Bay Area Air Quality Management District

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

Final

MAJOR FACILITY REVIEW PERMIT

Issued To:

PE Berkeley
Facility #B1326

Facility Address:
University of California, Berkeley Campus
Berkeley, CA 94720

Mailing Address:
Delta Power Company, LLC
1015 Van Dyke Drive
Laguna Beach, CA 92651

Responsible Official	**Facility Contact**
Robert Logan, Senior Asset Manager	David McEligot, Facility Manager
949-497-4908	510-486-0313

Type of Facility:	Cogeneration Plant	BAAQMD Engineering Division ontact:
Primary SIC:	4931	Dharam Singh
Product:	Steam, Electricity	

ISSUED BY THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Signed by Jack P. Broadbent _____ **July 18, 2005**
Jack P. Broadbent, Executive Officer/Air Pollution Control Officer Date

TABLE OF CONTENTS

I. STANDARD CONDITIONS

A. Administrative Requirements

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

BAAQMD Regulation 1 - General Provisions and Definitions
(as amended by the District Board on 5/2/01);
SIP Regulation 1 - General Provisions and Definitions
(as approved by EPA through 6/28/99);
BAAQMD Regulation 2, Rule 1 - Permits, General Requirements
(as amended by the District Board on 12/21/04);
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 12/21/04);
SIP Regulation 2, Rule 2 - Permits, New Source Review and Prevention of Significant Deterioration
(as approved by EPA through 1/26/99); and
BAAQMD Regulation 2, Rule 4 - Permits, Emissions Banking
(as amended by the District Board on 12/21/04).
SIP Regulation 2, Rule 4 - Permits, Emissions Banking
(as approved by EPA through 1/26/99).
BAAQMD Regulation 2, Rule 6 - Permits, Major Facility Review
(as amended by the District Board on 4/16/03).

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

1. This Major Facility Review Permit was issued on [July 18, 2005], and expires on June 30, 2010. The permit holder shall submit a complete application for renewal of this Major Facility Review Permit no later than December 31, 2009, and no earlier than June 30, 2009. **If a complete application for renewal has not been submitted in accordance with these deadlines, the facility may not operate after June 30, 2010.** If the permit renewal has not been issued by June 30, 2010, 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)

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 reissuance, or modification; or denial of a permit renewal application. (Regulation 2-6-307; MOP Volume II, Part 3, §4.11)

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

4. This permit may be modified, revoked, reopened and reissued, or terminated for cause.

I. Standard Conditions

(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 reissuance, 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 to contain proprietary or trade secret information shall be prominently designated as such. Copies of any such proprietary or trade secret information which are provided to the District shall be maintained by the District in a locked confidential file, provided, however, that requests from the public for the review of any such information shall be handled in accordance with the District's procedures set forth in Section 11 of the District's Administrative Code. (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 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 entry. (Regulation 2-6-501, 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 reports shall be for the following periods: February 1st through July 31st and August 1st through January 31st, and are due on the last day of the month after the end of the reporting period. . All instances of non-compliance shall be clearly identified in these reports. The reports shall be certified by the responsible official as true, accurate, and complete. In addition, all instances of non-compliance with the permit shall be reported in writing to the District's Compliance and Enforcement Division within 10 calendar days of the discovery of the incident. Within 30 calendar days of the discovery of any incident of non-compliance, the facility shall submit a written report including the probable cause of non-compliance and any corrective or preventative actions. The reports shall be sent to the following address:

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

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

I. Standard Conditions

G. Compliance Certification

Compliance certifications shall be submitted annually by the responsible official of this facility to the Director of Enforcement and Compliance at the Bay Area Air Quality Management District and to the Environmental Protection Agency. The certification period will be February 1st through January 31st of the following year. The certification shall be submitted by February 28th or 29th of each year. The certification must list each applicable requirement, the compliance status, whether compliance was continuous or intermittent, the method used to determine compliance, and any other specific information required by the permit. The permit holder may satisfy this requirement through submittal of District-generated Compliance Certification forms. The certification should be directed to the District's Compliance and Enforcement Division at the address above, and a copy of the certification 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

1. The maximum capacity for each source as shown in Table II-A is the maximum allowable capacity. Exceedance of the maximum allowable capacity for any source

I. Standard Conditions

is a violation of Regulation 2, Rule 1, Section 301. (Regulation 2-1-301)

II. EQUIPMENT LIST

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
S-1	Emergency Diesel Engine-Generator	General Motor	16VA19034	950 bhp, 1136 cubic inch
S-40	Turbine (Natural gas, distillate oil)	General Electric	LM-2500	243 MMBTU/hr (23.5 MW)
S-41	Duct Burner (Natural gas)	COEN	PowerPlus	84.0 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 current BAAQMD rules and the versions of the rules in the SIP. . All sources must comply with both versions of a rule until US EPA has reviewed and approved (or disapproved) the District's revision of the regulation.

Table III

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)
BAAQMD Regulation 1	General Provisions and Definitions (10/7/98)	N
SIP Regulation 1	General Provisions and Definitions (6/28/99)	Y
BAAQMD Regulation 2, Rule 1	General Requirements (8/1/01)	N
BAAQMD 2-1-429	Federal Emissions Statement (6/7/95)	Y
SIP Regulation 2, Rule 1	General Requirements (1/26/99)	Y
BAAQMD Regulation 4	Air Pollution Episode Plan (3/20/91)	N
SIP Regulation 4	Air Pollution Episode Plan (8/06/90)	Y

III. Generally Applicable Requirements

Table III

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)
BAAQMD Regulation 5	Open Burning (3/6/02)	N
SIP Regulation 5	Open Burning (9/4/98)	Y
BAAQMD Regulation 6	Particulate Matter and Visible Emissions (12/19/90)	Y
BAAQMD Regulation 7	Odorous Substances (3/17/82)	N
BAAQMD Regulation 8, Rule 1	Organic Compounds - General Provisions (6/15/94)	Y
BAAQMD Regulation 8, Rule 2	Organic Compounds – Miscellaneous Operations (6/15/94)	Y
BAAQMD Regulation 8, Rule 3	Organic Compounds - Architectural Coatings (11/21/01)	Y
BAAQMD Regulation 8, Rule 40	Organic Compounds - Aeration of Contaminated Soil and Removal of Underground Storage Tanks (12/15/99)	Y
BAAQMD Regulation 8, Rule 47	Organic Compounds - Air Stripping and Soil Vapor Extraction Operations (6/15/94)	Y
BAAQMD Regulation 8, Rule 49	Organic Compounds - Aerosol Paint Products (12/20/95)	N
SIP Regulation 8, Rule 49	Organic Compounds - Aerosol Paint Products (3/22/95)	Y
BAAQMD Regulation 8, Rule 51	Organic Compounds - Adhesive and Sealant Products (7/26/02)	Y
BAAQMD Regulation 9, Rule 1	Inorganic Gaseous Pollutants - Sulfur Dioxide (3/15/95)	N
BAAQMD Regulation 11, Rule 2	Hazardous Pollutants - Asbestos Demolition, Renovation and Manufacturing (10/7/98)	Y
BAAQMD Regulation 12, Rule 4	Miscellaneous Standards of Performance - Sandblasting (7/11/90)	N
SIP Regulation 12, Rule 4	Miscellaneous Standards of Performance - Sandblasting (9/2/81)	Y
California Health and Safety Code Section 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
40 CFR Part 61, Subpart M	National Emission Standards for Hazardous Air Pollutants – National Emission Standard for Asbestos (6/19/95)	Y

IV. SOURCE-SPECIFIC APPLICABLE REQUIREMENTS

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

The dates in 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
S-1, Emergency Diesel Engine Generator

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 6	**Particulate Matter and Visible Emissions (12/19/90)**		
6-303	Ringelmann Number 2 Limitation	Y	
6-303.1	Ringelmann Number 2 Limitation for engines	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 (8/1/01)**		
9-8-330	Emergency Standby Engines, Hours of Operation	N	

IV. Source-Specific Applicable Requirements

Table IV-A
S-1, Emergency Diesel Engine Generator

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
9-8-530	Emergency standby engines, monitoring and recordkeeping	N	
BAAQMD Condition # 22010		Y	
Part 1	Hours of operation in anticipation of imminent emergency and for reliability-related activities (basis: Regulation 9-8-330.2)	Y	
Part 2	Hours of operation during emergency (basis: Regulation 9-8-330.1)	Y	
Part 3	Operating hour or fuel usage meter requirements (basis: Regulation 9-8-530)	Y	
Part 4	Fuel sulfur content requirements and recordkeeping (basis: Regulations 9-1-304, 9-1-602)	Y	
Part 5	Record keeping (basis: Regulation 9-8-530; 1-441)	Y	

Table IV-B
S-40, Turbine

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (5/2/01)**		
1-107	Combination of Emissions	Y	
1-521	Monitoring May Be Required	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	
1-522.10	Monitors Required by Sections 1-521 or 2-1-403	Y	

IV. Source-Specific Applicable Requirements

Table IV-B
S-40, Turbine

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
1-602	Area and Continuous Emission Monitoring Requirements	Y	
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y	
1-522.7	Monitor excesses	Y	
BAAQMD Regulation 2, Rule 1	**Regulation 2, Rule 1 - Permits, General Requirements (8/1/01)**		
2-1-501	Monitors	Y	
BAAQMD Regulation 6	**Particulate Matter and Visible Emissions (12/19/90)**		
6-301	Ringelmann Number 1 Limitation	N	
6-305	Visible Particles	Y	
6-310	Particulate Weight Limitation	Y	
6-310.3	Heat Transfer Operations	Y	
6-401	Appearance of Emissions	Y	
BAAQMD Regulation 9, Rule 1	**Inorganic Gaseous Pollutants - Sulfur Dioxide (3/15/95)**		
9-1-301	Limitations on Ground Level Concentrations	Y	
9-1-302	General Emission Limitations	Y	
9-1-304	Fuel Burning – Liquid Fuels	Y	
BAAQMD Regulation 9, Rule 9	**Inorganic Gaseous Pollutants – Nitrogen Oxides from Stationary Gas Turbines (9/21/94)**		
9-9-113	Exemption-Inspection/Maintenance	Y	
9-9-114	Exemption-Start-up/Shutdown	Y	
9-9-303	Emission Limits-Alternative Schedule	Y	
9-9-303.2	January 1, 2000 standard	Y	
9-9-401	Efficiency Certification	Y	
9-9-403.5	Modification or installation status report submittal	Y	
9-9-403.6	Compliance with emission standards	Y	
9-9-501	Monitoring & Recordkeeping	Y	
9-9-503	Initial Demonstration of Compliance	Y	

IV. Source-Specific Applicable Requirements

Table IV-B
S-40, Turbine

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
9-9-503.1	Deadline for demonstration of compliance with 9-9-303.1	Y	
9-9-503.3	Deadline for demonstration of compliance with 9-9-303.2	Y	
BAAQMD Manual of Procedures, Volume V	**Continuous Emission Monitoring Policy and Procedures (1/20/82)**	Y	
40 CFR 60	**Standards of Performance for New Stationary Sources 12/23/71)**	Y	
Subpart A	General Provisions	Y	
60.4(a)	Reports to EPA	Y	
60.4(b)	Reports to EPA and District	Y	
60.7(a)	Written notification	Y	
60.7(b)	Records	Y	
60.8	Performance Tests	Y	
60.9	Availability of Information	Y	
60.11(a)	Compliance with standards and maintenance requirements	Y	
60.11(d)	Minimizing emissions	Y	
60.12	Circumvention	Y	
60.13	Monitoring Requirements	Y	
60.19	General notification and reporting requirements	Y	
Subpart GG	**Standards of Performance for Stationary Gas Turbines (7/8/04)**	Y	
60.332	**Standard for nitrogen oxides**	Y	
60.332 (a)(1)	NOx limit	Y	
60.332(f)	Exemption when ice fog hazard	Y	
60.332(i)	Exemption on a case-by-case basis during mandatory water restrictions	Y	
60.333	SO2 limit	Y	
60.333(a)	SO2 discharge limit	Y	
60.333(b)	Fuel sulfur content limit	Y	
60.334	Monitoring of operations	Y	
60.334(b)	CEM requirements	Y	
60.334(h)(2)	Exemption from fuel nitrogen monitoring	Y	
60.334(h)(3)(i)	Current, valid purchase contract, tariff sheet or transportation contract	Y	
60.334(h)(3)(ii)	Representative fuel sampling data	Y	
60.334(i)(1)	Sulfur and nitrogen content of fuel oil	Y	
60.334(i)(3)	Custom schedules for determination of sulfur content of gaseous fuel	Y	

IV. Source-Specific Applicable Requirements

Table IV-B
S-40, Turbine

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
60.334(j)(1)(iii)	Reports of excess NOx emissions	Y	
60.334(j)(2)(ii)	Reports of Sulfur dioxide content	Y	
60.334(j)(3)	Reporting of ice fog	Y	
60.334(j)(5)	Deadline for excess emission reports	Y	
60.335	Test Methods and Procedures	Y	
60.335(a)	Performance tests as required by 40 CFR 60.8	Y	
60.335(b)	Performance tests for NOx	Y	
60.335(b)(1)	ISO correction	Y	
60.335(b)(2)	Testing at various loads	Y	
60.335(b)(3)	Optional measurement after duct burner	Y	
60.335(b)(10)	Minimum sample requirements	Y	
60.335(b)(11)	Option of fuel analysts	Y	
60.335(c)(1)	Optional method to adjust NOx emission level	Y	
40 CFR 60 Appendix B	**Performance Specifications**	Y	
Performance Specification 2	Specifications and test procedures for SO2 and NOx continuous emission monitoring systems in stationary sources	Y	
Performance Specification 3	Specifications and test procedures for O2 and CO2 continuous emission monitoring systems	Y	
40 CFR 60 Appendix F	**Quality Assurance Procedures**		
Procedure 1	Quality assurance requirements for gas continuous emission monitoring systems used for compliance determination	Y	
BAAQMD Condition 366		Y	
Part 1	Operation of Boilers at Facility A0059 [cumulative increase]	Y	
Part 2	Sulfur Limit [BACT]	Y	
Part 3	Sulfur Limit (natural gas curtailment) [BACT]	Y	
Part 4	NOx Limit (natural gas) [BAAQMD Regulation 9-9]	Y	
Part 4a	CO Limit [RACT]	Y	
Part 4b	PUC Quality Natural Gas [2-1-403]	Y	
Part 5	NOx Concentration limit (natural gas) – combined S-40 & 41 emissions [BAAQMD Regulation 1-107]	Y	

IV. Source-Specific Applicable Requirements

Table IV-B
S-40, Turbine

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 5a	CO Concentration Limit – combined S-40 & S-41 emissions [BAAQMD Regulation 1-107]	Y	
Part 6	NOx Limit (fuel oil) [BAAQMD Regulation 9-9]	Y	
Part 7	NOx Concentration Limit (fuel oil) – combined S-40 & 41 emissions [BACT]	Y	
Part 8	Steam injection [BAAQMD Regulation 2-1-403]	Y	
Part 10	NOx and CO Limit (lb/day) – combined S-40 & 41 emissions [cumulative increase]	Y	
Part 11	SO2 Limit (lb/day & tpy) – combined S-40 & 41 emissions [cumulative increase]	Y	
Part 12	Monitoring [BACT]	Y	
Part 12a	Monitoring [RACT]	Y	
Part 14	Sampling ports [RACT-Reg 9-9]	Y	
Part 17	Records [BACT]	Y	
Part 18	CO Source Test [RACT]	Y	
Part 19	Visible emissions inspection [6-301, 2-6-501]	Y	

IV. Source-Specific Applicable Requirements

Table IV-C
S-41, Duct Burner

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	
1-521	Monitoring May Be Required	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	
1-522.10	Monitors Required by Sections 1-521 or 2-1-403	Y	
1-602	Area and Continuous Emission Monitoring Requirements	Y	
SIP Regulation 1	**General Provisions and Definitions (6/28/99)**		
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y	
1-522.7	Monitor excesses	Y	
BAAQMD Regulation 2, Rule 1	**Regulation 2, Rule 1 – Permits, General Requirements (8/1/01)**		
2-1-501	Monitors	N	
BAAQMD Regulation 6	**Particulate Matter and Visible Emissions (12/19/90)**		
6-301	Ringelmann Number 1 Limitation	N	
6-305	Visible Particles	Y	
6-310	Particulate Weight Limitation	Y	
6-310.3	Heat Transfer Operations	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	

IV. Source-Specific Applicable Requirements

Table IV-C
S-41, Duct Burner

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
9-1-302	General Emission Limitations	Y	
9-1-304	Fuel Burning – Liquid Fuels	Y	
BAAQMD Regulation 9, Rule 9	**Inorganic Gaseous Pollutants – Nitrogen Oxides from Stationary Gas Turbines (9/21/94)**		
9-9-303	Emission Limits-Alternative Schedule	Y	
9-9-303.2	January 1, 2000 standard	Y	
9-9-401	Efficiency Certification	Y	
BAAQMD Manual of Procedures, Volume V	**Continuous Emission Monitoring Policy and Procedures (1/20/82)**	Y	
Subpart GG	**Standards of Performance for Stationary Gas Turbines (7/8/04)**	Y	
60.332 (a)(1)	NOx limit	Y	
60.333	SO2 limit	Y	
60.333(a)	SO2 discharge limit	Y	
60.333(b)	Fuel sulfur content limit	Y	
BAAQMD Condition 366	Permit to Operate Condition	Y	
Part 1	Operation of Boilers at Facility A0059 [cumulative increase]	Y	
Part 2	Sulfur Limit [BACT]	Y	
Part 3	Sulfur Limit (natural gas curtailment) [BACT]	Y	
Part 5	NOx Concentration Limit (natural gas) – combined S-40 & 41 emissions [BAAQMD Regulation 1-107]	Y	
Part 5a	CO Concentration Limit – combined S-40 & S-41 emissions [BAAQMD Regulation 1-107]	Y	
Part 7	NOx Concentration Limit (fuel oil) – combined S-40 & 41 emissions [BACT]	Y	
Part 10	NOx and CO Limit (lb/day) - combined S-40 & 41 emissions [cumulative increase]	Y	
Part 11	SO2 Limit (lb/day & tpy) - combined S-40 & 41 emissions [cumulative increase]	Y	
Part 12	monitoring [BACT]	Y	
Part 12a	Monitoring [RACT]	Y	
Part 14	Sampling ports [RACT-Reg 9-9]	Y	
Part 17	Records [BACT]	Y	

IV. Source-Specific Applicable Requirements

Table IV-C
S-41, Duct Burner

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 18	CO Source Test [BACT]	Y	
Part 19	Visible emissions inspection [cumulative increase]	Y	

V. SCHEDULE OF COMPLIANCE

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

VI. PERMIT CONDITIONS

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

Condition # 366
For S2, Turbine and S3, Duct Burner

1. "Operation" for the purposes of this condition refers only to firing of fuel in the boiler; hot standby maintained with steam does not constitute operation. The existing boilers at Plant No. 59, Sources 2, 3, and 4 shall operate only during periods when the Gas Turbine (S-40) and Duct Burner (S-41) are not operating, except the following cases; (basis: cumulative increase)
   a. during switch-over periods.
   b. if the steam demand of the campus exceeds the 120,000 lb/hr design rate available from the gas turbine and duct burners, then the existing boilers may fire only to the extent necessary to satisfy campus steam demands, up to a rolling annual average of 95,000 lbm/hr. This limit on the existing boilers will go into effect when the cogeneration plant begins operation and will not apply when the cogeneration plant is non-operative.
   c. If either Source 40, Gas Turbine, or Source 41, Duct burner malfunctions and the cogeneration system can not meet the 120,000 lb/hr steam rate, then the existing boilers may fire only to the extent necessary to satisfy the campus steam demands. The duct burners will not operate when the gas turbine is not operational, except during switch-over periods.

2. Any fuel oil used as a primary fuel shall not exceed a maximum sulfur content of 0.12% (by weight). Compliance shall be determined from fuel samples taken and analyzed using the District's Laboratory Procedure Method 10. Such fuel oil use shall not exceed the equivalent of 85 days per year at full-load operation of the gas turbine and duct burner. (basis: BACT)
3. During periods of natural gas curtailment or shutdown, the maximum sulfur content of the fuel oil burned shall not exceed 0.25% (by weight), provided that the gas

VI. Permit Conditions

Condition # 366

turbine was being fired on natural gas prior to the curtailment or shutdown. (basis: BACT)

4. When the gas turbine is burning natural gas, the concentration of oxides of nitrogen (NOx) in the gas turbine's exhaust shall not exceed 20.2 ppmdv NOx (measured as NO2) at 15% oxygen, averaged over any three-hour period, except during a start-up, which is not to exceed two hours. (basis: BAAQMD Regulation 9-9-303.2, adjusted for efficiency certified at 33.7% per Regulation 9-9-401)

4a. When the gas turbine is burning natural gas or fuel oil, the concentration of carbon monoxide (CO) in the gas turbine's exhaust shall not exceed 200 ppm at 15% oxygen, averaged over any three-hour period, except during a start-up, which is not to exceed two hours. (basis: RACT)

4b. All natural gas burned at sources S40, Gas Turbine, and S41, Duct Burner, shall be PUC quality gas. (basis: 2-1-403)

5. When the gas turbine and the duct burner are firing natural gas, the concentration of oxides of nitrogen (NOx) in the combined exhaust from the gas turbine and the duct burner shall not exceed a weighted averaged of 20.2 ppmdv @ 15% oxygen, averaged over any three-hour period, except during a startup, which is not to exceed two hours. (basis: BAAQMD Regulation 1-107)

5a. When the gas turbine and the duct burner are firing natural gas or fuel oil, the concentration of carbon monoxide (CO) in the combined exhaust from the gas turbine and the duct burner shall not exceed a weighted averaged of 200 ppm @ 15% oxygen, averaged over any three-hour period, except during a startup, which is not to exceed two hours. (basis: BAAQMD Regulation 1-107)

6. When the gas turbine is burning fuel oil, the concentration of oxides of nitrogen (NOx) in the gas turbine's exhaust shall not exceed 42 ppmdv NOx (measured as NO2) at 15% oxygen, averaged over any three-hour period, except during a start-up, which is not to exceed two hours. In the event that NOx emissions exceed the 42 ppm limit while burning fuel oil, PE-Berkeley shall switch to natural gas as soon as practicable until the 42 ppm can be met while burning fuel oil. (basis: BACT, BAAQMD Regulation 9-9-303)

7. When the gas turbine is firing fuel oil and the duct burner is in operation, the concentration of oxides of nitrogen (NOx) in the combined exhaust from the gas turbine and the duct burner shall not exceed a weighted averaged of 39 ppmdv @ 15% oxygen, averaged over any three-hour period, except during a startup, which is

VI. Permit Conditions

Condition # 366

not to exceed two hours. (basis: BACT)

8. The steam injection to control NOx emissions shall be operated during all periods of gas-turbine operation. PE-Berkeley shall, during the start-up period, perform tests to determine the steam injection rate necessary to assure compliance with parts 4 and 6. The steam injection rate will be controlled by the gas turbine control system at all times during the operation of the turbine. (basis: BAAQMD 2-1-403)

9. Deleted (water injection no longer used)

10. The emission of nitrogen oxides (NOx) from the full-load operation of the gas turbine and duct burners shall not exceed 547 lb/day when firing natural gas and 1,093 lb/day when firing fuel oil. The emission of carbon monoxide (CO) from the full-load operation of the gas turbine and duct burners shall not exceed 2195 lb/day when firing natural gas or fuel oil. (basis: BACT, BAAQMD Regulation 9-9-303.2, RACT and cumulative increase for CO)

11. The total emission of sulfur dioxide (SO2) shall not exceed 987 lb/day, except under natural gas curtailment or shutdown as allowed in part 3. In no event shall SO2 emissions exceed 40 tons per year (tpy). Compliance with this condition shall be based on calculating SO2 emissions from fuel oil density, usage rate, and actual sulfur content. PE-Berkeley shall determine the sulfur content of the fuel oil by sampling and analyzing, according to the District's Laboratory Procedure Method 10 or an equivalent procedure approved by the APCO, either each fuel oil delivery or once during each 24-hour period that fuel oil is fired. (basis: cumulative increase)

12. PE-Berkeley shall install, calibrate and operate District-approved continuous in-stack emission monitors and recorders for oxides of nitrogen, and either oxygen or carbon dioxide. (basis: BACT)

12a. PE-Berkeley shall install, calibrate and operate District-approved continuous in-stack emission monitors and recorders for carbon monoxide, and either oxygen or carbon dioxide. [(basis: RACT); (Effective May 1, 2001)]

13. Deleted (initial startup source test)

14. For purposes of source testing, the exhaust stack shall be equipped with stack sampling ports and platforms, the location of which shall be subject to the approval of the APCO. (basis: RACT - Reg 9-9)

VI. Permit Conditions

Condition # 366

15 Deleted (offsets provided already)

16. Deleted (PSD review not required)

17. All records associated with the above conditions shall be retained by PE-Berkeley for at least five years and shall be made available to the District upon request. The recording format for parts 2, 3, 4a, 5a, 7, 10 and 14, shall be subject to the approval of the APCO. (basis: BACT)

18. PE-Berkeley shall perform an annual source test for carbon monoxide. (basis: RACT)

19. If the gas turbine is fired on fuel oil more than 200 hours in any consecutive twelve-month period, on the first day of oil firing following the accumulation of 200 hours, and on the first day following every 1000 hours of cumulative operation afterwards during a twelve-month period, the permit holder shall conduct a visible emission inspection of the stack gas effluent. This visible emissions inspection shall be conducted during daylight hours while the gas turbine is firing on fuel oil, but need not be conducted by a trained observer. [basis: Reg 6-301, Reg 2-6-501]

    If any visible emissions, excluding condensed water vapor, are detected during an inspection and the emissions are observed continuously or intermittently for more than three minutes, the permit holder shall either take corrective action that eliminates the visible emissions and report the visible emissions as a potential exceedance, or have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures outlined in the CARB manual, "Visible Emissions Evaluation." The certified smoke reader shall continue to conduct the Method 9 or CARB Visible Emission Evaluation on a daily basis on every subsequent day that oil is fired until the daily reading shows compliance with the applicable limit.

    The permit holder shall record and maintain the following records for each day of any fuel oil firing of gas turbine:
    calendar day;
    total elapsed time of fuel oil firing;
    running 12-month total accumulated time of fuel oil firing;
    if 12-month total exceeds 200 hours or for every 1000 hours of cumulative operation during a 12-month period, name of inspector, time inspection was made, presence of visible emissions, description of corrective action taken to abate visible emissions, date and time visible emissions were abated.

VI. Permit Conditions

Condition # 366

All records made pursuant to the above shall be retained for five (5) years and shall be made available to District personnel upon request.

VI. Permit Conditions

Condition # 22010 ----------

S-1, Emergency Standby Diesel Engine-Generator:

1. The owner/operator shall operate S-1 for no more than 100 hours in any 12 month period for the purpose of reliability testing or in anticipation of imminent emergency condition. Emergency condition is failure of a regular power supply. [basis: Regulation 9-8-330.2]

2. The owner/operator may operate S-1 for an unlimited amount of time for the purpose of providing emergency standby power during emergency condition (as defined in Part 1). [basis: Regulation 9-8-330.1]

3. The owner/operator shall use a non-resettable totalizing counter to record hours of operation for the generator, S-1. [basis: Regulation 9-8-530]

4. The owner/operator shall use only diesel fuel with a sulfur content less than 0.05% by weight. A certification of fuel sulfur content for each fuel delivery shall be kept on site for at least 5 years . [basis: Regulations 9-1-304; 9-1-602].

5. The owner/operator shall maintain the following monthly records in a District-approved log for at least 5 years and shall make it available to the District staff upon request:

   a. total hours of operation for S-1.
   b. hours of operation under emergency condition for S-1 and a description of the nature of the emergency condition
   c. fuel usage at S-1
   [basis :Regulation 9-8-530]

VII. APPLICABLE EMISSION 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
S-1, Emergency Diesel-Engine Generator

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Opacity	BAAQMD Regulation 6-303.1	Y		Ringelmann 2.0 for 3 minutes in any hour		N	
FP	BAAQMD 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
	BAAQMD 9-1-304	Y		0.5% wt Sulfur in liquid fuel		P/E	Fuel certification of each delivery
	BAAQMD Cond. # 22010, part 4	Y		0.05% wt Sulfur in liquid fuel	BAAQMD Cond. # 22010, part 4	P/E	Fuel certification of each delivery

VII. Applicable Emission Limits & Compliance Monitoring Requirements

Table VII-A
S-1, Emergency Diesel-Engine Generator

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Hours of Operation	BAAQMD 9-8-330.1	N		Unlimited hours for emergencies	BAAQMD 9-8-530.2	P/M	Records of Operating Hours
	BAAQMD 9-8-330.2	N		100 hours per year for reliability-related activities	BAAQMD 9-8-530	P/M	Records of Operating Hours

Table VII-B
S-40, Turbine

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOX	BAAQMD 9-9-303.2	Y		20.2 ppmv @ 15% O2 , dry (adjusted per 9-9-401) , except during start-up	BAAQMD 9-9-501	C	CEM
	BAAQMD 9-9-303.2	Y		42 ppmv @ 15% O2 , dry during natural gas curtailment or short testing periods	BAAQMD 9-9-501	C	CEM
	BAAQMD Cond #366 Part 4	Y		20.2 ppmdv - natural gas: @15 % O2, 3 hr avg, except during start-up	BAAQMD Cond #366 Part 12	C	CEM
NOx	BAAQMD Cond #366 Part 5	Y		20.2 ppmdv - natural gas: @15 % O2 (combined S-40 & S-41), 3 hr avg, except during start-up	BAAQMD Cond #366 Part 12	C	CEM
	BAAQMD Cond #366 Part 6	Y		42 ppmdv - fuel oil: @15 % O2, 3 hr avg, except during start-up	BAAQMD Cond #366 Part 12	C	CEM

VII. Applicable Emission Limits & Compliance Monitoring Requirements

Table VII-B
S-40, Turbine

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	BAAQMD Cond #366 Part 7	Y		39 ppmdv - fuel oil: @15 % O2 (combined S-40 & S-41), 3 hr avg, except during start-up	BAAQMD Cond #366 Part 12	C	CEM
	BAAQMD Cond #366 Part 10	Y		547 lb/day when burning natural gas and 1093 lb/day when burning fuel oil (combined S-40 & 41)	BAAQMD Cond #366 Part 12	C	CEM
	NSPS Subpart GG, 60.332(a)(1)	Y		99 ppmdv @ 15% O2 dry, 4 - hr average	NSPS Subpart GG, 60.334(b)	C	CEM
CO	BAAQMD Cond #366 Part 4a	Y		200 ppm @15% O2, 3-hour average except during start-up	BAAQMD Cond #366 Part 12a	C	CEM
CO	BAAQMD Cond #366 Part 5a	Y		200 ppm @15% O2 (combined S-40 & 41) 3-hour average except during start-up	BAAQMD Cond #366 Part 12a	C	CEM
CO	BAAQMD Cond #366 Part 10	Y		2195 lb/day (natural gas and fuel oil) (combined S-40 & 41)	BAAQMD Cond #366 Parts 10 and 18	P/E	annual source test
SO2	BAAQMD Cond #366 Part 2	Y		Maximum of 0.12% by wt Sulfur in fuel oil	BAAQMD Cond #366 Parts 2	P/E	At Each Delivery, Fuel Sampling using District's Laboratory Procedure Method 10

VII. Applicable Emission Limits & Compliance Monitoring Requirements

Table VII-B
S-40, Turbine

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
SO2	BAAQMD Cond #366 Part 3	Y		Maximum of 0.25% by wt Sulfur in fuel oil during periods of natural gas curtailment	BAAQMD Cond #366 Parts 2	P/E	At Each Delivery, Fuel Sampling using District's Laboratory Procedure Method 10
	BAAQMD Cond #366 Part 11	Y		987 lb/day (natural gas) 40 tons/year (combined S-40 & 41)	BAAQMD Cond #366 Parts 11	P/E	Fuel Sampling using District's Laboratory Procedure Method 10
SO2	BAAQMD 9-1-301	Y		GLC[1] of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N	
SO2	BAAQMD 9-1-302	Y		300 ppm (dry)		N	
	BAAQMD 9-1-304	Y		0.5% wt Sulfur in liquid fuel		P/E	Fuel certification
SO2	NSPS Subpart GG, 60.333 (a)	Y		0.015% (vol) @ 15% O2 (dry), or 0.8 % sulfur in gaseous fuel by weight	NSPS Subpart GG, 60.334 (h)(3)	P/M or EN	Monthly gaseous fuel analysis or current, valid purchase contract, tariff sheet or transport-tation contract

VII. Applicable Emission Limits & Compliance Monitoring Requirements

Table VII-B
S-40, Turbine

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
SO2	NSPS Subpart GG, 60.333 (b)	Y		0.8 % sulfur in fuel oil by weight	NSPS Subpart GG, 60.334 (h)(1), 60.334(i)(1)	P/E	At Each Fuel Oil Delivery, Fuel Sampling using District's Laboratory Procedure Method 10
Opacity	BAAQMD 6-301	Y		Ringelmann No. 1	BAAQMD Cond #366 Part 19	P/E, during distillate oil combustion	Visible emissions monitoring
FP	BAAQMD 6-310	Y		0.15 grain/dscf @ 6% O2		N	

VII. Applicable Emission Limits & Compliance Monitoring Requirements

Table VII-C
S-41, Duct Burner

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOX	BAAQMD 9-9-303.2	Y		20.2 ppmv @ 15% O2, dry (adjusted per 9-9-401) , except during start-up	BAAQMD 9-9-501	C	CEM
	BAAQMD 9-9-303.2	Y		42 ppmv @ 15% O2 , dry during natural gas curtailment or short testing periods	BAAQMD 9-9-501	C	CEM
NOx	BAAQMD Cond #366 Part 5	Y		20.2 ppmdv - natural gas: @15 % O2 (combined S-40 & S-41), 3 hr avg, except during start-up	BAAQMD Cond #366 Part 12	C	CEM
	BAAQMD Cond #366 Part 7	Y		39 ppmdv - fuel oil: @15 % O2 (combined S-40 & S-41), 3 hr avg, except during start-up	BAAQMD Cond #366 Part 12	C	CEM
	BAAQMD Cond #366 Part 10	Y		547 lb/day when burning natural gas and 1093 lb/day when burning fuel oil (combined S-40 & 41)	BAAQMD Cond #366 Parts 9 and 12	C	CEM
	NSPS Subpart GG, 60.332(a)(1)	Y		99 ppmdv @ 15% O2 dry, 4 - hr average	NSPS Subpart GG, 60.334(b)	C	CEM
CO	BAAQMD Cond #366 Part 5a	Y		200 ppm @15% O2 (combined S-40 & 41) 3-hour average except during start-up	BAAQMD Cond #366 Part 12a	C	CEM
	BAAQMD Cond #366 Part 10	Y		2195 lb/day (natural gas) 2195 lb/day (fuel oil) (combined S-40 & 41)	BAAQMD Cond #366 Parts 10 and 18	P/E	annual source test

VII. Applicable Emission Limits & Compliance Monitoring Requirements

Table VII-C
S-41, Duct Burner

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
SO2	BAAQMD Cond #366 Part 11	Y		987 lb/day (natural gas) 40 tons/year (combined S-40 & 41)	BAAQMD Cond #366 Parts 11	P/E	At Each Delivery, Fuel Sampling using District's Laboratory Procedure Method 10
SO2	BAAQMD 9-1-301	Y		GLC[1] of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N	
SO2	BAAQMD 9-1-302	Y		300 ppm (dry)		N	
	BAAQMD 9-1-304	Y		0.5% wt Sulfur in liquid fuel		P/E	Fuel certi-fication
SO2	NSPS Subpart GG, 60.333 (a)	Y		0.015% (vol) @15% O2 (dry), or 0.8 % sulfur in gaseous fuel by weight	NSPS Subpart GG, 60.334 (h)(3)	P/M or EN	Monthly gaseous fuel analysis or current, valid purchase contract, tariff sheet or transporta-tion contract

VII. Applicable Emission Limits & Compliance Monitoring Requirements

Table VII-C
S-41, Duct Burner

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
SO2	NSPS Subpart GG, 60.333 (b)	Y		0.8 % sulfur in fuel oil by weight	NSPS Subpart GG, 60.334 (h)(1), 60.334(i)(1)	P/E	At Each Fuel Oil Delivery, Fuel Sampling using District's Laboratory Procedure Method 10
Opacity	BAAQMD 6-301	N		Ringelmann No. 1	BAAQMD Cond #366 Part 19	P/E, during distillate oil combustion	Visible emissions monitoring
FP	BAAQMD 6-310	Y		0.15 grain/dscf @ 6% O2		N	

[1] Ground Level Concentration

VIII. TEST METHODS

The test methods associated with the emission limit of a District regulation are generally found 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

Applicable Requirement	Description of Requirement	Acceptable Test Methods
BAAQMD 6-301	Ringelmann No. 1 Limitation	Manual of Procedures, Volume I, Evaluation of Visible Emissions
BAAQMD 6-310	Particulate Weight Limitation	Manual of Procedures, Volume IV, ST-15, Particulates Sampling
BAAQMD 9-1-302	General Emission Limitation	Manual of Procedures, Volume IV, ST-19A, Sulfur Dioxide, Continuous Sampling, or ST-19B, Total Sulfur Oxides Integrated Sample
BAAQMD 9-1-304	Fuel Burning (Liquid and Solid Fuels)	Manual of Procedures, Volume III, Method 10, Determination of Sulfur in Fuel Oils.
BAAQMD 9-9-303	Emission Limits-Alternative Schedule (9/21/94)	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
BAAQMD 9-9-303.2	January 1, 2000 standard	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
BAAQMD 9-9-401	Certification, Efficiency	ASTM D240-87 or ASTM D-2382-88 for liquid hydrocarbon fuel or ASTM 1826-88 or ASTM 1945-81 in conjunction w/ASTM D3588-89 for gaseous fuels
NSPS 40CFR60, Subpart GG	Standards of Performance for Stationary Gas Turbines	
60.332 (a)(1)	Performance Standard, NOx	EPA Method 20, Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines
60.333 (a)	SO2 Volumetric Emission Limit	EPA Method 20, Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines
60.333(b)	Fuel Sulfur Limit (liquid fuel)	ASTM D 2880-71 Standard specification for Gas Turbine Fuel Oils

VIII. Test Methods

Table VIII

Applicable Requirement	Description of Requirement	Acceptable Test Methods
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 366		
Part 2	Sulfur Limit [BACT]	Manual of Procedures, Volume III, Method 10, Determination of Sulfur in Fuel Oils.
Part 3	Sulfur Limit (natural gas curtailment) [BACT]	Manual of Procedures, Volume III, Method 10, Determination of Sulfur in Fuel Oils.
Part 4	BACT NOx Limit (natural gas) [BACT]	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
Part 4a	RACT CO Limit (natural gas & fuel oil)[RACT]	Manual of Procedures, Volume IV, ST-6, Carbon Monoxide, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
Part 6	BACT NOx Limit (fuel oil) [BACT]	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
Part 10	NOx and CO Limit (lb/day) - combined S-40 & 41 emissions [BACT]	Manual of Procedures, Volume IV, ST-13A, Oxides of Nitrogen, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
Part 11	SO2 Limit (lb/day & tpy) - combined S-40 & 41 emissions [BACT]	Manual of Procedures, Volume IV, ST-19A, Sulfur Dioxide, Continuous Sampling, or ST-19B, Total Sulfur Oxides Integrated Sample
Part 18	CO Source Test	Manual of Procedures, Volume IV, ST-6, Carbon Monoxide, Continuous Sampling and ST-14, Oxygen, Continuous Sampling
Part 19	Visible Emission Inspection	EPA Method 9

IX. PERMIT SHIELD

A. Non-applicable Requirements

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

Table IX
S-40, Turbine and S-41, Duct Burner

Citation	Title or Description (Reason not applicable)
Regulation 8, Rule 2	Organic Compounds - Miscellaneous Operations (Rule not applicable to combustion sources)

X. Revision History

Initial Issuance:	February 16, 1999
Administrative Amendment: Inclusion of efficiency adjustment to 9-9-303.1 NOx limit	December 29, 1999
Significant Modification (Application # 579): Increase in daily mass emission limit for carbon monoxide to allow increase in steam injection for NOx control. Subsumption of Turbine NSPS fuel monitoring requirement; periodic monitoring for NSPS NOx limit.	August 22, 2000
Renewal (Application # 8132)	July 18, 2005

XI. Glossary

ACT
Federal Clean Air Act

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

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. 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.

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), 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.

GLC
Ground Level Concentration

MOP
The District's Manual of Procedures.

XI. Glossary

NMHC
Non-methane Hydrocarbons

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 preconstruction 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.)

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.

POC
Precursor Organic Compounds

PM
Total Particulate Matter

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

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

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

XI. Glossary

TSP
Total Suspended Particulate

VOC
Volatile Organic Compounds

Units of Measure:

Btu	=	British Thermal Unit
gal	=	gallon
hp	=	horsepower
hr	=	hour
lb	=	pound
max	=	maximum
min	=	minute
MM	=	million
ppmdv	=	parts per million, dry, by volume
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
scfm	=	standard cubic feet per minute
yr	=	year