic Compound (POC) mass emissions,~~ Fine Particulate Matter (PM_{10} and $PM_{2.5}$) mass emissions (including condensable particulate matter)~~, and Sulfur Dioxide (SO_2) mass emissions~~ from each power train. The owner/operator shall use the actual heat input rates measured pursuant to condition 26, actual Gas Turbine start-up times, actual Gas Turbine shutdown times, and CEC and District-approved emission factors developed pursuant to source testing under condition 30 to calculate these emissions. The owner/operator shall present the calculated emissions in the following format:

(a) For each calendar day, ~~POC,~~ PM_{10} and $PM_{2.5}$~~, and SO_2~~ emissions, summarized for each power train (Gas Turbine and its respective HRSG combined) and all four sources (S-1, S-2, S-3 & S-4) combined

(b) on a monthly basis, the cumulative total ~~POC,~~ PM_{10} and $PM_{2.5}$~~, and SO_2~~ mass emissions, for each year for all four sources (S-1, S-2, S-3 & S-4) combined

(Offsets, PSD, Cumulative Increase)

~~28. To demonstrate compliance with Condition 25, the owner/operator shall calculate and record on an annual basis the maximum projected annual emissions of: Formaldehyde, Benzene, and Specified PAH's. The owner/operator shall calculate the maximum projected annual emissions using the maximum annual heat input rate of 35,708,858 MM BTU/year and the highest emission factor (pounds of pollutant per MM BTU of heat input) determined by any source test of the S-1 and S-3 Gas Turbines and/or S-2 and S-4 Heat Recovery Steam Generators. If the highest emission factor for a given pollutant occurs during minimum-load turbine operation, a reduced annual heat input rate may be utilized to calculate the maximum projected annual emissions to reflect the reduced heat input rates during gas turbine start-up and minimum-load operation. The reduced annual heat input rate shall be subject to District review and approval. (Regulation 2, Rule 5)~~

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~~29. Within 90 days of start-up of the RCEC, the owner/operator shall conduct a District-approved source test on exhaust point P-1 or P-2 to determine the corrected ammonia (NH_3) emission concentration to determine compliance with condition 19(e). The source test shall determine the correlation between the heat input rates of the gas turbine and associated HRSG, A-2 or A-4 SCR System ammonia injection rate, and the corresponding NH_3 emission concentration at emission point P-1 or P-2. The source test shall be conducted over the expected operating range of the turbine and HRSG (including, but not limited to, minimum and full load modes) to establish the range of ammonia injection rates necessary to achieve NO_x emission reductions while maintaining ammonia slip levels. The owner/operator shall repeat the source testing on an annual basis thereafter. Ongoing compliance with condition 19(e) shall be demonstrated through calculations of corrected ammonia concentrations based upon the source test correlation and continuous records of ammonia injection rate. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of conducting the tests. (Regulation 2, Rule 5)~~

30. Within 90 days of start-up of the RCEC and on an annual basis thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-1 and P-2 while each Gas Turbine and associated Heat Recovery Steam Generator are operating at maximum load to determine compliance with Conditions 19(a), 19(b), 19(c), 19(d), ~~19(f), 19(g),~~ and 19(h) and while each Gas Turbine and associated Heat Recovery Steam Generator are operating at minimum load to determine compliance with Conditions 19(c) and 19(d), and to verify the accuracy of the continuous emission monitors required in condition 26. The owner/operator shall test for (as a minimum): water content, stack gas flow rate, oxygen concentration, ~~precursor organic compound concentration and mass emissions,~~ nitrogen oxide concentration and mass emissions (as NO_2), carbon monoxide concentration and mass emissions, ~~sulfur dioxide concentration and mass emissions, methane, ethane,~~ and particulate matter (PM_{10} and $PM_{2.5}$) emissions including condensable particulate matter. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of conducting the tests. (BACT, offsets)

31. The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section and the CEC CPM prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emission monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section and the CEC CPM in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). As indicated above, the Owner/Operator shall measure the contribution of condensable PM (back half) to the total PM_{10} and $PM_{2.5}$ emissions. However, the Owner/Operator may propose alternative measuring techniques to measure condensable PM such as the use of a dilution tunnel or other appropriate method used to capture semi-volatile organic compounds. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of conducting the tests. (BACT)

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~~32. Within 90 days of start-up of the RCEC and on a biennial basis (once every two years) thereafter, the owner/operator shall conduct a District-approved source test on exhaust point P-1 or P-2 while the Gas Turbine and associated Heat Recovery Steam Generator are operating at maximum allowable operating rates to demonstrate compliance with Condition 25. The owner/operator shall also test the gas turbine while it is operating at minimum load. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to condition 25 for any of the compounds listed below are less than the BAAQMD trigger levels, pursuant to Regulation 2, Rule 5, shown, then the owner/operator may discontinue future testing for that pollutant:~~

~~Benzene~~	~~≤~~	~~6.4 pounds/year and 2.9 pounds/hour~~
~~Formaldehyde~~	~~≤~~	~~30 pounds/year and 0.21 pounds/hour~~
~~Specified PAHs~~	~~≤~~	~~0.011 pounds/year~~

~~(Regulation 2, Rule 5)~~

33. The owner/operator shall calculate the SAM emission rate using the total heat input for the sources and the highest results of any source testing conducted pursuant to condition 34. If this SAM mass emission limit of condition #24 is exceeded, the owner/operator must utilize air dispersion modeling to determine the impact (in $\mu g/m^3$) of the sulfuric acid mist emissions pursuant to Regulation 2-2-306. (PSD)

34. Within 90 days of start-up of the RCEC and on an annual basis thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-1 and P-2 while each gas turbine and HRSG duct burner is operating at maximum heat input rates to demonstrate compliance with the SAM emission rates specified in condition 24. The owner/operator shall test for (as a minimum) SO_2, SO_3, and H_2SO_4. The owner/operator shall submit the source test results to the District and the CEC CPM within 60 days of conducting the tests. (PSD)

35. The owner/operator of the RCEC shall submit all reports (including, but not limited to monthly CEM reports, monitor breakdown reports, emission excess reports, equipment breakdown reports, etc.) as required by District Rules or Regulations and in accordance with all procedures and time limits specified in the Rule, Regulation, Manual of Procedures, or Enforcement Division Policies & Procedures Manual. (Regulation 2-6-502)

36. The owner/operator of the RCEC shall maintain all records and reports on site for a minimum of 5 years. These records shall include but are not limited to: continuous monitoring records (firing hours, fuel flows, emission rates, monitor excesses, breakdowns, etc.), source test and analytical records, natural gas sulfur content analysis results, emission calculation records, records of plant upsets and related incidents. The owner/operator shall make all records and reports available to District and the CEC CPM staff upon request. (Regulation 2-6-501)

37. The owner/operator of the RCEC shall notify the District and the CEC CPM of any violations of these permit conditions. Notification shall be submitted in a timely manner, in accordance with all applicable District Rules, Regulations, and the Manual of Procedures. Notwithstanding the notification and reporting requirements given in any District Rule, Regulation, or the

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Manual of Procedures, the owner/operator shall submit written notification (facsimile is acceptable) to the Enforcement Division within 96 hours of the violation of any permit condition. (Regulation 2-1-403)

38. The owner/operator shall ensure that the stack height of emission points P-1 and P-2 is each at least 145 feet above grade level at the stack base. (PSD, Regulation 2-5)

39. The Owner/Operator of RCEC shall provide adequate stack sampling ports and platforms to enable the performance of source testing. The location and configuration of the stack sampling ports shall comply with the District Manual of Procedures, Volume IV, Source Test Policy and Procedures, and shall be subject to BAAQMD review and approval. (Regulation 1-501)

40. Within 180 days of the issuance of the Authority to Construct for the RCEC, the Owner/Operator shall contact the BAAQMD Technical Services Division regarding requirements for the continuous emission monitors, sampling ports, platforms, and source tests required by conditions 29, 30, 32, 34, and 43. The owner/operator shall conduct all source testing and monitoring in accordance with the District approved procedures. (Regulation 1-501)

41. Pursuant to BAAQMD Regulation 2, Rule 6, section 404.1, the owner/operator of the RCEC shall submit an application to the BAAQMD for a major facility review permit within 12 months of completing construction as demonstrated by the first firing of any gas turbine or HRSG duct burner. (Regulation 2-6-404.1)

42. Pursuant to 40 CFR Part 72.30(b)(2)(ii) of the Federal Acid Rain Program, the owner/operator of the Russell City Energy Center shall submit an application for a Title IV operating permit to the BAAQMD at least 24 months before operation of any of the gas turbines (S-1, S-3, S-5, or S-7) or HRSGs (S-2, S-4, S-6, or S-8). (Regulation 2, Rule 7)

43. The owner/operator shall ensure that the Russell City Energy Center complies with the continuous emission monitoring requirements of 40 CFR Part 75. (Regulation 2, Rule 7)

C. Permit Conditions for Cooling Towers

44. The owner/operator shall properly install and maintain the S-5 cooling tower to minimize drift losses. The owner/operator shall equip the cooling towers with high-efficiency mist eliminators with a maximum guaranteed drift rate of 0.0005%. The maximum total dissolved solids (TDS) measured at the base of the cooling towers or at the point of return to the wastewater facility shall not be higher than 6,200 ppmw (mg/l). The owner/operator shall sample and test the cooling tower water at least once per day to verify compliance with this TDS limit. (PSD)

45. The owner/operator shall perform a visual inspection of the cooling tower drift eliminators at least once per calendar year, and repair or replace any drift eliminator components which

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are broken or missing. Prior to the initial operation of the Russell City Energy Center, the owner/operator shall have the cooling tower vendor's field representative inspect the cooling tower drift eliminators and certify that the installation was performed in a satisfactory manner. Within 60 days of the initial operation of the cooling tower, the owner/operator shall perform an initial performance source test to determine the PM_{10} and $PM_{2.5}$ emission rate from the cooling tower to verify compliance with the vendor-guaranteed drift rate specified in condition 44. The CEC CPM may require the owner/operator to perform source tests to verify continued compliance with the vendor-guaranteed drift rate specified in condition (PSD)

D. Permit Conditions for S-6 Fire Pump Diesel Engine

46. The owner/operator shall not operate S-6 Fire Pump Diesel Engine more than 50 hours per year for reliability-related activities. ("Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3), offsets)

47. The owner/operator shall operate S-6 Fire Pump Diesel Engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, state or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating hours while mitigating emergency conditions or while emission testing to show compliance with District, state or Federal emission limits is not limited. ("Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3))

48. The owner/operator shall operate S-6 Fire Pump Diesel Engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained. ("Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(G)(1), cumulative increase)

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

    (Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(I), cumulative increase)

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E. Greenhouse Gas PSD Permit Conditions.

The following conditions shall apply at all times, and are based on the owner/operator's agreement to be subject to enforceable BACT permit limits for greenhouse gas emissions as a condition for receiving a Federal PSD Permit.

Conditions for the Gas Turbines (S-1 & S-3) and the Heat Recovery Steam Generators (HRSGs; S-2 & S-4)

50. The owner/operator shall not emit more than 242 metric tons of CO_2E from the S-1 & S-3 Gas Turbines and S-2 & S-4 Heat Recovery Steam Generators (HRSGs) per hour. (Basis: Voluntary Greenhouse Gas BACT Requirement)

51. The owner/operator shall not emit more than 5,802 metric tons of CO_2E from the S-1 & S-3 Gas Turbines and S-2 & S-4 Heat Recovery Steam Generators (HRSGs) per day. (Basis: Voluntary Greenhouse Gas BACT Requirement)

52. The owner/operator shall not emit more than 1,928,182 metric tons of CO_2E from the S-1 & S-3 Gas Turbines and S-2 & S-4 Heat Recovery Steam Generators (HRSGs) per year. (Basis: Voluntary Greenhouse Gas BACT Requirement)

53. The owner/operator shall maintain the S-1 & S-3 Gas Turbines such that the heat rate of each turbine does not exceed 7,730 Btu/kWhr. (Basis: Voluntary Greenhouse Gas BACT Requirement)

54. The owner/operator shall maintain the following monthly records in a District-approved log for at least 60 months from the date of entry. Log entries shall be retained on-site, either at a central location or at each circuit breaker's location, and made immediately available to the District staff upon request.
    a. Hourly, daily, and annual heat input.
    b. Hourly, daily, and annual greenhouse gas emissions, expressed in metric tons of CO_2E and calculated by multiplying the hourly, daily, and annual heat input by an emissions factor of 119.0 pounds of CO_2E per MMBtu of heat input.

    (Basis: Voluntary Greenhouse Gas BACT Requirement)

55. Within 90 days of start-up of the RCEC and on an annual basis thereafter, the owner/operator shall conduct a District-approved heat rate performance test on exhaust points P-1 and P-2 while each Gas Turbine is operating at maximum load to determine compliance with Condition 53. The owner/operator shall conduct this heat rate performance test according to the requirements of the American Society of Mechanical Engineers Performance Test Code on Overall Plant Performance, ASME PTC 46-1996. (Basis: Voluntary Greenhouse Gas BACT Requirement)

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Conditions for S-6 Fire Pump Diesel Engine

56. The owner/operator shall not emit more than 7.6 metric tons CO_2E from the S-6 Fire Pump Diesel Engine per rolling 12-month period during operation subject to Condition 46. (Basis: Voluntary Greenhouse Gas BACT Requirement)
57. The owner/operator shall operate S-6 Fire Pump Diesel Engine only when a non-resettable totalizing fuel meter for the engine is installed, operated and properly maintained. (Basis: Voluntary Greenhouse Gas BACT Requirement)
58. The owner/operator shall maintain the following monthly records in a District-approved log for at least 60 months from the date of entry. Log entries shall be retained on-site, either at a central location or at each circuit breaker's location, and made immediately available to the District staff upon request.
    a. Monthly fuel usage.
    b. Monthly greenhouse gas emissions, expressed in metric tons of CO_2E and calculated by multiplying the amount of fuel used per month by an emissions factor of 21.7 pounds of CO_2E per gallon of fuel used.

    (Basis: Voluntary Greenhouse Gas BACT Requirement)

Conditions for S-7 through S-11 Circuit Breakers

59. The owner/operator shall not emit more than 39.3 metric tons of CO_2E from the S-S-7 through S-11 circuit breakers per rolling 12-month period. (Basis: Voluntary Greenhouse Gas BACT Requirement)

60. The owner/operator shall maintain the following monthly records in a District-approved log for at least 60 months from the date of entry. Log entries shall be retained on-site, either at a central location or at each circuit breaker's location, and made immediately available to the District staff upon request.
    a. Amount of dielectric fluid added to the circuit breakers for each month of facility operation.
    b. Greenhouse gas emissions from the circuit breakers for each month of facility operation, expressed in metric tons of CO_2E and calculated by multiplying the amount of dielectric fluid added by an emissions factor of 10.84 metric tons of CO_2E per pound of dielectric fluid added during the month.

    (Basis: Voluntary Greenhouse Gas BACT Requirement)

61. The owner/operator shall install and maintain a leak detection system on the circuit breakers that signals an alarm in the facility's control room in the event that any circuit breaker loses more than 10% of its dielectric fluid. The owner/operator shall promptly respond to any alarm, investigate the circuit breaker involved, and fix any leak-tightness problems that caused the alarm. (Basis: Voluntary Greenhouse Gas BACT Requirement)

VII. APPLICABLE LIMITS AND COMPLINCE MONITORING REQUIREMNETS

This section summarizes the compliance monitoring requirements that have been imposed to ensure compliance with the applicable emission limits listed 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 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), 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.

This section is only a summary of the limits and monitoring requirements. In the case of a conflict with any requirement in Sections I-VI, the preceding sections take precedence over Section VII.

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NO_x	BAAQMD 9-3-303	N		125 ppm	BAAQMD 1-520.1	C	CEM
NOx	BAAQMD 9-9-301.1.3	Y		9 ppmv @ 15% O2, dry	BAAQMD 9-9-501	C	CEM
NOx	BAAQMD 9-9-301.2	N		0.15 lb/MW-hr or 5 ppmv	BAAQMD 9-9-501	C	CEM
NO_x	SIP 9-9-301.3	Y		9 ppmv @ 15% O_2, dry	BAAQMD 9-9-501	C	CEM
NO_x	40 CFR 60 Subpart KKKK 60.4320(a) Table 1	Y		15 ppm at 15% O2 or 0.43 lb/MW-hr	40 CFR 60 Subpart KKKK 60.4340(b)(1)	C	CEM
NOx		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, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NO_x	BAAQMD condition #23763, part 19a	Y		16.5 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 26b	C	CEM
NO_x	BAAQMD condition #23763, part 19a	Y		16.5 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 30	P/A	Source test at maximum load
NO_x	Federal PSD Permit condition #26117, part 19a	Y		16.5 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, or combustor tuning operation	Federal PSD Permit condition #26117, part 26b	C	CEM
NO_x	Federal PSD Permit condition #26117, part 19a	Y		16.5 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, or combustor tuning operation	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum load
NOx	BAAQMD condition #23763, part 19a	Y		0.00735 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 26b	C	CEM
NOx	BAAQMD condition #23763, part 19a	Y		0.00735 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 30	P/A	Source test at maximum load

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	Federal PSD Permit condition #26117, part 19a	Y		0.00735 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, or combustor tuning operation	Federal PSD Permit condition #26117, part 26b	C	CEM
NOx	Federal PSD Permit condition #26117, part 19a	Y		0.00735 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, or combustor tuning operation	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum load
NOx	BAAQMD condition #23763, part 19b	Y		2.0 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 26b	C	CEM
NO_x	BAAQMD condition #23763, part 19b	Y		2.0 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 30	P/A	Source test at maximum load
NOx	Federal PSD Permit condition #26117, part 19b	Y		2.0 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, shutdown, or combustor tuning operation	Federal PSD Permit condition #26117, part 26b	C	CEM

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NO_x	Federal PSD Permit condition #26117, part 19b	Y		2.0 ppmv, @ 15% O_2, dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, shutdown, or combustor tuning operation	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum load
NO_x	BAAQMD condition #23763, part 20	Y		95 lb/turbine during hot start-up	BAAQMD condition #23763, part 26	P/D	Records, calculations
NO_x	Federal PSD Permit condition #26117, part 20	Y		95 lb/turbine during hot start-up	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations
NOx	BAAQMD condition #23763, part 20	Y		40 lb/turbine during shutdown	BAAQMD condition #23763, part 26	P/D	Records, calculations
NOx	Federal PSD Permit condition #26117, part 20	Y		40 lb/turbine during shutdown	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations
NOx	BAAQMD condition #23763, part 20	Y		480 lb/turbine during cold start-up or combustor tuning operation	BAAQMD condition #23763, part 26	P/D	Records, calculations
NOx	Federal PSD Permit condition #26117, part 20	Y		480 lb/turbine during cold start-up or combustor tuning operation	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

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 #23763, part 20	Y		125 lb/turbine during warm start-up	BAAQMD condition #23763, part 26	P/D	Records, calculations
NOx	Federal PSD Permit condition #26117, part 20	Y		125 lb/turbine during warm start-up	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations
NO_x	BAAQMD condition #23763, part 22a	Y		1,453 lb/day for turbines, HRSGs, and fire pump diesel engine, combined, including turbine startup, shutdown, and combustor tuning	BAAQMD condition #23763, part 26	C	CEM
NO_x	Federal PSD Permit condition #26117, part 22a	Y		1,453 lb/day for turbines, HRSGs, and fire pump diesel engine, combined, including turbine startup, shutdown, and combustor tuning	Federal PSD Permit condition #26117, part 26	C	CEM
NO_x	BAAQMD condition #23763, part 22b	Y		1225 lb/day for turbines, HRSGs, and fire pump diesel engine, combined during ozone season from June 1 through September 30	BAAQMD condition #23763, part 26	C	CEM
NO_x	BAAQMD condition #23763, part 23a	Y		127 ton/yr for turbines, HRSGs, and fire pump diesel engine, combined (includes emissions from commissioning period)	BAAQMD condition #23763, part 26	C	CEM

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NO_x	Federal PSD Permit condition #26117, part 23a	Y		127 ton/yr for turbines, HRSGs, and fire pump diesel engine, combined (includes emissions from commissioning period)	Federal PSD Permit condition #26117, part 26	C	CEM
CO	BAAQMD condition #23763, part 19c	Y		10 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 26b	C	CEM
CO	BAAQMD condition #23763, part 19c	Y		10 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 30	P/A	Source test at maximum and minimum load
CO	Federal PSD Permit condition #26117, part 19c	Y		10 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, or combustor tuning operation	Federal PSD Permit condition #26117, part 26b	C	CEM
CO	Federal PSD Permit condition #26117, part 19c	Y		10 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, or combustor tuning operation	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum and minimum load
CO	BAAQMD condition #23763, part 19c	Y		0.0045 lb/MM BTU, for each turbine and HRSG combined**,** except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 26b	C	CEM

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

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 #23763, part 19c	Y		0.0045 lb/MM BTU, for each turbine and HRSG combined**,** except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 30	P/A	Source test at maximum and minimum load
CO	Federal PSD Permit condition #26117, part 19c	Y		0.0045 lb/MM BTU, for each turbine and HRSG combined**,** except during turbine startup, shutdown, or combustor tuning operation	Federal PSD Permit condition #26117, part 26b	C	CEM
CO	Federal PSD Permit condition #26117, part 19c	Y		0.0045 lb/MM BTU, for each turbine and HRSG combined**,** except during turbine startup, shutdown, or combustor tuning operation	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum and minimum load
CO	BAAQMD condition #23763, part 19d	Y		2.0 ppmv, dry, @ 15% O_2, for each turbine and HRSG combined, 3-hr average except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 26b	C	CEM
CO	BAAQMD condition #23763, part 19d	Y		2.0 ppmv, dry, @ 15% O_2, for each turbine and HRSG combined, 3-hr average except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #13763, part 30	P/A	Source test at maximum and minimum load

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
CO	Federal PSD Permit condition #26117, part 19d	Y		2.0 ppmv, dry, @ 15% O_2, for each turbine and HRSG combined, 3-hr average except during turbine startup, shutdown, or combustor tuning operation	Federal PSD Permit condition #26117, part 26b	C	CEM
CO	Federal PSD Permit condition #26117, part 19d	Y		2.0 ppmv, dry, @ 15% O_2, for each turbine and HRSG combined, 3-hr average except during turbine startup, shutdown, or combustor tuning operation	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum and minimum load
CO	BAAQMD condition #23763, part 20	Y		891 lb/turbine during hot start-up	BAAQMD condition #23763, part 26	P/D	Records, calculations
CO	Federal PSD Permit condition #26117, part 20	Y		891 lb/turbine during hot start-up	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations
CO	BAAQMD condition #23763, part 20	Y		2,514 lb/turbine during warm start-up	BAAQMD condition #23763, part 26	P/D	Records, calculations
CO	Federal PSD Permit condition #26117, part 20	Y		2,514 lb/turbine during warm start-up	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

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 #23763, part 20	Y		100 lb/turbine during shutdown	BAAQMD condition #23763, part 26	P/D	Records, calculations
CO	Federal PSD Permit condition #26117, part 20	Y		100 lb/turbine during shutdown	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations
CO	BAAQMD condition #23763, part 20	Y		2,514 lb/turbine during cold start-up or combustor tuning operation	BAAQMD condition #23763, part 26	P/D	Records, calculations
CO	Federal PSD Permit condition #26117, part 20	Y		2,514 lb/turbine during cold start-up or combustor tuning operation	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations
CO	BAAQMD condition #23763, part 22c	Y		7,360 lb/day for turbines, HRSGs, and fire pump diesel engine combined	BAAQMD condition #23763, part 26b	C	CEM
CO	Federal PSD Permit condition #26117, part 22c	Y		7,360 lb/day for turbines, HRSGs, and fire pump diesel engine combined	Federal PSD Permit condition #26117, part 26b	C	CEM
CO	BAAQMD condition #23763, part 23b	Y		330 ton/yr for turbines, HRSGs, and fire pump diesel engine combined (includes emissions from commissioning period)	BAAQMD condition #23763, part 26b	C	CEM

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
CO	Federal PSD Permit condition #26117, part 23b	Y		330 ton/yr for turbines, HRSGs, and fire pump diesel engine combined (includes emissions from commissioning period)	Federal PSD Permit condition #26117, part 26b	C	CEM
CO_2		Y		None	40 CFR 75.10	C	fuel flow monitor and CO_2 calculation
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)		N	
SO_2	40 CFR 60 Subpart KKKK 60.443(a)(2)	Y		0.060 lb/MMBtu	40 CFR 60 Subpart KKKK 60.4365(a)	P	Natural gas sulfur content certification
SO_2		Y		None	40 CFR 75.11, 40 CFR 75, Appendix D, part 2.3		Fuel measure-ments, calculations
SO_2	BAAQMD condition #23763, part 19g	Y		6.21 lb/hr, for turbine and HRSG combined	BAAQMD condition #23763, part 30	P/A	Source test at maximum load
SO_2	BAAQMD condition #23763, part 19g	Y		0.00128 lb/MM BTU, for turbine and HRSG combined	BAAQMD condition #23763, part 30	P/A	Source test at maximum load

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

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 #23763, part 22f	Y		292 lb/day for turbines, HRSGs, and fire pump diesel engine combined	BAAQMD condition #23763, part 27	P/D	Records, calculations
SO_2	BAAQMD condition #23763, part 23e	Y		12.2 ton/yr for turbines, HRSGs, and diesel fire pump combined (includes emissions from commissioning period)	BAAQMD condition #23763, part 27	P/D	Records, calculations
Opacity	BAAQMD 6-1-301	N		$\geq$ Ringelmann No. 1 for no more than 3 minutes in any hour		N	
Opacity	SIP 6-301	Y		$\geq$ Ringelmann No. 1 for no more than 3 minutes in any hour		N	
FP	BAAQMD 6-1-310	N		0.15 grain/dscf		N	
FP	SIP 6-310	Y		0.15 grain/dscf		N	
FP	BAAQMD 6-1-310.3	N		0.15 grain/dscf @ 6% O_2		N	
	SIP 6-310.3	Y		0.15 grain/dscf @ 6% O_2		N	
PM_{10}	BAAQMD condition #23763, part 19h	Y		7.5 lb/hr, for each turbine and HRSG combined	BAAQMD condition #23763, part 30	P/A	Source test at maximum load
PM_{10}	BAAQMD condition #23763, part 19h	Y		0.0036 lb/MMBTU, for each turbine and HRSG combined	BAAQMD condition #23763, part 30	P/A	Source test at maximum load

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

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}	Federal PSD Permit condition #26117, part 19h	Y		7.5 lb/hr, for each turbine and HRSG combined	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum load
PM_{10}	Federal PSD Permit condition #26117, part 19h	Y		0.0036 lb/MMBTU, for each turbine and HRSG combined	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum load
PM_{10}	BAAQMD condition #23763, part 22e	Y		413 lb/day for turbines, HRSGs, and fire pump diesel engine combined	BAAQMD condition #23763, part 27	P/D	Records, calculations
PM_{10}	Federal PSD Permit condition #26117, part 22e	Y		413 lb/day for turbines, HRSGs, and fire pump diesel engine combined	Federal PSD Permit condition #26117, part 27	P/D	Records, calculations
PM_{10}	BAAQMD condition #23763, part 23d	Y		71.8 ton/yr for turbines, HRSGs, and fire pump diesel engine combined (includes emissions from commissioning period)	BAAQMD condition #23763, part 27	P/D	Records, calculations
PM_{10}	Federal PSD Permit condition #26117, part 23d	Y		71.8 ton/yr for turbines, HRSGs, and fire pump diesel engine combined (includes emissions from commissioning period)	Federal PSD Permit condition #26117, part 27	P/D	Records, calculations

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	BAAQMD condition #23763, part 19f	Y		2.86 lb/hr (as CH4) for each turbine and HRSG combined except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 30	P/A	Source test at maximum load
POC	BAAQMD condition #23763, part 19f	Y		0.00128 lb/MM BTU (as CH4) for each turbine, and HRSG combined except during turbine startup, shutdown, or combustor tuning operation	BAAQMD condition #23763, part 30	P/A	Source test at maximum load
POC	BAAQMD condition #23763, part 20	Y		35.3 lb/turbine during hot start-up	BAAQMD condition #23763, part 27	P/D	Records, calculations
POC	BAAQMD condition #23763, part 20	Y		79 lb/turbine during warm start-up	BAAQMD condition #23763, part 27	P/D	Records, calculations
POC	BAAQMD condition #23763, part 20	Y		16 lb/turbine during shutdown	BAAQMD condition #23763, part 27	P/D	Records, calculations
POC	BAAQMD condition #23763, part 20	Y		83 lb/turbine during cold start-up or combustor tuning operation	BAAQMD condition #23763, part 27	P/D	Records, calculations
POC	BAAQMD condition #23763, part 22d	Y		295 lb/day (as CH4) for turbines and HRSGs combined	BAAQMD condition #23763, part 27	P/D	Records, calculations

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
POC	BAAQMD condition #23763, part 23c	Y		28.5 ton/yr for turbines, HRSGs, and fire pump diesel engine combined (includes emissions from commissioning period)	BAAQMD condition #23763, part 27	P/D	Records, calculations
NH_3	BAAQMD condition #23763, Part 19e	N		5 ppmv, dry, @ 15% O_2, averaged over 3 hrs for each turbine and HRSG combined except during turbine startup or shutdown	BAAQMD condition #23763, part 26c, part 29	C	Ammonia injection rate monitor, calculations, and annual source test
Formal-dehyde	BAAQMD condition #23763, part 25	N		10,912 lb/yr for turbines and HRSGs combined	BAAQMD condition #23763, part 28	P/D	Records, calculations
Formal-dehyde	BAAQMD condition #23763, part 25	N		10,912 lb/yr for turbines and HRSGs combined	BAAQMD condition #23763, part 32	P/every two years on P-1 or P-2	Source test
Benzene	BAAQMD condition #23763, part 25	N		226 lb/yr for turbines and HRSGs combined	BAAQMD condition #23763, part 28	P/D	Records, calculations
Benzene	BAAQMD condition #23763, part 25	N		226 lb/yr for turbines and HRSGs combined	BAAQMD condition #23763, part 32	P/every two years on P-1 or P-2	Source test
Specified PAHs	BAAQMD condition #23763, part 25	N		1.8 lb/yr for turbines and HRSGs combined	BAAQMD condition #23763, part 28	P/D	Records, calculations

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Specified PAHs	BAAQMD condition #23763, part 25	N		1.8 lb/yr for turbines and HRSGs combined	BAAQMD condition #23763, part 32	P/every two years on P-1 or P-2	Source test
Heat Input limit	BAAQMD condition #23763, part 13	Y		2,238.6 MM BTU/hour, 3-hr average for each Turbine and HRSG, total	BAAQMD condition #23763, part 26a	C	Fuel meter, calculations
Heat Input limit	Federal PSD Permit condition #26117, part 13	Y		2,238.6 MM BTU/hour, 3-hr average for each Turbine and HRSG, total	Federal PSD Permit condition #26117, part 26a	C	Fuel meter, calculations
Heat Input Limit	BAAQMD condition #23763, part 14	Y		53,726 MM BTU/calendar day, for each Turbine and HRSG, total	BAAQMD condition #23763, part 26a	C	fuel meter, calculations
Heat Input Limit	Federal PSD Permit condition #26117, part 14	Y		53,726 MM BTU/calendar day, for each Turbine and HRSG, total	Federal PSD Permit condition #26117, part 26a	C	fuel meter, calculations
Heat Input Limit	BAAQMD condition #23763, part 15	Y		35,708,858 MM BTU/year for S-1 & S-3 Turbines and S-2 & S-4 HRSGs combined	BAAQMD condition #23763, part 26a	C	fuel meter, calculations
Heat Input Limit	Federal PSD Permit condition #26117, part 15	Y		35,708,858 MM BTU/year for S-1 & S-3 Turbines and S-2 & S-4 HRSGs combined	Federal PSD Permit condition #26117, part 26a	C	fuel meter, calculations

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S-1, S-3 GAS TURBINE
S-2, S-4 HEAT RECOVERY STEAM GENERATOR

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
CO_2E	Federal PSD Permit condition #26117, part 50	Y		242 metric tons per hour for gas turbines and HRSGs, combined	Federal PSD Permit condition #26117, part 15	P/M	Fuel meter, calculations
CO_2E	Federal PSD Permit condition #26117, part 51	Y		5,802 metric tons per day for gas turbines and HRSGs, combined	Federal PSD Permit condition #26117, part 54	P/M	Fuel meter, calculations
CO_2E	Federal PSD Permit condition #26117, part 52	Y		1,928,182 metric tons per year for gas turbines and HRSGs, combined	Federal PSD Permit condition #26117, part 54	P/M	Fuel meter, calculations
Heat Rate Limit	Federal PSD Permit condition #26117, part 53	Y		7,730 BTU/KW-hr for each gas turbine	Federal PSD Permit condition #26117, part 55	P/A	Source Test

Table VII – B
Applicable Limits and Compliance Monitoring Requirements
S-5, 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 6-1-303.1	N		$\geq$ Ringelmann No. 2 for no more than 3 minutes in any hour		N	

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – B
Applicable Limits and Compliance Monitoring Requirements
S-5, 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	SIP Regulation 6-303.1	Y		≥ Ringelmann 2.0 for 3 minutes in any hour		N	
FP	BAAQMD 6-1-310	N		0.15 grain/dscf		N	
FP	SIP Regulation 6-310	Y		0.15 gr/dscf		N	
Total Dissolved Solids	BAAQMD Condition #23763, part 44	Y		6,200 ppmw (mg/l)	BAAQMD Condition #23763, part 44	P/D	Sample and test cooling tower water
Total Dissolved Solids	Federal PSD Permit Condition #26117, part 44	Y		6,200 ppmw (mg/l)	Federal PSD Permit Condition #26117, part 44	P/D	Sample and test cooling tower water

Table VII – C
Applicable Limits and Compliance Monitoring Requirements
S-6, FIRE PUMP DIESEL ENGINE

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 6-1-303.1	N		≥ Ringelmann No. 2 for no more than 3 minutes in any hour		N	
Opacity	SIP Regulation 6-303.1	Y		≥ Ringelmann 2.0 for 3 minutes in any hour		N	
FP	BAAQMD 6-1-310	N		0.15 grain/dscf		N	

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – C
Applicable Limits and Compliance Monitoring Requirements
S-6, FIRE PUMP DIESEL ENGINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
FP	SIP Regulation 6-310	Y		0.15 gr/dscf		N	
SO_2	BAAQMD 9-1-301	Y		Property Line Ground Level Limits: $\leq$ 0.5 ppm for 3 minutes and $\leq$ 0.25 ppm for 60 min. and $\leq$0.05 ppm for 24 hours	None	N	N/A
SO_2	BAAQMD 9-1-304	Y		Fuel Sulfur Limit 0.5%	BAAQMD Condition # 20498, Parts 5 and 8	P/E	Vendor Certification
Reliability Related Hours	BAAQMD 9-8-330	N		50 hours	9-8-502	P/E	Totalizing meter, Record-keeping
Hours for maintenance and testing	Title 17, California Code of Regulations section 93115.6(a)(4)	N		Not operate more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 – "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems," 2002 edition	93115.10(d)	P/E	Totalizing meter. Record-keeping
Reliability-related activities	BAAQMD Condition #23763, part 46	N		50 hours per calendar year	BAAQMD Condition #23763, parts 48, 49	P/E	Totalizing meter, record-keeping

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – C
Applicable Limits and Compliance Monitoring Requirements
S-6, FIRE PUMP DIESEL ENGINE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Reliability-related activities	Federal PSD Permit Condition #26117, part 46	N		50 hours per calendar year	Federal PSD Permit Condition #26117, parts 48, 49	P/E	Totalizing meter, record-keeping
CO_2E	Federal PSD Permit Condition #26117, part 56	Y		7.6 metric tons per rolling 12-month period	Federal PSD Permit Condition #26117, part 58	P/E	Totalizing meter, record-keeping

Table VII – D
Applicable Limits and Compliance Monitoring Requirements
S-7, S-8, S-9, S-10, & S-11 CIRCUIT BREAKERS

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
CO_2E	Federal PSD Permit Condition #26117, part 59	Y		39.3 metric tons per rolling 12- month period from S-7 through S-11, combined	Federal PSD Permit Condition #26117, part 60	P	Record-keeping, calculations

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 Emission Limits & Compliance Monitoring Requirements, of this permit. The owner/operator may use other test methods if approved by the BAAQMD.

Table VIII
Test Methods

Applicable Requirement	Description of Requirement	Acceptable Test Methods
BAAQMD 6-1-301	Ringelmann No. 1 Limitation	Manual of Procedures, Volume I, Evaluation of Visible Emissions, or EPA Method 9
BAAQMD 6-1-304	Tube Cleaning	Manual of Procedures, Volume I, Evaluation of Visible Emissions, or EPA Method 9
BAAQMD 6-1-310	Particulate Weight Limitation	Manual of Procedures, Volume IV, ST-15, Particulates Sampling, or EPA Method 5, Determination of Particulate Emissions from Stationary Sources
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 9-3-303	New or Modified Heat Transfer Operation Limits	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling, or ARB Method 100, Procedures for Continuous Gaseous Emission Stack Sampling
BAAQMD 9-7-301.1	Performance Standard, NO_x, Gaseous Fuel	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling and ST-14, Oxygen, Continuous Sampling, or ARB Method 100, Procedures for Continuous Gaseous Emission Stack Sampling
BAAQMD 9-7-301.2	Performance Standard, CO, Gaseous Fuel	Manual of Procedures, Volume IV, ST-6, Carbon Monoxide, Continuous Sampling and ST-14, Oxygen, Continuous Sampling, or ARB Method 100, Procedures for Continuous Gaseous Emission Stack Sampling
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, or ARB Method 100, Procedures for Continuous Gaseous Emission Stack Sampling

VIII. Test Methods

Applicable Requirement	Description of Requirement	Acceptable Test Methods
40 CFR Part 60, NSPS		
Subpart Da	Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced after September 18, 2078	
60.42Da (a)(1)	Particulate Limit	EPA Method 5, Determination of Particulate Emissions from Stationary Sources or other method approved by the BAAQMD
60.42Da (b)	Opacity Limit	EPA Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources
60.43Da (b)(2)	SO_2 limit	EPA Method 19, Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates
60.44Da (a)(1)	NO_x limit	EPA Method 19, Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates
Subpart Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units	
60.44b (a)(4)	NO_x Limit	EPA Method 19, Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates
Subpart GG	Standards of Performance for Stationary Gas Turbines	
60.332 (a)(1)	Performance Standard, NO_x	EPA Method 19, Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines
60.333 (a)	SO_2 Volumetric Emission Limit	EPA Method 19, 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 #23763		
Part 19g	SOx Limit	Test Procedure, MOP Vol.4, ST-19A, Sulfur Dioxide, Continuous Sampling

VIII. Test Methods

Applicable Requirement	Description of Requirement	Acceptable Test Methods
Part 19b	NOx Limit	Test Procedure ARB 100, Procedures for Continuous Gaseous Emission Stack Sampling
Part 19e	NH_3 Limit	BAAQMD Test Procedure ST-1B, Ammonia, Integrated Sampling
Part 19d	CO Limit	Test Procedure ARB 100, Procedures for Continuous Gaseous Emission Stack Sampling
Part 19f	POC Limit	Test Procedure ARB 100, Procedures for Continuous Gaseous Emission Stack Sampling or EPA Method TO-12
Part 19h	PM_{10} Limit	EPA Method 191A, Determination of PM_{10} Emissions, plus EPA Method 192, Determination of Condensable Particulate Emissions from Stationary Sources, or EPA Method 5, Determination of Particulate Matter from Stationary Sources, plus EPA Method 202 (subject to District approval)
Part 25	Formaldehyde Limit	ARB Method 430, Determination of Formaldehyde and Acetaldehyde in Emissions from Stationary Sources
Part 25	Benzene Limit	ARB Method 410A, Determination of Benzene from Stationary Sources (Low Concentration Gas Chromatographic Technique), or EPA Method TO-15 Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS). EPA Method TO-15 is an ambient air method modified for use on a stationary source.
Part 25	Polycyclic Aromatic Hydrocarbons Limit	ARB Method 429, Determination of Polycyclic Aromatic Hydrocarbon (PAH) Emissions from Stationary Sources
Part 53	Heat Rate Performance Lower Limit	American Society of Mechanical Engineers Performance Test Code on Overall Plant Performance, ASME PTC 46-1996

IX. TITLE IV ACID RAIN PERMIT

Effective through

ISSUED TO:

Russell City Energy Company, LLC
3862 Depot Road
Hayward, CA 94545

PLANT SITE LOCATION:
3862 Depot Road
Hayward, CA 94545

ISSUED BY:

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

Type of Facility: Power Plant
Primary SIC: 4911
Product: Electricity

DESIGNATED REPRESENTATIVE:
Name: Eugene Fahey
Title: Plant Manager
Phone: (510) 731-1414

ALTERNATE DESIGNATED REPRESENTATIVE:
Name: Laura Bresnahan
Title: EHS Specialist
Phone: (510) 731-1407

IX. Title IV Acid Rain Permit

ACID RAIN PERMIT CONTENTS

1) Statement of Basis

2) SO_2 allowance allocated under this permit and NO_x 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 Rule Regulation 2, Rule 7.

2) SO_2 ALLOWANCE ALLOCATIONS

None of the sources at the facility (S-1 through S-4) is entitled to any SO_2 allowances under Table 2 of 40 CFR Part 73 for the term of this permit.

3) COMMENTS, NOTES AND JUSTIFICATIONS

None

4) PERMIT REQUIREMENTS

The owners and operators of the facility must comply with the standard requirements and special provisions set forth in the facility's Title IV permit application, which is set forth in Section XIII. The main provisions of the regulations for natural gas fired acid rain sources, such as the ones at this facility, are the requirement to obtain one SO_2 allowance for each ton of SO_2 that is emitted, stringent monitoring requirements for NO_x, CO_2, and SO_2, and stringent recordkeeping and reporting requirements. Additional acid-rain-related permit requirements are stated in Standard Condition L in Section I of this permit.

IX. Title IV Acid Rain Permit

Unit. States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 11/30/2012

Acid Rain Permit Application

For more information, see instructions and 40 CFR 72.30 and 72.31.

This submission is: ~ new ~ revised ~ for Acid Rain permit renewal

STEP 1

Identify the facility name, State, and plant (ORIS) code.

Facility (Source) Name	State	Plant Code
RUSSELL CITY ENERGY COMPANY, LLC	CA	56467

STEP 2

Enter the unit ID# for every affected unit at the affected source in column "a."

a	b
Unit ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)
CT 1	Yes
CT 2	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes

EPA Form 7610-16 (Revised 12-2009)

IX. Title IV Acid Rain Permit

RUSSELL CITY ENERGY COMPANY, L
Facility (Source) Name (from STEP 1)

Acid Rain - Page 2

Permit Requirements

STEP 3

Read the standard requirements.

(1) The designated representative of each affected source and each affected unit at the source shall:
(i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;
(2) The owners and operators of each affected source and each affected unit at the source shall:
(i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
(ii) Have an Acid Rain Permit.

Monitoring Requirements

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.
(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

(1) The owners and operators of each source and each affected unit at the source shall:
(i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and
(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
(i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).

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IX. Title IV Acid Rain Permit

RUSSELL CITY ENERGY COMPANY, L

Facility (Source) Name (from STEP 1)

Acid Rain - Page 3

Sulfur Dioxide Requirements, Cont'd.

STEP 3, Cont'd.

(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements

The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

(1) The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an affected source that has excess emissions in any calendar year shall:
(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
(ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
(i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;

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IX. Title IV Acid Rain Permit

RU' ELL CITY ENERGY COMPANY, L'
Facility (Source) Name (from STEP 1)

Recordkeeping and Reporting Requirements, Cont'd.

STEP 3, Cont'd.

(ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
(iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit.
(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:
(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating

IX. Title IV Acid Rain Permit

RU' ELL CITY ENERGY COMPANY, L'
Facility (Source) Name (from STEP 1)

Effect on Other Authorities, Cont'd.

STEP 3, Cont'd.

to applicable National Ambient Air Quality Standards or State Implementation Plans;
(2) Limiting the number of allowances a source can hold; *provided,* that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the Act;
(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

Certification

STEP 4
Read the certification statement, sign, and date.

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name Barbara McBride	
Signature	Date 5/26/2011

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X. PERMIT SHIELD

A. Non-applicable Requirements

None.

B. Subsumed Requirements

None.

XI. REVISION HISTORY

Initial Title V Permit Issuance (Application 26328): Issuance date

XII. GLOSSARY

ACT
Federal Clean Air Act

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CEQA
California Environmental Quality Act

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

CO
Carbon Monoxide

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

District
The Bay Area Air Quality Management District

EPA
The federal Environmental Protection Agency.

Excluded
Not subject to any District regulations.

XII. Glossary

Federally Enforceable, FE
All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60, (NSPS), Part 61, (NESHAPs), Part 63 (HAP), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

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

HAP
Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by both 40 CFR Part 63, and District Regulation 2, Rule 5.

HRSG
Heat Recovery Steam Generator

Major Facility
A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MFR
Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

MOP
The District's Manual of Procedures.

NAAQS
National Ambient Air Quality Standards

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

NMHC
Non-methane Hydrocarbons

NO_x
Oxides of nitrogen.

XII. Glossary

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NO_x, PM_{10}, and SO_2.

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

POC
Precursor Organic Compounds

PM
Particulate Matter

PM_{10}
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

XII. Glossary

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.

SO_2
Sulfur dioxide

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

TSP
Total Suspended Particulate

VOC
Volatile Organic Compounds

Units of Measure:

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