

Bay Area Air Quality Management District

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Permit Evaluation and Statement of Basis For Significant Revision of the MAJOR FACILITY REVIEW PERMIT

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

Facility Address:
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February 2006

Application Engineer: Dennis Jang
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Application: 10569

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Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a Phase II Acid Rain facility as defined by BAAQMD Regulation 2-6-217. It is an Acid Rain facility because it burns fossil fuel, serves a generator that is over 25 MW that is used to generate electricity for sale, and was built after November 15, 1990. It is not a “major facility” as defined by BAAQMD Regulation 2-6-212 because it does not have the “potential to emit,” as defined by BAAQMD Regulation 2-6-218, of more than 100 tons per year of a regulated air pollutant.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is B4512.

Current Permit Action

The purpose of this significant permit revision is to change permit conditions that have been revised under NSR application 10568 that was issued on 8/04/05. The proposed permit condition changes include the following:

- Condition #20010, part 21: Increase the daily mass emission limits for NO_x and CO to reflect the potential operating scenario of 4 gas turbine start-ups per day. There will be no increase in annual mass emission limits as a result of this change.
- Condition #20010, parts 18.1, 18.2, 18.3, 18.4, 18.5, and 18.6 will be renumbered as 18a, 18b, 18c, 18d, 18e, and 18f, respectively, so that they will be consistent with other multi-part conditions in the permit.
- Condition #20010, part 18b: Revise the ammonia slip monitoring language to agree with standard language in other Calpine power plant permits. The revised language will allow the use of a District-approved calculation method to monitor ammonia slip. This is not a relaxation of monitoring, but replaces the original calculation method that was

inaccurate. In addition, the basis of the permit condition will be changed from “BACT” to “TRMP”, since the ammonia slip limit was based upon the District health risk assessment policies and not the BACT provision of NSR.

- Condition #20010, part 24: Change the required source test frequency for the gas turbine from annual to once every 8000 hours of gas turbine operation or once every 3 years, whichever comes first. This is a relaxation of monitoring and therefore is considered a significant revision pursuant to Regulation 2-6-226.3.
- Condition #20010, parts 1 through 10 will be deleted since they apply to the commissioning period only and the commissioning period is finished.
- The definition of hour will be revised to clock hour since the facility monitors emissions on a clock hour basis.
- The facility name will be changed to “Gilroy Energy Center, LLC for the Riverview Energy Center”.

B. New Source Review Permit Evaluation

Application 10568
Gilroy Energy Center LLC, for Riverview Energy Center; Plant #14512
801 Minaker Road, Antioch CA 94509

BACKGROUND

The Gilroy Energy Center, LLC is applying for a change of permit conditions for the Riverview Energy Center that is comprised of the following permitted source:

- S-1 Combustion Gas Turbine with Water Injection, GE LM 6000 PC Sprint, 49.6 MW, Simple-Cycle, 500 MM BTU/hr natural gas fired abated by A-1 Oxidation Catalyst and A-2 Selective Catalytic Reduction System

The applicant is requesting the following permit condition changes:

- Increase the daily NO_x and CO mass emission limits specified in condition 20010, part 21, to reflect the potential of 4 turbine start-ups per day. The existing limits are based upon one 1-hr start-up followed by 23 hours of baseload operation per day. The revised limits will be based upon 4, 1-hr start-ups occurring in one day with the balance of 20 hours of baseload operation per day. This change will not affect annual mass emission limits or trigger any additional regulations or requirements. The facility did not trigger PSD. Therefore, the increase in short-term NO_x and CO emission rates does not trigger/affect any modeling analysis. However, the increases do trigger BACT. See BACT discussion for further detail.
- Revise condition 20010, part 18b to reflect the current ammonia slip monitoring requirements to agree with the corresponding condition in the permits for the Los Medanos Energy Center and the Delta Energy Center. The revised condition allows the

use of a District-approved ammonia slip calculation method that utilizes a correction factor determined during annual source testing of ammonia slip. The basis of the permit condition will be changed from “BACT” to “TRMP” since the regulatory basis of the ammonia slip limit was incorrectly designated as the BACT requirement of NSR. The correct basis is the District Toxic Risk Management Policy that is referred to as “TRMP”. Part 18b will be revised as shown in the permit conditions section of this evaluation report.

- The applicant has requested that condition 20010, part 24 be revised to require source testing of the gas turbine at least once every 8,000 hours or three years, whichever comes first. Currently, part 24 requires source testing every year. However, the gas turbine is a peaking unit and it does not operate on a regular basis. Therefore, the applicant feels that annual source testing is unnecessary given the actual hours of operation of the gas turbine.
- The following administrative changes will be made to the Title V permit:

The facility name on the Title V permit will be changed from “Riverview Energy Center, LLC” to “Gilroy Energy Center, LLC for the Riverview Energy Center”.

The definition of hour will be modified as shown below:

Clock Hour: Any continuous 60-minute period beginning on the hour

- Parts 1 through 10 of condition# 20010 will be deleted since they only apply to the commissioning period of the gas turbine. The commissioning period has elapsed and all of the requirements of parts 1 through 10 have been satisfied.

Reduction in Monitoring

The applicant has requested that the source test requirement for the gas turbine be changed from an annual basis to every 8000 hours of operation or three years, whichever comes first. The gas turbine is tested for NO_x, CO, POC, PM₁₀, SO₂, and ammonia emissions. The turbine is not required to test for those pollutants during gas turbine start-up or shutdown. According to the applicant the turbine has operated for a total of 860 hours since its initial start-up on April 19, 2003 through June 1, 2005. Because the turbine has operated relatively infrequently, the permit condition change request will effectively result in source testing every three years assuming that the turbine continues to operate as it has so far.

The potential negative impact of reduced source test frequency is the potential increase in emissions resulting from the degradation of the oxidation catalyst and SCR catalyst. The gas turbine NO_x and CO emissions are monitored by CEMs during all gas turbine operation. In effect, the NO_x and CO emissions are an indicator of the catalyst performance. The NO_x and CO CEMs therefore provide real time monitoring of the oxidation and SCR catalysts performance.

The POC, PM₁₀, SO₂, and ammonia emissions are monitored only by annual source testing. The POC, PM₁₀, and SO₂ emissions are not affected by catalyst degradation. The annual POC emission calculations for the turbine did not assume any emission reduction from the use of the oxidation catalyst. The PM₁₀ and SO₂ emissions are primarily a function of the natural gas fuel characteristics and are not affected by the performance of the oxidation catalyst or SCR system. Therefore, the potential violation of the POC, PM₁₀, or SO₂ emission limits is not considerably greater over a three year period than a one year period.

Furthermore, this reduction in source test frequency will not become a precedent for other baseload combined-cycle power plants since this is a peaking facility that employs a simple-cycle gas turbine.

The proposed change in source testing frequency will not conflict with any provisions of 40 CFR 60, Subpart A, NSPS General Provisions or Subpart GG, Standards of Performance for Stationary Gas Turbines, since these regulations do not specify any frequency for performance testing. In addition, District Regulation 9, Rule 9 only requires an initial source test and does not require periodic source testing. Therefore, the proposed change in source testing frequency does not conflict with Regulation 9, Rule 9.

Because this condition change is a relaxation in monitoring, it is considered to be a significant permit revision under Title V pursuant to Regulation 2-6-226.3. Consequently, a Title V permit containing these revisions will fulfill the public comment and review process under application 11569.

CRITERIA-POLLUTANT EMISSION SUMMARY

Annual Average Project Emissions Increase:

Pollutant	lb/day	ton/yr
POC	0	0
NO _x	0	0
SO ₂	0	0
CO	0	0
PM ₁₀	0	0
NPOC	0	0

Daily Maximum Emissions by Source (lb/day):

Source	POC	NO _x	SO ₂	CO	PM ₁₀	NPOC
S-1 Combustion Gas Turbine	31	121	32	163	72	0

EMISSION CALCULATIONS

S-1 Gas Turbine

Daily Maximum Emissions:

$$\begin{aligned} \text{NO}_x &= (4 \text{ start-ups/day})(7.7 \text{ lb/start-up}) + (4.52 \text{ lb/hr})(20 \text{ hr}) \\ &= 121.2 \text{ lb/day} \end{aligned}$$

The current daily maximum NO_x emission limit is 109 lb/day.

$$\begin{aligned} \text{CO} &= (4 \text{ start-ups/day})(7.7 \text{ lb/start-up}) + (6.6 \text{ lb/hr})(20 \text{ hr}) \\ &= 162.8 \text{ lb/day} \end{aligned}$$

The current daily maximum CO emission limit is 159 lb/day.

The daily maximum SO₂, PM₁₀, and POC emissions will not increase as a result of the increase in start-ups to four per day since the maximum emissions for those pollutants occur under baseload operation.

FACILITY CUMULATIVE INCREASE (since April 5, 1991)

	Current ton/yr	Increase ton/yr	New Total ton/yr
POC	3.2	0	3.2
NO_x	11.3	0	11.3
SO₂	3.5	0	3.5
CO	16.5	0	16.5
PM₁₀	7.5	0	7.5
NPOC	0	0	0

There will be no increase in annual emissions resulting from the proposed changes in permit conditions.

TOXIC RISK SCREENING ANALYSIS

The proposed changes in permit conditions will not result in any change in the type or increase in the emission rates of any toxic air contaminants. Therefore, no further toxic risk assessment is required.

BACT ANALYSIS

The proposed increase in maximum daily NO_x and CO emissions for the gas turbine trigger BACT. The S-1 Gas Turbine is currently subject to a NO_x emission concentration limit of 2.5 ppmvd @ 15% O₂, averaged over 3 hours and a CO emission concentration limit of 6 ppmvd @ 15% O₂, averaged over 3 hours. This satisfies the current BACT level for a simple-cycle gas turbine with a net output of greater than 40-MW as specified in District Guideline 89.1.3.

OFFSET ANALYSIS

The offset requirement of NSR does not apply since the proposed changes in permit conditions will not result in any increase in annual criteria pollutant emissions.

FEE SUMMARY

Source	Fee Schedule	Filing Fee	Initial Fee	Late Fee	Permit to Operate Fee	Source Sub-Total
S-1 Combustion Gas Turbine	B	\$259.00	\$17,080.00	\$0.00	\$0.00	\$17,339.00
Grand Total						\$17,339.00
Amount Paid						\$17,339.00
Log Number						0YJ92

STATEMENT OF COMPLIANCE

S-1 Combustion Gas Turbine is expected to continue to comply with all applicable District, State, and Federal regulations and permit conditions. The proposed changes in permit conditions do not trigger any regulations not previously triggered by this source.

This project is **categorically exempt** from District CEQA Regulation 2-1-311 pursuant to Regulation 2-1-312.11 (Permit applications for a new/modified source(s) or for process changes which will satisfy the "No Net Emission Increase" provisions of Regulation 2, Rule 2, and for which there is no possibility that the project may have any significant environmental effect in connection with any environmental media or resources other than air quality) and therefore is not subject to CEQA review.

The Gilroy Energy Center facility is **not** located within 1000 feet of the outer boundary of a K-12 school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

A Toxics Risk Screening Analysis is not required since the proposed changes in permit conditions will not result in any increase in toxic air contaminant emissions. TBACT does not apply to this project.

PERMIT CONDITIONS

Condition #20010 will be modified as follows. Only the modified parts are shown.

1. Deleted under applications 10568 & 10569 ~~The owner/operator shall minimize emissions of carbon monoxide and nitrogen oxides from S-1 Gas Turbine to the maximum extent possible during the commissioning period. Parts 1 through 10 shall only apply during the commissioning period as defined above. Unless noted, parts 11 through 34 shall only apply after the commissioning period has ended. (Basis: Cumulative Increase)~~
2. Deleted under applications 10568 & 10569 ~~At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator shall tune S-1 Gas Turbine combustor to minimize the emissions of carbon monoxide and nitrogen oxides. (Basis: Cumulative Increase)~~
3. Deleted under applications 10568 & 10569 ~~At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the owner/operator shall install, adjust, and operate the A-2 Selective Catalytic Reduction (SCR) System and A-1 Oxidation Catalyst (OC) to minimize the emissions of nitrogen oxides and carbon monoxide from S-1 Gas Turbine. (Basis: Cumulative Increase)~~
4. Deleted under applications 10568 & 10569 ~~Coincident with the steady-state operation of A-2 Selective Catalytic Reduction (SCR) System and A-1 Oxidation Catalyst (OC) pursuant to condition 3, the owner/operator shall comply with the Gas Turbine (S-1) NO_x and CO emission limitations specified in parts 18.1 and 18.3. (Basis: BACT, Offsets)~~
5. Deleted under applications 10568 & 10569 ~~The owner/operator shall submit a plan to the District Permit Services Division at least two weeks prior to first firing of S-1 Gas Turbine describing the procedures to be followed during the commissioning of the turbines. The plan must include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described must include, but not be limited to, the tuning of the water injection, the installation and operation of the required emission control systems, the installation, calibration, and testing of the CO and NO_x continuous~~

~~emission monitors, and any activities requiring the firing of the Gas Turbine (S-1) without abatement by its SCR System and OC. (Basis: Cumulative Increase)~~

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

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

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

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

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

~~9. Deleted under applications 10568 & 10569 The total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM10, and sulfur dioxide that will be emitted by the S-1 Gas Turbine, including the commissioning period shall accrue towards the consecutive twelve month emission limitations specified in part 21. (Basis: offsets)~~

~~10. Deleted under applications 10568 & 10569 Within sixty (60) days of first fire, the owner/operator shall conduct the first RATA test and the first source test required by part 24. The source test shall include NOx, CO, and POC emissions during start up and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The owner/operator shall conduct, at a minimum, source tests during three start up and three shutdown periods. No less than thirty (30) days before conducting source tests, the owner/operator shall submit to the District a detailed source test plan designed to satisfy the requirements of this condition. The owner/operator shall be notified of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The owner/operator shall notify the District within ten (10) days prior to the planned source testing dates and shall submit source test results to the District within 60 days of the source testing date. (Basis: offsets)~~

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

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

b. Ammonia emissions from S-1 Gas Turbine into the atmosphere shall not exceed 10.0 ppmvd @ 15% O₂ (1-hour rolling average), except during periods of startup and shutdown as defined in this permit. The owner/operator shall verify the ammonia concentration by a District-approved corrected ammonia slip calculation. ~~the continuous recording of the ratio of the ammonia injection rate to the NO_x inlet rate to the SCR control system (molar ratio).~~ The owner/operator shall establish the correction factor maximum allowable NH₃/NO_x molar ratio during a District approved source test, ~~and shall not exceed the established limits unless a new ratio has been established during another District approved source test.~~ (basis: BACT TRMP)

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

Table 1 Mass Emission Limits (Including Startups and Shutdowns)

Pollutant	Daily (lb/day)	Annual (ton/year)
NO _x (as NO ₂)	409 <u>121</u>	11.3
CO	459 <u>163</u>	16.5
POC	31	3.2
PM ₁₀	72	7.5
SO _x (as SO ₂)	32	3.5

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

24. Source Testing/RATA: Within sixty days after first fire of the gas turbines, and at a minimum on an annual basis thereafter, a relative accuracy test audit (RATA) shall be conducted on the CEMS in accordance with 40 CFR Part 60 Appendix B Performance Specifications, ~~and~~ a The owner/operator shall conduct a -source test shall be conducted at least once every 8,000 operating hours or three years, whichever comes first. (Please note that this source test frequency requirement will not take effect until the corresponding permit condition in the major facility review permit is amended. Until this occurs, the owner/operator shall conduct source testing on an annual basis, as stated in the existing major facility review permit). The owner/operator shall provide written test results of the source tests to the District within thirty days after testing. The owner/operator shall submit a complete test protocol to the District no later than 30 days prior to testing, and notification to the District at least ten days prior to the actual date of testing. The owner/operator shall comply with the source test protocol for the following: measurements of NO_x, CO, POC, and stack gas oxygen content in accordance with ARB Test Method 100; measurements of PM₁₀ in accordance with ARB Test Method 5; and measurements of ammonia in accordance with Bay Area Air Quality Management District test method ST-1B. Alternative test methods, and source testing scope, may also be used to address the source testing requirements of the permit if approved in advance by the District. The

owner/operator shall include initial and ~~annual~~ periodic source tests parameters specified in the approved test protocol, and at a minimum include the following:

- a. NOx (as NO2) - ppmvd at 15% O2 and lb/MMBtu;
- b. Ammonia - ppmvd at 15% O2 (Exhaust);
- c. CO - ppmvd at 15% O2 and lb/MMBtu (Exhaust);
- d. POC - ppmvd at 15% O2 and lb/MMBtu (Exhaust);

- e. PM10 - lb/hr (Exhaust);
- f. SOx - lb/hr (Exhaust);
- g. Natural gas consumption, fuel High Heating Value (HHV), and total fuel sulfur content;
- h. Turbine load in megawatts;
- i. Stack gas flow rate (SDCFM) calculated according to procedures in U.S. EPA Method 19.
- j. Exhaust gas temperature (°F)
- k. Ammonia injection rate (lb/hr or moles/hr)
(Basis: BAAQMD Manual of Procedures, Volume IV, BACT, Cumulative Increase)

RECOMMENDATION

Issue a **Change of Conditions Letter** for the following source:

S-1 Combustion Gas Turbine with Water Injection, GE LM 6000 PC Sprint, 49.6 MW, Simple-Cycle, 500 MM BTU/hr natural gas fired abated by A-1 Oxidation Catalyst and A-2 Selective Catalytic Reduction System

EXEMPT SOURCES

None

Dennis T. Jang

Senior Air Quality Engineer

08/04/05

Date

C. Supplemental Information

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities.

Changes in this action

There are no changes proposed for this section.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified with an S and a number (e.g., S24).

Changes in this action

There are no changes proposed for this section.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit

Changes in this action

No changes are proposed for this section.

IV. Source-Specific Applicable Requirements

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District or EPA websites, or in the permit conditions, which are found in Section VI of the permit.

Complex Applicability Determinations

There are no complex applicability determinations associated with the proposed permit condition changes.

Other changes in this action

No other changes are proposed for this section.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

“409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.”

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

VI. Permit Conditions

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- **BACT:** This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- **Cumulative Increase:** This term is used for a condition imposed by the APCO which limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- **Offsets:** This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- **PSD:** This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- **TRMP:** This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy.

All changes to existing permit conditions are clearly shown in "strike-out/underline" format in the proposed permit. When the permit is issued, all 'strike-out' language will be deleted and all "underline" language will be retained, subject to consideration of comments received.

Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

Changes in this action

The following permit condition changes are proposed:

- **Condition #20010, part 21:** Increase the daily mass emission limits for NO_x and CO to reflect the potential operating scenario of 4 gas turbine start-ups per day. There will be no increase in annual mass emission limits as a result of this change. This is a minor revision.
- **Condition #20010, parts 18.1, 18.2, 18.3, 18.4, 18.5, and 18.6** will be renumbered as 18a, 18b, 18c, 18d, 18e, and 18f, respectively, to be consistent with other multi-part conditions in the permit. This is an administrative change.
- **Condition #20010, part 18b:** Revise the ammonia slip monitoring language to agree with standard language in other Calpine power plant permits. The revised language will allow the use of a District-approved calculation method to monitor ammonia slip. This is not a relaxation of monitoring, but replaces the original calculation method that was inaccurate. In addition, the basis of the permit condition will be changed from "BACT" to "TRMP", since the ammonia slip limit was based upon the District health risk assessment policies and not the BACT provision of NSR. This is a minor revision.

- Condition #20010, part 24: Change the required source test frequency for the gas turbine from annual to once every 8000 hours of gas turbine operation or once every 3 years, whichever comes first. This is a relaxation of monitoring and therefore is considered a significant revision pursuant to Regulation 2-6-226.3.
- Condition #20010, parts 1 through 10 will be deleted since they apply to the commissioning period only and the commissioning period is finished. This is an administrative change.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

The District has reviewed all monitoring and has determined that the existing monitoring is adequate.

Changes in this action

The source test frequency for the gas turbine will be changed from annual to once every 8000 firing hours or once every 3 years, whichever comes first. As discussed in the attached NSR permit evaluation for application 10568, this reduction in monitoring frequency will not increase the potential for the gas turbine emissions to exceed any applicable mass emission limits or emission concentration limits.

All references to the source test requirement of condition #20010, part 24 in Table VII-A will be updated to reflect the new source test frequency of 8,000 hours or 3 years.

Two incorrect references to condition #20010, part 30(b) in Table VII-A for the gas turbine will be changed to condition #20010, part 29(b).

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

Changes in this action

There are no changes proposed for this section.

IX. Permit Shield:

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

This facility has the first and second types of permit shield.

Changes in this action

There are no changes proposed for this section.

X. Revision History

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

Application 6964: The initial Title V permit for this facility was issued on July 18, 2003.

Application 10569: Significant revision

XI. Glossary

This section contains terms that may be unfamiliar to the general public or EPA.

Changes in this action

There are no changes proposed for this section.

D. Alternate Operating Scenarios:

No alternate operating scenarios have been requested for this facility.

F. Differences between the Application and the Proposed Permit:

In the original application (#10569) for a significant revision to the Title V permit, the applicant requested an increase in the annual mass emission limits for NO_x, PM₁₀, and CO specified in condition #20100, part 21. Because this change would trigger the offset requirement of NSR for NO_x, the applicant rescinded this request. In all other respects, there are no differences between the application and the proposed permit.

APPENDIX A

GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority which allows the District to impose requirements.

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CAPCOA

California Air Pollution Control Officers Association

CEM

Continuous Emission Monitor

CEQA

California Environmental Quality Act

CFR

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

CO

Carbon Monoxide

Cumulative Increase

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

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District regulations.

FDOC

Final Determination of Compliance (FDOC), prepared pursuant to District Regulation 2, Rule 3, Power Plants.

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 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP

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

HAP

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

HRSG

Heat Recovery Steam Generator

Major Facility

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

MFR

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

MOP

The District's Manual of Procedures.

NAAQS

National Ambient Air Quality Standards

NESHAPS

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

NMHC

Non-methane Hydrocarbons (Same as NMOC)

NMOC

Non-methane Organic Compounds (Same as NMHC)

NO_x

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 Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR

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

Offset Requirement

A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NO_x, PM₁₀, and SO₂.

Phase II Acid Rain Facility

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

POC

Precursor Organic Compounds

PM

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 those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

PUC

Public Utilities Commission (California)

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

THC

Total Hydrocarbons (NMHC + Methane)

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)

TPH

Total Petroleum Hydrocarbons

TRMP

Toxic Risk Management Plan

TSP

Total Suspended Particulate

VOC

Volatile Organic Compounds

Units of Measure:

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