Bay Area Air Quality Management District

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

Final

MAJOR FACILITY REVIEW PERMIT

Issued To:

City of Santa Clara, Electric Department
Facility #A0621

Facility Address:
524 Robert Avenue
Santa Clara, CA 95050

Mailing Address:
1500 Warburton Avenue
Santa Clara, CA 95050

Responsible Official	**Facility Contact**
Jennifer Sparacino, City Manager	Orville Plum
(408) 615-2210	(408) 615-6562

Type of Facility:	Cogeneration Facility	BAAQMD Permit Division Contact:
Primary SIC:	4911	Madhav Patil
Product:	Electric Power and Process Steam	

ISSUED BY THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Signed by Jeff McKay for Jack P. Broadbent — May 23, 2012

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 5/4/11);
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 3/4/09);
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 on12/21/04);
SIP Regulation 2, Rule 4 - Permits, Emissions Banking
(as approved by EPA through1/26/99)-,.
BAAQMD Regulation 2, Rule 5 – New Source Review of Toxic Air Contaminants
(as amended by the District Board on 01/06/10);
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 expires on May 22, 2017. The permit holder shall submit a complete application for renewal of this Major Facility Review Permit no later than November 22, 2017 and no earlier than May 22, 2016. **If a complete application for renewal has not been submitted in accordance with these deadlines, the facility may not operate after** May 22, 2017**.** If the permit renewal has not been issued by May 22, 2017, 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. (Regulation 2-6-307, 404.2, 407, & 409.6; MOP Volume II, Part 3, §4.2) (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)

I. Standard Conditions

3. In the event any enforcement action is brought as a result of a violation of any term or condition of this permit, the fact that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with such term or condition shall not be a defense to such enforcement action. (MOP Volume II, Part 3, §4.11)
4. This permit may be modified, revoked, reopened and reissued, or terminated for cause. (Regulation 2-6-307, 409.8, 415; MOP Volume II, Part 3, §4.11)
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, nor 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 to contain proprietary or trade secret information shall be prominently designated as such. Copies of any such proprietary or trade secret information which are provided to the District shall be maintained by the District in a locked confidential file, provided, however, that requests from the public for the review of any such information shall be handled in accordance with the District's procedures set forth in Section 11 of the District Administrative Code. (Regulation 2-6-419; MOP Volume II, Part 3, §4.11)
9. Proprietary or trade secret information provided to EPA will be subject to the requirements of 40 CFR Part 2, Subpart B - Public Information, Confidentiality of Business Information. (40 CFR Part 2)
10. The emissions inventory submitted with the application for this Major Facility Review Permit is an estimate of actual emissions or the potential to emit for the time period stated and is included only as one means of determining applicable requirements for emission sources. It does not establish, or constitute a basis for establishing, any new emission limitations. (MOP Volume II, Part 3, §4.11)
11. The responsible official shall certify all documents submitted by the facility pursuant to the major facility review permit. The certification shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. The certifications shall be signed by a responsible official for the facility. (Regulation 2-6-409.20, 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)

I. Standard Conditions

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 which 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 entry. (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 reporting periods for this permit shall be March 1st through August 31st and September 1st through February 28th or 29th. Each report is due on the last day of the month after the end of the reporting period. All instances of non-compliance shall be clearly identified in these reports. The reports shall be certified by the responsible official as true, accurate, and complete. In addition, all instances of non-compliance with the permit shall be reported in writing to the District's Compliance and Enforcement Division within 10 calendar days of the discovery of the incident. Within 30 calendar days of the discovery of any incident of non-compliance, the facility shall submit a written report including the probable cause of non-compliance and any corrective or preventative actions. The reports shall be sent to the following address:

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

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

G. Compliance Certification

Compliance certifications shall be submitted annually by the responsible official of this facility to the Bay Area Air Quality Management District and to the Environmental Protection Agency. The certification period will be March 1st to February 28th or 29th of the following year. The certification shall be submitted by March 31st of each year. The certification must list each applicable requirement, the compliance status, whether

I. Standard Conditions

compliance was continuous or intermittent, the method used to determine compliance, and any other specific information required by the permit. The permit holder may satisfy this requirement through submittal of District-generated Compliance Certification forms. The certification should be directed to the District's Compliance and Enforcement Division at the address above, and a copy of the certification should be sent to the Environmental Protection Agency at the following address:

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

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

H. Emergency Provisions

1. The permit holder may seek relief from enforcement action in the event of a breakdown, as defined by 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

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 w/Water Injection, Natural Gas Fired	Allison	501 KB	3,800 KW; 55.1 MMBTU/hr
2	Gas Turbine w/Water Injection, Natural Gas Fired	Allison	501 KB	3,800 KW, 55.1 MMBTU/hr
3	Supplemental Duct Burner, Natural Gas Fired	Coen	GDB-20	20 MMBTU/hr
4	Supplemental Duct Burner, Natural Gas Fired	Coen	GDB-20	20 MMBTU/hr

III. GENERALLY APPLICABLE REQUIREMENTS

The permit holder shall comply with all applicable requirements, including those specified in the BAAQMD and SIP Rules and Regulations and other federal requirements cited below. These requirements apply in a general manner to the facility and/or to sources exempt from the requirement to obtain a District Permit to Operate. The District has determined that these requirements 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. This section also contains provisions that may apply to temporary sources.

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 language of SIP requirements is on EPA Region 9's website. The address is: http://yosemite.epa.gov/r9/r9sips.nsf/Agency?ReadForm&count=500&state=California&cat=Bay+Area+Air+Quality+Management+District-Agency-Wide+Provisions

NOTE:

There are differences between the current BAAQMD rule and the version of the rule 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.

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)	Y
SIP Regulation 1	General Provisions and Definitions (6/28/99)	Y
BAAQMD Regulation 2, Rule 1	General Requirements (3/4/09)	N
BAAQMD 2-1-429	Federal Emissions Statement (12/21/04)	N
SIP Regulation 2, Rule 1	General Requirements (1/26/99)	Y[1]
SIP Regulation 2-1-429	Federal Emissions Statement (4/3/95)	Y
BAAQMD Regulation 2, Rule 5	New Source Review of Toxic Air Contaminants (01/06/10)	N

III. Generally Applicable Requirements

Table III
Generally Applicable Requirements

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)
BAAQMD Regulation 4	Air Pollution Episode Plan (3/20/91)	N
SIP Regulation 4	Air Pollution Episode Plan (8/06/90)	Y[1]
BAAQMD Regulation 5	Open Burning (7/09/08)	Y
SIP Regulation 5	Open Burning (9/4/98)	Y[1]
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 (7/20/05)	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 16	Organic Compounds - Solvent Cleaning Operations (10/16/02)	Y
BAAQMD Regulation 8, Rule 40	Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks (6/15/05)	Y
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 (12/20/95)	N
SIP Regulation 8, Rule 49	Organic Compounds - Aerosol Paint Products (3/22/95)	Y[1]
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[1]

III. Generally Applicable Requirements

Table III
Generally Applicable Requirements

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)
BAAQMD Regulation 9, Rule 1	Inorganic Gaseous Pollutants - Sulfur Dioxide (3/15/95)	N
SIP Regulation 9, Rule 1	Inorganic Gaseous Pollutants - Sulfur Dioxide (6/8/99)	Y
BAAQMD Regulation 11, Rule 1	Hazardous Pollutants - Lead (3/17/82)	N
SIP Regulation 11, Rule 1	Hazardous Pollutants – Lead (9/2/81)	Y[1]
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[1]
California Health and Safety Code Section 41750 et seq.	Portable Equipment	N
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 Title 17, Section 93116	Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater	N
40 CFR Part 61, Subpart M	National Emission Standards for Hazardous Air Pollutants – National Emission Standard for Asbestos (7/20/04)	Y
40 CFR Part 61, Subpart A	National Emission Standards for Hazardous Air Pollutants – General Provisions (5/28/03)	Y

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

IV. SOURCE-SPECIFIC APPLICABLE REQUIREMENTS

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

The dates in 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 full language of SIP requirements is on EPA Region 9's website.

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

All other text may be found in the regulations themselves.

Table IV - A
Source-specific Applicable Requirements
S1, S2 – GAS TURBINES W/WATER INJECTION
S3, S4: DUCT BURNERS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (5/2/01)**		
1-107	Combination of Emissions	Y	
1-523	Parametric Monitoring and Recordkeeping Procedures	N	
1-523.1	Reporting requirement for periods of inoperation > 24 hours	Y	
1-523.2	Limit on duration of inoperation	Y	
1-523.3	Reporting requirement for violations of any applicable limits	N	
1-523.4	Records of inoperation, tests, calibrations, adjustments, & maintenance	Y	
1-523.5	Maintenance and calibration	N	
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-523	Parametric Monitoring and Recordkeeping Procedures	Y	

IV. Source-Specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S1, S2 – GAS TURBINES W/WATER INJECTION
S3, S4: DUCT BURNERS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
1-523.3	Reports of Violations	Y	
BAAQMD Regulation 6	**Particulate Matter, General Requirements (12/5/07)**		
6-1-301	Ringelmann #1 Limitation	N	
6-1-305	Visible Particles	N	
6-1-310	Particulate Weight Limitation	N	
6-1-310.3	Heat Transfer Operations	N	
SIP Regulation 6	**Particulate Matter and Visible Emissions (9/4/98)**		
6-301	Ringelmann #1 Limitation	Y	
6-305	Visible Particles	Y	
6-310	Particulate Weight Limitation	Y	
6-310.3	Heat Transfer Operations	Y	
BAAQMD Regulation 9, Rule 1	**Inorganic Gaseous Pollutants – Sulfur Dioxide (3/15/95)**		
9-1-301	Limitations on Ground Level Concentrations	N	
9-1-302	General Emissions Limitation	Y	
BAAQMD Regulation 9, Rule 9	**Inorganic Gaseous Pollutants – Nitrogen Oxides from Stationary Gas Turbines (12/6/06)**		
9-9-113	Exemption – Inspection and Maintenance Periods	N	
9-9-114	Exemption – Start-up and Shutdown Periods	N	
9-9-115	Limited Exemption, Minor Inspection and Maintenance Work	N	
9-9-301	General Emission Limits	N	
9-9-301.1.1	Gas Turbines $\geq$ 0.3 MW and <10.0 MW	N	
9-9-301.2	NOx limits	N	
9-9-301.4	Alternative standards	N	

IV. Source-Specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S1, S2 – GAS TURBINES W/WATER INJECTION
S3, S4: DUCT BURNERS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
9-9-404	Compliance Schedule for Future Commercial Availability of Retrofit Technology	N	Upon APCO notification, up to 60 months after availability of comercially available technology
9-9-504	Annual Demonstration of Compliance	N	
9-9-601	Determination of Emissions	N	
9-9-602	Determination of Stack Gas Oxygen	N	
SIP Regulation 9, Rule 9	**Inorganic Gaseous Pollutants – Nitrogen Oxides from Stationary Gas Turbines (12/15/97)**		
9-9-113	Exemption – Inspection and Maintenance Periods	Y	
9-9-114	Exemption – Start-up and Shutdown Periods	Y	
9-9-301	General Emission Limits	Y	
9-9-301.1	Gas Turbines $\geq$ 0.3 MW and <10.0 MW	Y	
40 CFR Part 60	**Standards of Performance for New Stationary Sources (12/23/71)**		
Subpart A	**General Provisions**		
60.7	Notification and Recordkeeping	Y	
60.8	Performance Tests	Y	
60.9	Availability of Information	Y	
60.11	Compliance with Standards and Maintenance Requirements	Y	
60.12	Circumvention	Y	
60.13	Monitoring Requirements	Y	
60.13(a)	Continuous monitoring systems	Y	
60.13(b)	Installation deadline	Y	
60.13(e)	Continuous operation	Y	
60.13(f)	Representative measurements	Y	

IV. Source-Specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S1, S2 – GAS TURBINES W/WATER INJECTION
S3, S4: DUCT BURNERS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
40 CFR 60 Subpart GG	**Standards of Performance for Stationary Gas Turbines (2/24/06)**		
60.332	Standard for Nitrogen Oxides	Y	
60.332(a)(2)	NOx Emission Standard – Turbines > 10 MMBTU/hr and ≤100 MMBTU/hr	Y	
60.333	Standard for Sulfur Dioxide	Y	
60.333(a)	Sulfur Dioxide Emission Standard	Y	
60.333(b)	Fuel Sulfur Limit	Y	
60.334	Monitoring Requirements	Y	
60.334(a)	Fuel/Water Ratio	Y	
60.334(g)	Parameter Monitoring During Performance Testing	Y	
60.334(h)(3)	Fire Only Natural Gas in lieu of Fuel Sulfur Monitoring	Y	
60.334(j)	Excess Emissions Reports	Y	
60.334 (j)(1)(i)	Requirements for Turbines Using Water or Steam to Fuel Ratio Monitoring	Y	
60.334(j)(5)	Report Due Dates	Y	
BAAQMD Cond #14194			
part 1	Fuel Requirement (basis: BACT, 40 CFR 60.333)	Y	
part 2	Heat Input Limit – Turbines (basis: Cumulative Increase)	Y	
part 3	Heat Input Limit – Duct Burners (basis: Cumulative Increase)	Y	
part 4	NOx Emissions Limit – Turbines (Basis: BAAQMD Regulations 9-9-301.1.1, 9-9-301.2, SIP Regulation 9-9-301.1)	Y	
part 5	NOx Emissions Limit – Combined Turbine/Duct Burner (Basis: BAAQMD Regulations 1-107, 9-9-301.1.1, 9-9-301.2, SIP Regulation 9-9-301.1)	Y	
part 6	Water Injection System Requirements (Basis: BACT)	Y	
part 7	Fuel Monitoring Requirement (basis: Cumulative Increase)	Y	
part 8	Continuous Monitoring System Requirement (basis: 40 CFR 60.334)	Y	
part 9	Annual Source Test Requirement for Turbines (basis: BAAQMD Regulations 9-9-301.1.1, 9-9-301.2; SIP Regulation 9-9-301.1)	Y	

IV. Source-Specific Applicable Requirements

Table IV - A
Source-specific Applicable Requirements
S1, S2 – GAS TURBINES W/WATER INJECTION
S3, S4: DUCT BURNERS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 10	Annual Source Test Requirement for Turbines/Duct Burnes (basis: BAAQMD Regulations 9-9-301.1.1, 9-9-301.2; SIP Regulation 9-9-301.1)	Y	
part 10	Recordkeeping. (Basis: BAAQMD Regulations 1-107, 2-6-503, 9-9-301.1.1, SIP 9-9-301.1)	Y	
part 11	Reporting (basis: Cumulative Increase, 40 CFR 60.334)	Y	

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

V. SCHEDULE OF COMPLIANCE

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

VI. PERMIT CONDITIONS

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

Condition #14194 for:
S1, Gas Turbine with water injection
S2, Gas Turbine with water injection
S3, Supplemental Duct Burner
S4, Supplemental Duct Burner

Conditions:

1. All combustion sources at this facility shall be fired exclusively with California Public Utilities Commission (PUC) quality natural gas. (basis: BACT, 40 CFR 60.333)

2. Heat input for each turbine, S1 and S2, is limited to 55.1 MMBTU/hr. (Basis: Cumulative Increase)

3. Heat input for each supplemental duct burner, S3 and S4, is limited to 13.5 MMBTU/hr. (Basis: Cumulative Increase)

4. NOx emissions from each turbine, S1 or S2, shall not exceed 42 ppm, by volume in the exhaust, measured at 15% oxygen (dry basis), except during startup and shutdown. (Basis: BAAQMD Regulations 9-9-301.1.1, 9-9-301.2, SIP Regulation 9-9-301.1)

5. NOx emissions from each turbine-supplemental duct burner combination, S1/S3 or S2/S4, shall not exceed 42 ppm by volume in the exhaust, measured at 15% oxygen (dry basis). The supplemental burners shall not operate during startup or shutdown. (Basis: BAAQMD Regulations 1-107, 9-9-301.1.1, 9-9-301.2, SIP Regulation 9-9-301.1)

6. NOx emissions from each turbine shall be controlled at all times by water injection except during startup and shutdown. Water-to-fuel ratio shall be maintained in the range of 57% to 62% (weight basis) during all periods of operation. (Basis: BACT)

VI. Permit Conditions

7. In order to demonstrate compliance with parts #2 and #3, the owner/operator of the Gas Turbines and Supplemental Duct Burners shall install and operate approved continuous fuel meters to monitor and record the amount of fuel heat input to each turbine and duct burner. (basis: Cumulative Increase)

8. In order to demonstrate compliance with part #6, the owner/operator of the Gas Turbines shall install and operate an approved continuous monitoring system to monitor and record the ratio of water-to-fuel being fired in each turbine. (basis: 40 CFR 60.334)

9. In order to demonstrate compliance with NOx limits of part #4, the owner/operator of the Gas Turbines S1 and S2 shall conduct annual source testing of each turbine (S1, S2). (basis: BAAQMD Regulations 9-9-301.1.1, 9-9-301.2; SIP Regulation 9-9-301.1)

   All source testing shall be performed in accordance with the District's Manual of Procedures. The facility shall obtain prior approval from the District's Source Test Manager for the location of sampling ports and source testing procedures. All source test results shall be delivered to the District within 30 days of the date of the test. The time interval between source testing shall not exceed 15 months.

10. In order to demonstrate compliance with NOx limits of Part #5, the owner/operator of the Gas Turbines, S1 and S2, and duct burners S3 and S4 shall conduct annual source testing of each turbine-supplemental duct burner~~s~~ combination (S1/S3, S3/S4). This requirement shall be waived if the duct burners have not been fired since the last source test. (Basis: BAAQMD Regulations 1-107, 2-6-503, 9-9-301.1.1, SIP Regulation 9-9-301.1)

    All source testing shall be performed in accordance with the District's Manual of Procedures. The facility shall obtain prior approval from the District's Source Test Manager for the location of sampling ports and source testing procedures. All source test results shall be delivered to the District within 30 days of the date of the test. The time interval between source testing shall not exceed 15 months.

11. The owner/operator of the Gas Turbines S1 and S2 and the Supplemental Duct Burners S3 and S4 shall keep records of the operation of this equipment as follows: (basis: Cumulative Increase, 40 CFR 60.334)

VI. Permit Conditions

a. hours of operation of each turbine and supplemental burner
b. monthly summary of fuel usage at each turbine and supplemental burner
c. average fuel to water ratio at each turbine for each 24 hour period that the turbines are in operation

12. The owner/operator of the Gas Turbines S1 and S2 shall submit an excess emissions and monitoring systems performance report to the District and the U.S. Environmental Protection Agency on a semiannual basis. These reports shall be submitted as stipulated in Standard Condition I.F and shall include the following: (basis: 40 CFR 60.7(c))
    a. the hours of operation of each turbine during the reporting period
    b. each one-hour period during which the average water-to-fuel ratio falls out of the range specified in part #6
    c. the date and time identifying each period during which the continuous monitoring system was inoperative and the nature of the system repairs or adjustments
    d. the average fuel consumption and turbine load conditions for each period when the water-to-fuel ratio was out of the specified range or the continuous monitoring system was inoperative

    Respective reports to the District and the EPA shall be addressed as follows:

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

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

VII. APPLICABLE LIMITS & COMPLIANCE MONITORING REQUIREMENTS

This section has been included only to summarize the applicable emission limits contained in Section IV, Source-Specific Applicable Requirements, of this permit. The following tables show the relationship between each emission limit and the associated compliance monitoring provisions, if any. The monitoring frequency 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
S1, S2 – GAS TURBINES W/WATER INJECTION
S3, S4: DUCT BURNERS

Type of limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
PM	BAAQMD Regulation 6-1-301	N		Ringelmann 1.0		N	
PM	SIP Regulation 6-301	Y		Ringelmann 1.0		N	
FP	BAAQMD Regulation 6-1-310.3	N		0.15 gr/dscf @ 6% O2		N	
FP	SIP Regulation 6-1-310.3	N		0.15 gr/dscf @ 6% O2		N	
NOx	BAAQMD 9-9-301.1.1	N		42 ppmv @ 15% O_2 (dry)	Condition #14194, parts 9 and 10, BAAQMD 9-9-504	P/A	Source test

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S1, S2 – GAS TURBINES W/WATER INJECTION
S3, S4: DUCT BURNERS

Type of limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	BAAQMD 9-9-301.1.1	N		42 ppmv @ 15% O_2 (dry)	Condition #14194, part 8	C	Water-to-fuel monitoring
NOx	BAAQMD 9-9-301.2	N		42 ppmv @ 15% O_2 (dry)	Condition #14194, parts 9 and 10, BAAQMD 9-9-504	P/A	Source test
NOx	BAAQMD 9-9-301.2	N		42 ppmv @ 15% O_2 (dry)	Condition #14194, part 8	C	Water-to-fuel monitoring
NOx	BAAQMD 9-9-301.2	N	Up to 60 months after availa-bility of comer-cially available techno-logy	35 ppmv @15% O_2 (dry)	Condition #14194, parts 9 and 10, BAAQMD 9-9-504	P/A	Source test
NOx	BAAQMD 9-9-301.2	N	Up to 60 months after availa-bility of comer-cially available techno-logy	35 ppmv @15% O_2 (dry)	Condition #14194, part 8	C	Water-to-fuel monitoring

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S1, S2 – GAS TURBINES W/WATER INJECTION
S3, S4: DUCT BURNERS

Type of limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	SIP 9-9-301.1.1	Y		42 ppmv @15% O_2 (dry)	Condition #14194, parts 9 and 10	P/A	Source test
NOx	SIP 9-9-301.1.1	Y		42 ppmv @15% O_2 (dry)	Condition #14194, part 8	C	Water-to-fuel monitoring
	NSPS Subpart GG 60.332 (a)(2)	Y		150 ppmv @15% O_2 (dry)	NSPS Subpart GG 60.334(a)	C	Water-to-fuel monitoring
NOx	Condition #14194, part 4	Y		42 ppmv @ 15% O_2 (dry), each turbine (except during startup and shutdown)	Condition #14194, parts 9 and 10	P/A	Source test
NOx	Condition #14194, part 4	Y		42 ppmv @ 15% O_2 (dry), each turbine (except during startup and shutdown)	Condition #14194, part 8	C	Water-to-fuel monitoring
NOx	Condition #14194, part 5	Y		42 ppmv @ 15% O_2 (dry), each turbine/supplemental burner combination	Condition #14194, parts 9 and 10	P/A	Source test

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S1, S2 – GAS TURBINES W/WATER INJECTION
S3, S4: DUCT BURNERS

Type of limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
SO2	BAAQMD 9-1-301	Y		Ground level concentrations: 0.5 ppm for 3 consecutive minutes, 0.25 ppm averaged over 60 consecutive minutes, 0.05 ppm averaged over 24 hours		N	
	BAAQMD 9-1-302	Y		300 ppm (dry) general emission limitation		N	
	40 CFR 60 Subpart GG 60.333 (b)	Y		0.8% (wt) fuel sulfur content	40 CFR 60 Subpart GG 60.334 (h)(3)	None	None
Fuel Usage	BAAQMD Condition #14194 part 2	Y		55.1 MMBTU/hr heat input (each turbine)	BAAQMD Condition #14194 part 7	C	Continuous Fuel Usage Monitors
	BAAQMD Condition #14194 part 3	Y		13.5 MMBTU/hr heat input (each duct burner)	BAAQMD Condition #14194 part 7	C	Continuous Fuel Usage Monitors
Water-to-Fuel Ratio	BAAQMD Condition #14194 part 6	Y		Water-to-Fuel Ratio: 57% to 62% (wt)	BAAQMD Condition #14194 part 7	C	Continuous Water-to-Fuel Monitoring

VII. Applicable Limits and Compliance Monitoring Requirements

Table VII – A
Applicable Limits and Compliance Monitoring Requirements
S1, S2 – GAS TURBINES W/WATER INJECTION
S3, S4: DUCT BURNERS

Type of limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Periods of Inopera-tion for Para-metric Monitors	BAAQMD 1-523.2	Y		15 consecutive days/incident and 30 calendar days/12 month period	BAAQMD 1-523.4	P/D	Operating Records for All Parametric Monitors

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.

Table VIII
Test Methods

Applicable Requirement	Description of Requirement	Acceptable Test Methods
BAAQMD 6-301	Ringelmann No. 1 Limitation	Manual of Procedures, Volume I, Evaluation of Visible Emissions
SIP 6-301	Ringelmann No. 1 Limitation	Manual of Procedures, Volume I, Evaluation of Visible Emissions
BAAQMD 6-310.3	Particulate Weight Limitation at 6% O2	Manual of Procedures, Volume IV, ST-15, Particulates Sampling; or USEPA Method 5, Determination of Particulate Matter Emissions from Stationary Sources
SIP 6-310.3	Particulate Weight Limitation at 6% O2	Manual of Procedures, Volume IV, ST-15, Particulates Sampling; or USEPA Method 5, Determination of Particulate Matter Emissions from Stationary Sources
BAAQMD 9-1-302	General Emission Limitation	Manual of Procedures, Volume IV, ST-19A, Sulfur Dioxide, Continuous Sampling
BAAQMD 9-9-301.1	Emission Limit, NOx, Turbines Rated $\geq$0.3 MW to <10 MW	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
BAAQMD Cond. #14194, part 4, part 5	Emission Limit, NOx, Gas Turbines, Gas Turbines w/Duct Burners	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
40 CFR 60 Subpart GG 60.332(a)(2)	Performance Standard, NOx	EPA Method 20, Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines, or ASTM D6522-00, Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, or EPA Method 7E, Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)

VIII. Test Methods

Table VIII
Test Methods

Applicable Requirement	Description of Requirement	Acceptable Test Methods
40 CFR 60 Subpart GG 60.333(a)	SO2 Volumetric Emission Limit	EPA Method 20, Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines
40 CFR 60 Subpart GG 60.333(b)	Fuel Sulfur Limit (gaseous fuel)	ASTM D 1072-80, Standard Method for Total Sulfur in Fuel Gases; and/or ASTM D 3031-81, Standard Test Method for Total Sulfur in Natural Gas by Hydrogenation

IX. PERMIT SHIELD

A. Non-applicable Requirements

None.

B. Subsumed Requirements

None.

X. REVISION HISTORY

Final Title V Permit (Application 18321):	March 22, 2000
Administrative Amendment (no application): • Changes to Condition #14194, part 11, to conform to Standard Condition I.F • Change of facility name from "City of Santa Clara" to "Silicon Valley Power"	September 17, 2002
Administrative Amendment (no application): • Change of facility name from "Silicon Valley Power" to "City of Santa Clara, Electric Department" • Change telephone number for William J. Reichmann (facility contact)	October 17, 2002
Title V Renewal (Application #10664):	August 30, 2005
Title V Renewal (Applications #21654, includes Application 23709)	May 23, 2012

XI. GLOSSARY

ACT
Federal Clean Air Act

APCO
Air Pollution Control Officer

API
American Petroleum Institute

ARB
Air Resources Board

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

BARCT
Best Available Retrofit Control Technology

C5
An Organic chemical compound with five carbon atoms

C6
An Organic chemical compound with six carbon atoms

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

CEC
California Energy Commission

CEQA
California Environmental Quality Act

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

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

CO
Carbon Monoxide

CO2
Carbon Dioxide

XI. Glossary

Cumulative Increase
The sum of permitted emissions from each new or modified source since a specified date. Used to determine whether threshold-based requirements are triggered.

District
The Bay Area Air Quality Management District

dscf
Dry Standard Cubic Feet

dscm
Dry Standard Cubic Meter

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

EGT
Exhaust Gas Temperature

EPA
The federal Environmental Protection Agency.

Excluded
Not subject to any District Regulations.

FE, Federally Enforceable
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), and also including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

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

FR
Federal Register

GLC
Ground level concentration.

GLM
Ground Level Monitor

grains
1/7000 of a pound

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

H2S
Hydrogen Sulfide

XI. Glossary

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

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

Major Facility
A facility with potential emissions of regulated air pollutants greater than or equal to 100 tons per year, greater than or equal to 10 tons per year of any single hazardous air pollutant, and/or greater than or equal to 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity as determined by the EPA administrator.

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

MOP
The District's Manual of Procedures.

MSDS
Material Safety Data Sheet

MW
Megawatts

NA
Not Applicable

NAAQS
National Ambient Air Quality Standards

NESHAPs
National Emission Standards for Hazardous Air Pollutants. Contained in 40 CFR Part 61.

NMHC
Non-methane Hydrocarbons

NMOC
Non-methane Organic Compounds (Same as NMHC)

NOx
Oxides of nitrogen.

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

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of air pollutants for which the District is classified "non-attainment". Mandated by Title I of the Clean Air Act and implemented by 40 CFR Parts 51 and 52 as well as District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

XI. Glossary

O2
The chemical name for oxygen gas.

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

Phase II Acid Rain Facility
A facility that generates electricity for sale through fossil-fuel combustion and by virtue of certain other characteristics (defined in Regulation 2, Rule 6) is subject to Titles IV and V of the Clean Air Act.

POC
Precursor Organic Compounds

PM
Total Particulate Matter

PM10
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

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

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

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

SO2
Sulfur dioxide

SO3
Sulfur trioxide

THC
Total Hydrocarbons (NMHC + Methane)

therm
100,000 British Thermal Unit

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

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

TRMP
Toxic Risk Management Plan

XI. Glossary

TSP
Total Suspended Particulate

TVP
True Vapor Pressure

VOC
Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
Btu	=	British Thermal Unit
g	=	grams
gal	=	gallon
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

Symbols:

<	=	less than
>	=	greater than
$\leq$	=	less than or equal to
$\geq$	=	greater than or equal to