VIA FEDERAL EXPRESS

July 5, 2006

SY-8535

Mr. Christopher Meyer
California Energy Commission
1516 Ninth Street, MS-2000
Sacramento, CA 95814-5512

Re: Sycamore Cogeneration Company (84-AFC-6)
Petition For Insignificant Amendment

Dear Mr. Meyer:

This petition is being submitted to allow two (2) of the four cogeneration units at Sycamore Units 2 and Unit 3, to operate either in simple cycle mode, without the cogeneration of steam, or in the current cogeneration configuration. The addition of simple cycle capability is needed because the steam demand in the adjacent oilfield is gradually declining and there is a need to respond to current electricity market conditions for the power.

This petition is consistent with recent CEC approval of similar amendments to the Sycamore facility and recent San Joaquin Valley Air Pollution Control District (SJVAPCD) approvals. Appendix A includes the complete copy of the SJVAPCD engineering analysis and proposed Authorities to Construct and Appendix B includes a notification to EPA of Prevention of Significant Deterioration (PSD) nonapplicability.

The petition does not require the addition, elimination or modification of any conditions of certification. Furthermore, the proposed change poses no potential for adverse environmental impacts. Under these circumstances, pursuant to Section 1769 (a) (2), CEC Staff have the authority to approve the proposed change without full CEC approval providing a 14-day notice is provided to the docket, each commissioner and any party on the post-certification mailing list.

If you have any questions, please contact Mervyn Soares at (661) 392-2643 or David Stein of CH2M HILL at (510) 587-7787.

[Signature]

DLB:yh

Attachment

xc: David Stein, CH2M Hill
1.0 OVERVIEW

Sycamore Cogeneration Company (Sycamore) received original approval (84-AFC-6) in December 1986 from the California Energy Commission (CEC) for a 300 megawatt (MW) cogeneration plant in Kern County, California. The facility consists of four (4) 75 MW (nominal) natural-gas fired General Electric Frame 7EA combustion turbines equipped with dry Low NOx (DLN) combustors, four (4) unfired heat recovery steam generators (HRSGs), each capable of generating up to 450,000 pounds per hour (lb/hr) of steam for delivery to the adjacent oilfield operator for use in enhanced oil recovery and ancillary equipment.

Sycamore is owned jointly by Chevron and Edison Mission Energy. A post-certification petition for the operation of two of the four combustion turbines (Unit 1 and Unit 4) in either simple cycle mode or cogeneration mode and removal of a requirement to meet explicit cogeneration efficiency criteria was approved by the CEC on December 1, 2004.

This petition is being submitted to allow the other two (2) cogeneration units, Units 2 and Unit 3, to also operate in either simple cycle mode, (without the cogeneration of steam,) or in the current cogeneration configuration. The addition of simple cycle capability is needed because the steam demand in the adjacent oilfield is gradually declining and, in order to respond to current electricity market conditions for the power. It is anticipated that at any given point in time only two of the four units will continue to operate in cogeneration mode. However, cogeneration service will be rotated among the four units during each calendar year to ensure that the facility conforms with qualifying facility (QF) requirements.

The petition does not require the addition, elimination or modification of any conditions of certification. Furthermore, the proposed change poses no potential for adverse environmental impacts. Under these circumstances, pursuant to Section 1769 (a) (2), CEC Staff have the authority to approve the proposed change without full CEC approval providing a 14-day notice is provided to the docket, each commissioner and any party on the post-certification mailing list.

This petition is consistent with recent requests approved by both the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the United States Environmental Protection
Sycamore Cogeneration Company (84-AFC-6) – Petition for Insignificant Amendment

Agency (EPA). Appendix A includes the complete copy of the SJVAPCD engineering analysis and revised Authorities to Construct and Appendix B includes a copy of the letter requesting EPA confirmation that Prevention of Significant Deterioration (PSD) review is not required. A confirmation letter from EPA is expected shortly. The CEC will be provided with a copy of the EPA confirmation letter as soon as it is received.

This petition for a post-certification amendment of Sycamore is being submitted under the provisions of Section 1769 of Title 20, California Administrative Code (CEC Rules of Practice and Procedure and Power Plant Site Certification Regulations) to seek a minor modification to the air quality conditions of certification. The petition is organized to address the informational requirements of Section 1769 in the order they appear in the section. The requirement appears in bold italics followed by a narrative response.

2.0 INFORMATION REQUIRED BY SECTION 1769

(A) A complete description of the proposed modifications, including new language for any conditions that will be affected

Sycamore is a cogeneration facility located in the Kern River oilfield near Bakersfield, CA. The facility employs four (4) General Electric Frame 7EA combustion turbines (CTs) and four (4) unfired heat recovery steam generators (HRSGs) to cogenerate 300 MW (nominal rating) of electricity and 1.8 million pounds per hour of steam for enhanced oil recovery. Each CT/HRSG generates approximately ¼ of the total steam and electricity output. Each CT is equipped with Dry Low NOx (DLN) combustor technology capable of meeting the current SJVAPCD Rule 4703 NOx limit for gas turbines of 16.4 ppmv at 15% O2, dry and a CO emissions limit of 25 ppmv at 15% O2, dry.

As a result of gradually declining steam demand and negotiations regarding the Sycamore electricity contract, it has been determined that all of the Sycamore CT units must be able to operate in either cogeneration or simple cycle mode. As a result, Sycamore is requesting post-certification approval to operate Unit 2 and Unit 3 in either cogeneration or simple cycle mode.
No additional physical construction is needed to facilitate the addition of simple cycle operation to Units 2 and 3. Each CT discharges to a HRSG through a transition section that is equipped with a gas-tight bypass stack. In order to operate in simple cycle, the bypass stack damper would be repositioned to block off the HRSG, directing the CT exhaust through the bypass stack to the atmosphere. Since the Dry-Low NOx (DLN) operation is unaffected by the positioning of the bypass damper, the change to simple cycle operation will not impact the effectiveness of the current air pollution control system. As a result, during simple cycle operations there will not be any change in normal short-term CT emission rates.

The current license is based on a continuous, 24-hr day operation. While Sycamore does not propose to specifically restrict its operating schedule in the future, it is anticipated that the power host will operate two units of the four Sycamore units in simple cycle on a dispatch schedule that is anticipated to be substantially fewer hours than historical operations. The other two Sycamore units would continue to cogenerate steam to service Chevron’s existing thermally enhanced oil recovery operation. Sycamore will annually cycle all four units in both modes of operation. At the present time, we envision that units that are dispatched to operate in simple cycle mode would operate in response to peak power demands occurring during the normal work week, Monday through Friday, and would not operate on weekends or holidays. Instead of a 24-hr operation, it is more likely that these two units would ultimately operate for no more than a 6 to 8 hr/day. We also anticipate that the units will operate more frequently in the summer peak power period, April through October, and less during the off-peak period of the year, November through March. The addition of simple cycle operation will increase the number of startups and shutdowns to one or two per day for the affected CT. These emission impacts have been previously evaluated under the previous request for Units 1 and 4 and found to be insignificant.

(B) A discussion of the necessity for the proposed modifications

The modifications are necessary in order to allow Sycamore to continue to sell power while adjusting to a gradually declining steam demand and need for dispatchable power by the utilities. Sycamore units must maintain QF status on a calendar year basis for the facility, but otherwise Sycamore units must also be available for dispatchable simple cycle operation.
(C) *If the modification is based on information that was known by the petitioner during the certification proceeding, an explanation why the issue was not raised at that time*

This need for dispatchable power and maintenance of unit-specific cogeneration criteria has come about as a result of clarifications regarding the terms of the proposed power purchase agreement that will require Sycamore to remain as a QF facility. The modification is not based on information that was known to the petitioner at the time of the certification.

(D) *If the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, an explanation of why the change should be permitted*

The proposed modification is based on new information that was not available at the time of the original decision. First, demand for steam from Sycamore is gradually declining and Sycamore will not be able to continue to produce and sell all of the steam it is capable of generating. Second, the electricity host has indicated that its future resource needs are focused on peaking, not baseload capacity. The host has therefore asked that any two of the four Sycamore units be made available on a dispatchable basis. However each of the four Sycamore units must also continue to meet contract-specific QF status on a calendar year basis.

Although there will be no changes in any of the existing air emission limits in the CEC license, operation in simple cycle mode will modify the dispersion characteristics of the two affected units. When Units 2 and 3 are operated in simple cycle mode, the exhaust gas will be discharged through a slightly shorter bypass stack with a higher temperature and a marginally lower stack exit velocity. A comprehensive analysis of these potential changes to exhaust gas stack discharge conditions has been performed by SJVAPCD. The analysis demonstrates that even under worst-case assumptions there will be a beneficial impact to ambient air quality.

(E) *An analysis of the impacts the modification may have on the environment and proposed measures to mitigate any significant adverse impacts*
A complete analysis of the proposed changes has been performed and approved by the SJVAPCD. The engineering analysis and final Authorities to Construct are included in Appendix A. The air quality impact analysis demonstrates that beneficial air quality impacts will result from the proposed changes. Furthermore, the original Sycamore facility was fully mitigated with emission offsets. Since the proposed change will not increase allowable daily or annual emissions from the facility, no additional air quality mitigation is needed. Based on the above, the proposed change will not cause any significant air quality impacts. To the contrary, the air quality impacts are actually beneficial.

No other environmental issues or concerns are impacted by the proposed change and no additional analysis is needed for other environmental issue areas.

**(F) A discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards**

The proposed changes will comply with all applicable laws, ordinances, regulations and standards as demonstrated by the attached SJVAPCD engineering analysis and approval (Appendix A). The applicant has also requested that EPA formally acknowledge that the proposed changes do not constitute a major modification that would be subject to full PSD review. A copy of this request is included (Appendix B). A copy of EPA’s response will be forwarded to the CEC under separate cover. While this response will be informative, it is not a requirement for the CEC to process this petition request as Sycamore will comply with all applicable federal laws, ordinances, regulations and standards as it has since it began operation.

**(G) A discussion of how the modification affects the public**

The proposed revisions will have a beneficial impact on the public since air quality impacts will be lessened by the proposed change to Sycamore.
(H) A list of property owners potentially affected by the modification

There are no property owners that will be affected by the proposed modification. A single property owner is located within 1000 feet of the Sycamore site, Chevron. The applicable contact information for Chevron is provided below:

Chevron                                      Physical Address                                      Mailing Address
1546 China Grade Loop                        P.O. Box 1392
Bakersfield, CA 93302                        Bakersfield, CA 93380

(I) A discussion of the potential effect on near by property owners, the public and the parties in the application proceedings

The proposed revisions will have a positive impact on near by property owners, since air quality impacts will be lessened by the proposed change to Sycamore.

3.0 SCHEDULE

The request for EPA confirmation of the PSD nonapplicability has been submitted (see Appendix B) and a formal confirmation response is expected shortly. A copy of the letter will be provided as soon as it is received. The SJVAPCD has approved the proposed change (see Appendix A).

We respectfully request that the CEC process this petition to approve the described change in the method of operation of the facility expeditiously as is possible, so that Sycamore has the ability to commence simple cycle operation of any of the four units.
4.0 PETITION CONTACTS

Questions regarding this petition should be directed to:

Mervyn Soares
HES Manager
Kern River Cogeneration Company
P.O. Box 81438
Bakersfield, CA 93380
Phone: (661) 392-2643
Fax: (661) 392-2990
Email: masoares@sycamore.com

David A. Stein, PE
Vice President
CH2M HILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612
Phone: (510) 587-7787
Fax: (510) 622-9177
Email: dstein@ch2m.com

5.0 SUMMARY

This minor amendment will require no changes to existing conditions of certification, will have no significant environmental impacts and will have a beneficial effect on air quality.

Pursuant to Section 1769 (a) (2) of the CEC Siting Regulations, CEC staff is authorized to approve this proposed change with full Commission approval, provided a 14-day notice is submitted to the docket, each Commissioner and any party on the post-certification mailing list.

Expeditied processing of this petition is respectfully requested.
APPENDIX A

SJVAPCD ENGINEERING ANALYSIS AND FINAL AUTHORITIES TO CONSTRUCT
MAY 23 2006

Mr. Mervyn Soares
Sycamore Cogeneration Company
P.O. Box 80598
Bakersfield, CA 93380

Re: Final - Authority to Construct / Certificate of Conformity (Minor Mod)
Project # 1060682

Dear Mr. Soares:

The Air Pollution Control Officer has issued Authorities to Construct (S-511-2-12 and -3-12) with Certificates of Conformity to Sycamore Cogeneration Company. The modification consists of allowing two more existing combustion turbine generators to operate without recovering exhaust heat.

Enclosed are the Authorities to Construct and invoice. The application and proposal were sent to US EPA Region IX on April 27, 2006. No comments were received following the District’s preliminary decision on this project.

Prior to operating with modifications authorized by the Authority to Construct, you must submit an application to modify the Title V permit as an administrative amendment in accordance with District Rule 2520, Section 11.5.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Thomas Goff, Permit Services Manager, at (661) 326-6900.

Sincerely,

David Warner
Director of Permit Services

Enclosures

cbe

Sycamore Cogen Co

NEB JRB
KSL RTM
GLE JMS
LSP
MAS
ADD

Copy: DUB w/orig attach.

Note:

MAY 25 2006
AUTHORITY TO CONSTRUCT

PERMIT NO: S-511-2-12
LEGAL OWNER OR OPERATOR: SYCAMORE COGENERATION CO
MAILING ADDRESS: PO BOX 80598
BAKERSFIELD, CA 93380
LOCATION: HEAVY OIL CENTRAL
CA
SECTION: 31 TOWNSHIP: 28S RANGE: 28E

MODIFICATION OF 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS (SYCAMORE #2): AUTHORIZE OPERATION IN SIMPLE CYCLE MODE AND ALLOW EXHAUST THROUGH BYPASS STACK

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit

2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

3. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District Rule 2201; Kern County Rule 407] Federally Enforceable Through Title V Permit

4. The owner or operator shall not exceed the following applicable Tier 1 NOx emission rate of \((15 \times \text{EFF} / 25)\) ppmvd @ 15% O2, under load conditions, excluding thermal stabilization periods or reduced load periods, where EFF (efficiency) is the higher of EFF1 \((100\% \times (3,412 \text{ Btu/kW-hr}) / (\text{Actual Heat Rate at HHV, Btu/kW-hr}))\) or EFF2 \((\text{EFFmfr x LHV / HHV})\) where actual heat rate is a ratio of the heat input to power output taking into account the manufacturer's listed turbine efficiency, HHV is the higher heating value of the fuel, LHV is the lower heating value of the fuel, and EFFmfr is the manufacturer's continuous rated percent efficiency of the gas turbine with air pollution equipment at LHV. An EFF that is less than 25 shall be assigned a value of 25. [40 CFR 60.332(a)(1) and (a)(2) District Rule 4703, 5.1.1] Federally Enforceable Through Title V Permit

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 326-6900 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadrelin, Executive Director / APCO

DAVID WARNER, Director of Permit Services
8-511-2-12: May 23 2006 4:02PM - ELLENBERG: Joint Inspection NOT Required
Southern Regional Office • 2700 M Street, Suite 275 • Bakersfield, CA 93301-2370 • (661) 326-6900 • Fax (661) 326-6985
5. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.19] Federally Enforceable Through Title V Permit

6. Thermal Stabilization Period shall be defined as the start up or shut down time during which the exhaust gas is not within the normal operating range, not to exceed two hours. [District Rule 4703, 3.25] Federally Enforceable Through Title V Permit

7. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit

8. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit

9. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334(h) and 40 CFR 60.334(i). [40 CFR 60.334(h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit

10. The HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit

11. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit

12. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 4/25/02), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit

13. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit

14. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a); County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit

15. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit

16. Operations during periods of startup and shutdown shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit

17. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit

18. Records shall be maintained and shall contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEMs that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit

19. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
20. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

21. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

22. The owner or operator shall not operate the gas turbine after April 30, 2008, or within 90 days following a Major Overhaul if the overhaul occurs after April 30, 2004, under load conditions, excluding the thermal stabilization period or reduced load period, which results in the measured NOx emissions concentration exceeding 3 ppmv @ 15% O2. [District Rule 4703, 5.1.2.1] Federally Enforceable Through Title V Permit

23. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.4; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

24. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit

25. When CGT exhausts to bypass stack, the CEM probe located in the transition section shall be used to measure exhaust gas NOx, CO and O2 or CO2 concentration. [District Rule 2201] Federally Enforceable Through Title V Permit

26. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit

27. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit

28. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

29. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.8(d) and District Rule 1080, 7.0] Federally Enforceable Through Title V Permit

30. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit

31. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit

32. A violation of NOx emission standards indicated by the NOx CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit

33. The APCO shall be notified no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
34. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Throughout Title V Permit

35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332(a), (a)(1), (a)(2) 60.333 (a) and (b); 60.334 (a), (b), (c), (h) and (j)(2), (j)(5) and 60.335(a) and (b): District Rule 4703 (as amended 4/25/02), Sections 5.1.1, 5.2, 6.1, 6.3.1, 6.3.3, 6.4, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Throughout Title V Permit

36. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Throughout Title V Permit

37. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Throughout Title V Permit

38. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Throughout Title V Permit

39. The CGT combustors shall be a dry low NOx design capable of achieving 16.4 ppm or lower at 15% O2. [District Rule 4703 and PSD SJ 85-09, X.B] Federally Enforceable Throughout Title V Permit

40. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District Rule 2201] Federally Enforceable Throughout Title V Permit

41. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District Rule 2201] Federally Enforceable Throughout Title V Permit

42. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District Rule 2201] Federally Enforceable Throughout Title V Permit

43. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District Rule 2201] Federally Enforceable Throughout Title V Permit

44. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District Rule 2201] Federally Enforceable Throughout Title V Permit

45. Each CGT shall have a fuel consumption monitor/recorder. [District Rule 2201 and PSD SJ 85-09, X.D.1] Federally Enforceable Throughout Title V Permit

46. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District Rule 2201] Federally Enforceable Throughout Title V Permit

47. HRSG stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Throughout Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
48. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District Rule 2201] Federally Enforceable Through Title V Permit

49. Accurate records of NOx (as NO2) and carbon monoxide (CO) flue gas concentrations corrected to 15% O2, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit

50. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit

51. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 1,629.6 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X,E] Federally Enforceable Through Title V Permit

52. Emission rates from CGT, except during startup and/or shutdown, shall not exceed any of the following: NOx (as NO2) - 16.4 ppmvd @ 15% O2, 67.9 lb/hr on a 3-hr avg. 79.7 lb/hr on a 1-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rule 2201 and PSD SJ 85-09, X,E] Federally Enforceable Through Title V Permit

53. During startup and shutdown, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit

54. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit

55. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NOx and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit

56. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit

57. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

58. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit

59. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit

60. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit

61. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

62. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

63. Startup and shutdown of CGT, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
64. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit

65. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit

66. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

67. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

68. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

69. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

70. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

71. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

72. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

73. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

74. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit

75. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

76. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUCPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
77. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-511-3-12

LEGAL OWNER OR OPERATOR: SYCAMORE COGENERATION CO
MAILING ADDRESS: PO BOX 80598
BANKERSFIELD, CA 93380

LOCATION: HEAVY OIL CENTRAL CA

SECTION: NW30 TOWNSHIP: 28S RANGE: 28E

MODIFICATION OF 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS (SYCAMORE #3): AUTHORIZE OPERATION IN SIMPLE CYCLE MODE AND ALLOW EXHAUST THROUGH BYPASS STACK

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit

2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520, Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

3. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District Rule 2201; Kern County Rule 407] Federally Enforceable Through Title V Permit

4. The owner or operator shall not exceed the following applicable Tier 1 NOx emission rate of (15 x EFF / 25) ppmvd @ 15% O2, under load conditions, excluding thermal stabilization periods or reduced load periods, where EFF (efficiency) is the higher of EFF1 \{100% x (3,412 Btu/kW-hr) / (Actual Heat Rate at HHV, Btu/kW-hr)\} or EFF2 \{EFFmr x (LHV / HHV)\} where actual heat rate is a ratio of the heat input to power output taking into account the manufacturer's listed turbine efficiency, HHV is the higher heating value of the fuel, LHV is the lower heating value of the fuel, and EFFmr is the manufacturer's continuous rated percent efficiency of the gas turbine with air pollution equipment at LHV. An EFF that is less than 25 shall be assigned a value of 25. [40 CFR 60.332(a)(1) and (a)(2) District Rule 4703, 5.1.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 326-6900 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadreddin, Executive Director / APCO

DAVID WARNER, Director of Permit Services
S-511-3-12 May 23, 2006 4:52PM – ELLENBECK Joint Inspection NOT Required

Southern Regional Office • 2700 M Street, Suite 275 • Bakersfield, CA 93301-2370 • (661) 326-6900 • Fax (661) 326-6985
5. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.19] Federally Enforceable Through Title V Permit

6. Thermal Stabilization Period shall be defined as the start up or shut down time during which the exhaust gas is not within the normal operating range, not to exceed two hours. [District Rule 4703, 3.25] Federally Enforceable Through Title V Permit

7. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit

8. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit

9. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(t). [40 CFR 60.334 (h) and 40 CFR 60.334(t)] Federally Enforceable Through Title V Permit

10. The HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit

11. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit

12. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 4/25/02), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit

13. Particulate matter emissions shall not exceed 0.1 grains/scf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit

14. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a); County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit

15. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit

16. Operations during periods of startup and shutdown shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit

17. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit

18. Records shall be maintained and shall contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit

19. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
20. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

21. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

22. The owner or operator shall not operate the gas turbine after April 30, 2008, or within 90 days following a Major Overhaul if the overhaul occurs after April 30, 2004, under load conditions, excluding the thermal stabilization period or reduced load period, which results in the measured NOx emissions concentration exceeding 3 ppmv @ 15% O2. [District Rule 4703, 5.1.2.1] Federally Enforceable Through Title V Permit

23. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.4; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

24. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit

25. When CGT exhausts to bypass stack, the CEM probe located in the transition section shall be used to measure exhaust gas NOx, CO and O2 or CO2 concentration. [District Rule 2201] Federally Enforceable Through Title V Permit

26. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit

27. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit

28. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

29. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.8(d) and District Rule 1080, 7.0] Federally Enforceable Through Title V Permit

30. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit

31. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit

32. A violation of NOx emission standards indicated by the NOx CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit

33. The APCO shall be notified no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
34. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332(a), (b)(1), (a)(2) 60.333 (a) and (b); 60.334 (a), (b), (c), (h) and (j)(2), (j)(5) and 60.335(a) and (b); District Rule 4703 (as amended 4/25/02), Sections 5.1.1, 5.2.1, 6.1, 6.3.1, 6.3.3, 6.4, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

36. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 6.7, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

37. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting, corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit

38. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit

39. The CGT combustors shall be a dry low NOx design capable of achieving 16.4 ppm or lower at 15% O2. [District Rule 4703 and PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit

40. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District Rule 2201] Federally Enforceable Through Title V Permit

41. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District Rule 2201] Federally Enforceable Through Title V Permit

42. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District Rule 2201] Federally Enforceable Through Title V Permit

43. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District Rule 2201] Federally Enforceable Through Title V Permit

44. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District Rule 2201] Federally Enforceable Through Title V Permit

45. Each CGT shall have a fuel consumption monitor/recorder. [District Rule 2201 and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

46. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District Rule 2201] Federally Enforceable Through Title V Permit

47. HRSG stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
48. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District Rule 2201] Federally Enforceable Through Title V Permit

49. Accurate records of NOx (as NO2) and carbon monoxide (CO) flue gas concentrations corrected to 15% O2, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit

50. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit

51. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 1,629.6 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit

52. Emission rates from CGT, except during startup and/or shutdown, shall not exceed any of the following: NOx (as NO2) - 16.4 ppmvd @ 15% O2, 67.9 lb/hr on a 3-hr avg, 79.7 lb/hr on a 1-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit

53. During startup and shutdown, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit

54. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit

55. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NOx and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit

56. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit

57. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

58. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit

59. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit

60. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit

61. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

62. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

63. Startup and shutdown of CGT, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
64. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit

65. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit

66. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

67. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

68. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

69. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

70. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

71. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

72. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

73. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

74. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit

75. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

76. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
77. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
APR 27 2006

Mervyn Soares
Sycamore Cogeneration Company
P O Box 80598
Bakersfield, CA 93380

Re: Proposed Authorities to Construct / Certificate of Conformity (Minor Mod)
District Facility # S-511
Project # 1060682

Dear Mr. Soares:

Enclosed for your review is the District's analysis of your application for Authorities to Construct for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The modification consists of allowing two more existing combustion turbine generators to operate without recovering exhaust heat.

After addressing any EPA comments made during the 45-day comment period, the Authorities to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Thomas Goff, Permit Services Manager, at (661) 326-6900.

Thank you for your cooperation in this matter:

Sincerely,

David Warner
Director of Permit Services

Enclosures
cc: Ben Ellenberger, Permit Services

MAY 1 2006
San Joaquin Valley Unified
Air Pollution Control District
Application Review

Facility Name: Sycamore Cogeneration Company
Mailing Address: P.O. Box 80598
Bakersfield, CA 93380

Contact Name: Mervyn Soares
Sycamore Cogeneration Company
Telephone: (661) 392-2643
Fax: (661) 392-2990
E-Mail: masoares@sycamore.com

Contact Name: Daniel Beck
Sycamore Cogeneration Company
Telephone: (661) 392-2461
Fax: (661) 392-2990
E-Mail: dlbeck@sycamore.com

Other Contact: David Stein
CH2M Hill
Telephone: (510) 587-7787
E-Mail: dstein@ch2m.com

Processing Engineer: Ben Ellenberger
Lead Engineer: Leonard Scandura
Date: April 17, 2006

Project Number: S-1060682
Application Numbers: S-511-2-12 and 3-12
Submitted: February 28, 2006
Complete: March 14, 2006
I. PROPOSAL

Sycamore Cogeneration Company (Sycamore) is a cogeneration facility located in the Kern River oilfield near Bakersfield, CA. The facility employs four (4) General Electric Frame 7EA combustion turbines (CTs) and four (4) unfired heat recovery steam generators (HRSGs) to cogenerate 300 MW (nominal rating) of electricity and 1.8 million pounds per hour of steam for enhanced oil recovery. These units are part of ChevronTexaco's Heavy Oil Central Stationary Source in the Kern County Oil Fields.

A. Sycamore is requesting that the existing Permits to Operate (PTOs) for Unit 2 (S-511-2) and Unit 3 (S-511-3) be modified to allow an additional mode of operation: producing electricity without recovering exhaust heat ("simple cycle" mode). The two units will still maintain the physical and operational ability to recover heat in the form of steam. The proposed addition to simple cycle involves a redirection of the CT exhaust through an existing bypass stack. No physical changes to the units are needed to accommodate this operation.

This request is being made to allow Sycamore flexibility in offering dispatchable power to Southern California Edison (SCE) as part of a power purchase agreement (PPA). The PPA is due to expire and the proposed modifications will allow Sycamore to distribute cogeneration and dispatchable loads between all four (S-511-1, -2, -3, -4) units to maintain qualifying facility status. These modifications will allow Sycamore to continue the contract with SCE beyond the expiration date.

B. The stack sampling permit condition from S-511-2-10 and -3-10 (condition 45) pertains only to the HRSG stack. Emissions source testing requirements can be accomplished for both modes of operation by testing at the HRSG stack. Since there are no control devices downstream of the turbine, only testing from the HRSG stack is necessary meet the requirements of District Rule 1081. Both stacks will be equipped with continuous emissions monitors (CEMs) to ensure continuing compliance with permitted emissions limits.

Sycamore has current, valid ATCs S-511-2-10 and -3-10 to revise permit conditions for each CTG. The revisions authorized by -2-10 and -3-10 will be implemented prior to, or concurrently with the modifications authorized by this project.

Sycamore received their Title V Permit on October 7, 1999. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Sycamore must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC(s) issued with this project.
II. APPLICABLE RULES

Rule 1080 Stack Monitoring (12/17/92)
Rule 1081 Source Sampling (12/16/93)
Rule 2201 New and Modified Stationary Source Review (12/15/05)
Rule 2520 Federally Mandated Operating Permits (6/15/95)
Rule 2540 Acid Rain Program (11/13/97)
Rule 4001 NSPS Subpart GG – Standards of Performance for Stationary Gas Turbines (04/14/99)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4301 Fuel Burning Equipment (12/17/92)
Rule 4703 Stationary Gas Turbines (04/25/02)
Rule 4801 Sulfur Compounds (12/17/92)
CH&S Code, Section 41700

III. PROJECT LOCATION

Sycamore is located in the center of the north ½ of Section 31, Township 28 South, Range 28 East in the Kern River Oil Field, within the central Kern County oil fields. There are no schools within 1000 feet of the project site.

IV. PROCESS DESCRIPTION

No additional physical construction is needed to facilitate operation of Units 2 and 3 without recovery of exhaust heat. Each combustion turbine generator (CTG) discharges to a heat recovery steam generator (HRSG) through a transition section that is equipped with a gas-tight bypass stack. In order to operate without recovering exhaust heat, the bypass stack damper would be repositioned to block off the HRSG, directing the CTG exhaust through the bypass stack to the atmosphere. Since the Dry-Low NOx (DLN) operation is unaffected by the positioning of the bypass damper, routing the exhaust through the bypass stack will not impact the current air pollution control system. As a result, no changes in permitted emissions limitations are required.

The current Sycamore permit allows 24-hr a day operation. While Sycamore does not propose to specifically restrict its operating schedule in the future, it is anticipated that Units 2 and 3 will operate substantially fewer hours than historical operations after contract expiration. When operated in simple cycle mode, Sycamore envisions that these units would operate without recovering exhaust heat in response to peak power demands occurring during the normal work week, Monday through Friday, and would not operate on weekends or holidays. Instead of a 24-hr operation, it is more likely that these two units would ultimately operate for no more than a 6 to 8 hr/day without recovering exhaust heat. Sycamore also anticipates that the units will operate more frequently in the summer peak power period, April through October, and less during the off-peak period of the year, November through March. When operating without recovering
exhaust heat, the number of startups and shutdowns for the affected CTG will likely be higher due to power demands.

Although the number of actual startups and shutdown emissions may be higher than during current operations (due to more frequent startups and shutdowns), no change in permitted maximum hourly, daily or annual emissions is proposed or required.

V. **EQUIPMENT LISTING**

Current Authority to Construct Equipment Description

S-511-2-10: 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE WITH DRY LOW NOX COMBUSTORS DISCHARGING TO ATMOSPHERE THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR (SYCAMORE UNIT #2)

S-511-3-10: 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE WITH DRY LOW NOX COMBUSTORS DISCHARGING TO ATMOSPHERE THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR (SYCAMORE UNIT #3)

Proposed Permit to Operate Equipment Description

S-511-2-12: 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE WITH DRY LOW NOX COMBUSTORS AND OPTIONAL USE UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR (SYCAMORE UNIT #2)

S-511-3-12: 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE WITH DRY LOW NOX COMBUSTORS AND OPTIONAL USE UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR (SYCAMORE UNIT #3)

See Attachment A for copies of conditions and equipment description for current Permits to Operate.

VI. **EMISSION CONTROL TECHNOLOGY EVALUATION**

The combustion turbines utilize GE's proprietary Dry Low NOx (DLN) technology. The DLN technology employs lean premixed combustion to stage combustion, resulting in reduced NOx formation. The DLN system installed at Sycamore is currently limited to 16.4 ppmv NOx and 25 ppmv CO, dry at 15% oxygen. No post-combustion emission control for either NOx or CO is required with this system.
VII. CALCULATIONS

A. Assumptions:

Operating schedule: 24 hr/day, 365 day/yr

B. Emission Factors:

Emission rates are identical for both S-511-2 and S-511-3. The maximum air contaminant mass emission rates (lb/hr), concentrations (ppmvd @ 15% O₂), and startup and shutdown emissions rates for the CTGs are summarized below based on current permit conditions:

Table VII-1. Emission Rates During Normal Operations

<table>
<thead>
<tr>
<th></th>
<th>NOₓ</th>
<th>CO</th>
<th>VOC</th>
<th>PM₁₀</th>
<th>SOₓ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Emission Rates</td>
<td>79.7 (1-hr avg)</td>
<td>44 (3-hr avg)</td>
<td>2.5</td>
<td>5.0</td>
<td>0.9</td>
</tr>
<tr>
<td>(per turbine, lb/hr)</td>
<td>67.9 (3-hr avg)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ppmvd @ 15% O₂ limits</td>
<td>16.4 (3-hr avg)</td>
<td>25 (3-hr avg)</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Table VII-2. Emission Rates During Startups and Shutdowns

<table>
<thead>
<tr>
<th></th>
<th>NOₓ</th>
<th>CO</th>
<th>VOC</th>
<th>PM₁₀</th>
<th>SOₓ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Emission Rates</td>
<td>140 (2-hr avg)</td>
<td>140 (2-hr avg)</td>
<td>2.5</td>
<td>5.0</td>
<td>0.9</td>
</tr>
<tr>
<td>(per turbine, lb/hr)</td>
<td>200 (1-hr avg)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is noteworthy that the emission rates for both the pre-project and post-project cases are identical.

C. CALCULATIONS

1. Pre-Project Potential to Emit (PE1)

The pre-project potential to emit is equivalent to PE2 and is identical for both S-511-2 and S-511-3.

Table VII-3. Maximum Emissions, lb/hr

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NOₓ</th>
<th>CO</th>
<th>VOC</th>
<th>PM₁₀</th>
<th>SOₓ</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-511-2-10</td>
<td>140²</td>
<td>200²</td>
<td>2.5</td>
<td>5.0</td>
<td>0.9</td>
</tr>
<tr>
<td>S-511-3-10</td>
<td>140²</td>
<td>200²</td>
<td>2.5</td>
<td>5.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td>280</td>
<td>400</td>
<td>24</td>
<td>10</td>
<td>1.8</td>
</tr>
</tbody>
</table>

¹ Based on current Permit to Operate
² Maximum emissions for startup only. Maximum emissions during normal operation are shown in Table VII-1, above.
Table VII-4. Maximum Daily Emissions, lb/day (PE1)

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NO_x</th>
<th>CO</th>
<th>VOC</th>
<th>PM_{10}</th>
<th>SO_x</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-511-2-10</td>
<td>1629.6</td>
<td>1056</td>
<td>60</td>
<td>120 (^2)</td>
<td>21.6 (^2)</td>
</tr>
<tr>
<td>S-511-3-10</td>
<td>1629.6</td>
<td>1056</td>
<td>60</td>
<td>120 (^2)</td>
<td>21.6 (^2)</td>
</tr>
<tr>
<td>Total</td>
<td>3259.4</td>
<td>2112</td>
<td>120</td>
<td>240</td>
<td>43.2</td>
</tr>
</tbody>
</table>

\(^1\) Current Permit to Operate emission limit (including startup and shutdown emissions)
\(^2\) Equals maximum hourly emissions (Table VII-3), lb/hr x 24 hr/day

Table VII-5. Maximum Annual Emissions, lb/yr\(^1\)

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NO_x</th>
<th>CO</th>
<th>VOC</th>
<th>PM_{10}</th>
<th>SO_x</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-511-2-10</td>
<td>594804</td>
<td>385440</td>
<td>21900</td>
<td>43800</td>
<td>7884</td>
</tr>
<tr>
<td>S-511-3-10</td>
<td>594804</td>
<td>385440</td>
<td>21900</td>
<td>43800</td>
<td>7884</td>
</tr>
<tr>
<td>Total</td>
<td>1189682</td>
<td>770880</td>
<td>43800</td>
<td>87600</td>
<td>15768</td>
</tr>
</tbody>
</table>

\(^1\) Equals maximum daily emissions, lb/day x 365 day/yr

2. **Historically Adjusted Potential to Emit (HAPE)**

As set forth in Rule 2201, Section 4.4, the historically adjusted potential to emit for each unit is calculated as:

\[
HAPE = PE1 \times (EF2/EF1)
\]

Since the emission factors reported in Section B, above, are identical for both the pre-project and post-project case, EF2 = EF1. Therefore,

\[
HAPE = PE1
\]

The HAPE is identical for both S-511-2 and S-511-3 as is shown in section 1., above as:

Table VII-6. Historically Adjusted Potential to Emit, lb/day (HAPE)

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NO_x</th>
<th>CO</th>
<th>VOC</th>
<th>PM_{10}</th>
<th>SO_x</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-511-2-10</td>
<td>1629.6</td>
<td>1056</td>
<td>60</td>
<td>120 (^2)</td>
<td>21.6 (^2)</td>
</tr>
<tr>
<td>S-511-3-10</td>
<td>1629.6</td>
<td>1056</td>
<td>60</td>
<td>120 (^2)</td>
<td>21.6 (^2)</td>
</tr>
</tbody>
</table>

\(^1\) Current Permit to Operate emission limit (including startup and shutdown emissions)
\(^2\) Equals maximum hourly emissions (Table VII-3), lb/hr x 24 hr/day.

3. **Post-Project Potential to Emit (PE2)**

Table VII-7. Post-Project Maximum Emissions, lb/hr\(^1\)

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NO_x</th>
<th>CO</th>
<th>VOC</th>
<th>PM_{10}</th>
<th>SO_x</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-511-2-12</td>
<td>140 (^2)</td>
<td>200 (^2)</td>
<td>2.5</td>
<td>5.0</td>
<td>0.9</td>
</tr>
<tr>
<td>S-511-3-12</td>
<td>140 (^2)</td>
<td>200 (^2)</td>
<td>2.5</td>
<td>5.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td>280</td>
<td>400</td>
<td>5</td>
<td>10</td>
<td>1.8</td>
</tr>
</tbody>
</table>

\(^1\) Based on current Permit to Operate
Maximum emissions for startup only. Maximum emissions during normal operation are shown in Table VII-1, above.

Table VII-8. Post-Project Maximum Daily Emissions, lb/day

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NO\textsubscript{x}</th>
<th>CO</th>
<th>VOC</th>
<th>PM\textsubscript{10}</th>
<th>SO\textsubscript{x}</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-511-2-12</td>
<td>1629.6\textsuperscript{1}</td>
<td>1056\textsuperscript{1}</td>
<td>60\textsuperscript{2}</td>
<td>120\textsuperscript{2}</td>
<td>21.6\textsuperscript{2}</td>
</tr>
<tr>
<td>S-511-3-12</td>
<td>1629.6\textsuperscript{1}</td>
<td>1056\textsuperscript{1}</td>
<td>60\textsuperscript{2}</td>
<td>120\textsuperscript{2}</td>
<td>21.6\textsuperscript{2}</td>
</tr>
<tr>
<td>Total</td>
<td>3259.2</td>
<td>2112</td>
<td>120</td>
<td>240</td>
<td>43.2</td>
</tr>
</tbody>
</table>

\textsuperscript{1} Current Permit to Operate emission limit (including startup and shutdown emissions)
\textsuperscript{2} Equals maximum hourly emissions (Table VII-3), lb/hr x 24 hr/day

Table VII-9. Post-Project Maximum Annual Emissions, lb/yr\textsuperscript{1}

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NO\textsubscript{x}</th>
<th>CO</th>
<th>VOC</th>
<th>PM\textsubscript{10}</th>
<th>SO\textsubscript{x}</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-511-2-12</td>
<td>594804</td>
<td>385440</td>
<td>21900</td>
<td>43800</td>
<td>7884</td>
</tr>
<tr>
<td>S-511-3-12</td>
<td>594804</td>
<td>385440</td>
<td>21900</td>
<td>43800</td>
<td>7884</td>
</tr>
<tr>
<td>Total</td>
<td>1189608</td>
<td>770880</td>
<td>43800</td>
<td>87600</td>
<td>15768</td>
</tr>
</tbody>
</table>

\textsuperscript{1} Equals maximum daily emissions, lb/day x 365 day/yr

4. **Adjusted Increase In Permitted Emissions (AIPE)**

As set forth in Rule 2201, Section 4.3, the adjusted increase in permitted emissions is calculated as:

\[ \text{AIPE} = \text{PE} - \text{HAPE} \]

Table VII-10. Adjusted Increase In Permitted Emission, lb/day (AIPE)

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NO\textsubscript{x}</th>
<th>CO</th>
<th>VOC</th>
<th>PM\textsubscript{10}</th>
<th>SO\textsubscript{x}</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-511-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PE2</td>
<td>1629.6</td>
<td>1056</td>
<td>60</td>
<td>120</td>
<td>21.6</td>
</tr>
<tr>
<td>HAPE</td>
<td>1629.6</td>
<td>1056</td>
<td>60</td>
<td>120</td>
<td>21.6</td>
</tr>
<tr>
<td>AIPE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S-511-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PE2</td>
<td>1629.6</td>
<td>1056</td>
<td>60</td>
<td>120</td>
<td>21.6</td>
</tr>
<tr>
<td>HAPE</td>
<td>1629.6</td>
<td>1056</td>
<td>60</td>
<td>120</td>
<td>21.6</td>
</tr>
<tr>
<td>AIPE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

5. **Pre-Project Stationary Source Potential to Emit (SSPE1)**

Pursuant to Section 4.9 of District Rule 2201, the Pre-project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

The Sycamore facility is part of Chevron's (formerly Texaco's, formerly Getty's) Heavy Oil Central stationary source consisting of facility ID’s S-88, S-511, S-
1127, S-1131, and S-1551 because the units are permitted to be used in the production of oil and are owned by Chevron.

Stationary source emissions are already above the Offset and Major Source Thresholds for all criteria pollutants; therefore, SSPE1 calculations are not necessary.

6. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to Section 4.9 of District Rule 2201, the Pre-project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

There is no change in the contribution of permit units to the SSPE. Therefore, SSPE2 equals SSPE1 and calculations are not necessary.

7. Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a major source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values:

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NOx</th>
<th>CO</th>
<th>VOC</th>
<th>PM_{10}</th>
<th>SOx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Source Thresholds</td>
<td>50000</td>
<td>20000</td>
<td>50000</td>
<td>140000</td>
<td>140000</td>
</tr>
</tbody>
</table>

This source is an existing Major Source for all pollutants. No change in criteria pollutants are proposed or expected as a result of this project.

8. Baseline Emissions (BE)

BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.23
NOx, VOC, PM10 and SOx

Pursuant to Rule 2201, subsection 3.7.1.3, baseline emissions (BE) are equal to the pre-project potential to emit (PE1) for fully offset emission units located at a major stationary source. As discussed in section VII.C.9 below, except for CO, the Sycamore emission units were fully offset at the time they were originally permitted under the provisions of the then existing Kern County APCD New Source Review Rule 210.1.

Therefore, BE = PE1 for NOx, VOC, PM10 and SO2

CO

For CO emissions, the emission units are not Highly Utilized, Fully Offset, nor Clean; therefore, BE=HAE.

The baseline period is the 2-year period preceding submission of the application. For this project, a baseline period of February 1, 2004 to January 31, 2006 was established based on an application submittal date of February 28, 2006.

Historical actual emissions during the baseline period were obtained from continuous emissions monitoring records available from the facility continuous emissions monitoring system (CEMS). (Due to the volume of records, this data is not included as an attachment, but can be found in the project file).

Table VII-12. Baseline Emissions

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NOx</th>
<th>CO</th>
<th>VOC</th>
<th>PM10</th>
<th>SOx</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-511-2-10</td>
<td>594804</td>
<td>44120</td>
<td>21900</td>
<td>43800</td>
<td>7884</td>
</tr>
<tr>
<td>S-511-3-10</td>
<td>594804</td>
<td>63050</td>
<td>21900</td>
<td>43800</td>
<td>7884</td>
</tr>
</tbody>
</table>

9. Major Modification

Rule 2201 defines a Major Modification by referencing 40CFR51.165. A Major Modification as defined in 40CFR51.165 (nonattainment plans and permitting) occurs if the Post-Project Stationary Source Potential to Emit (SSPE2) exceeds the Major Source Thresholds (as defined in Rule 2201) and the net emissions increase, is equal to or greater than one or more of the following threshold values:

Table VII-13. Major Modification Thresholds (lb/yr)

<table>
<thead>
<tr>
<th>NOx</th>
<th>VOC</th>
<th>PM10</th>
<th>SOx</th>
</tr>
</thead>
<tbody>
<tr>
<td>50,000</td>
<td>50,000</td>
<td>30,000</td>
<td>80,000</td>
</tr>
</tbody>
</table>

As discussed in Section VII.C.7 above, the facility is a Major Source for all pollutants. The project must "result in" a significant increase in emissions in order to trigger a Major Modification.

However, since the Sycamore facility is located in a CO attainment area, and since 40CFR51.165 addresses Major Modifications in nonattainment areas only, this project is not a Major Modification for CO pursuant to 40CFR51.165.
(It is noted that EPA has not delegated Federal Prevention of Significant Deterioration (PSD) permitting requirements under 40CFR52.21 to the District. Sycamore has submitted an application to EPA to address PSD requirements for this project.)

According to the original project evaluation for construction and operation of the Sycamore facility (Authority to Construct issued in September of 1985), all emissions except CO were fully offset for the emissions units within this project. (For CO, modeling was performed which demonstrated that the ambient air quality standards would not be exceeded).

The reductions used to provide the offsets were tracked in the form of a cumulative net emissions change for the stationary source as allowed by the then current NSR rule. These reductions were applied to the Sycamore project to offset the emissions increases. Therefore these units qualify as Fully Offset for NOx, VOC, PM10 and SOx as the new emissions were fully mitigated under the New Source Review rule.

As these units are fully offset, and there is no increase in the potential to emit, this project does not “result in” an increase in emissions. Therefore calculations are not necessary and this project does not constitute a Major Modification.

VIII. COMPLIANCE

Rule 1080 Stack Monitoring (12/17/92)

This rule allows the APCO to request the installation and use of continuous emissions monitors (CEMS), and specifies performance standards for the equipment and administrative reporting, recordkeeping and violation and equipment breakdown notification requirements. There are CEMS sampling ports in both the transition section and in the HRSG exhaust (see picture below). However, the CTG bypass stack exhaust piping has no EPA method compliant stack sampling capability. The facility is proposing to compare (RATA test) transition section CEMS concentrations with EPA method compliant source test measurements taken at the HRSG exhaust. If the source test HRSG exhaust and transition CEMS readings agree (within an acceptable range as allowed by the performance specifications for CEMS) HRSG exhaust concentrations will be considered equivalent to the transition section concentrations. This proposal has previously been approved by the District and the EPA in project 1043189 for the other two CTGs at the facility.

Annual source testing will be done at the HRSG exhaust for verification of compliance with permitted emission rates. For ongoing compliance, CEMS in the transition section will be used to verify compliance for simple cycle operation and CEMS in the HRSG exhaust will be used to verify compliance for combined cycle operation.

The following condition will be listed on the ATC:
- HRSG stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081]

Compliance with this rule is expected.
Rule 1081 Source Sampling (12/16/93)

This rule requires adequate and safe facilities for use in sampling to determine compliance and specifies methods and procedures for source testing, sample collection and compliance determination. The existing operating permits already demonstrate compliance with the requirements of this rule for the HRSG stack. CEMS extraction ports already exist at the HRSG and at the transition section upstream of the bypass stack.

Rule 2201 New and Modified Stationary Source Review (12/15/05)

These modifications are a change in the method of operation of existing emissions units, therefore they are subject to Rule 2201.

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

a. Any new emissions unit with a potential to emit exceeding two pounds per day;

b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day;

c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or

d. Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

As discussed in Section I above, there are no new emissions units associated with this project; therefore BACT for new units with PE > 2 lb/day purposes is not triggered.

It is also noted that allowing operation without recovering exhaust heat does not change the class or category of source since these units will retain the physical and operational ability to operate in cogeneration mode.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb/day

\[ AIPE = PE2 - HAPE \]
Where,
AIPE  = Adjusted Increase in Permitted Emissions, (lb/day)
PE2   = Post-Project Potential to Emit, (lb/day)
HAPE  = Historically Adjusted Potential to Emit, (lb/day)

HAPE = PE1 x (EF2/EF1)

Where,
PE1   = The emissions unit's Potential to Emit prior to modification or relocation, (lb/day)
EF2   = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1
EF1   = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

AIPE  = PE2 – (PE1 * (EF2 / EF1))

For this project, there is no change in emission factor or potential to emit. Therefore the AIPE is zero and BACT is not triggered.

d. Major Modification

As discussed in Section VII.C.7 above, this project does not constitute a Major Modification; therefore BACT is not triggered.

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post-project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 or Rule 2201.

The SSPE2 is above the offset threshold for all criteria pollutants, therefore offset requirements are triggered for all criteria pollutants.

2. Quantity of Offsets Required

Pursuant to Rule 2201, subsection 4.7.1, since the Pre-project SSPE is greater that the emission offset thresholds for all pollutants, the SSPE is calculated as the difference between PE2 and Baseline Emissions (BE) for each unit:

Emissions to be offset = PE2 – BE

NOX, VOC, PM10 and SOx

Pursuant to Rule 2201, subsection 3.7.1.3, baseline emissions (BE) are equal to the pre-project potential to emit (PE1) for fully offset emission units and for pollutants for which a source is not a major stationary source. As discussed in
section VII.C.10 above, except for CO, the Sycamore emission units were fully offset at the time they were originally permitted under the provisions of the then existing Kern County APCD New Source Review Rule 210.1.

Therefore, BE = PE1 for NOx, VOC, PM10 and SO2

From the pre and post-project potential to emit analysis above, PE1 = PE2 (see Section VII C.1 and 2., above).

Therefore, BE = PE2 and emissions to be offset for NOx, VOC, PM10 and SO2 = 0

**CO**

For CO, baseline emissions from February 2004 through January 2006 were obtained from continuous emissions monitoring records available from the facility continuous emissions monitoring system (CEMS). This data is included in the project file. The quantity of offsets required for CO are calculated below.

**Table VIII-15. Determination of CO Emission Offset Requirements, lb/yr**

<table>
<thead>
<tr>
<th>Description</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-project Potential to Emit (PE2)</td>
<td>770880</td>
</tr>
<tr>
<td>Baseline Emissions (S-511-2 &amp; S-511-3)</td>
<td>107170</td>
</tr>
<tr>
<td>Required CO Offsets</td>
<td>663710</td>
</tr>
</tbody>
</table>

The applicant has provided an air quality impact analysis demonstrating that post-project CO emissions will not cause or contribute to a violation of the applicable CO ambient air quality standards. District-performed modeling also indicates that post-project CO emissions will not cause or contribute to a violation of the applicable CO ambient air quality standards. Pursuant to Section 4.6.1 of Rule 2201, the project is therefore exempt from CO emission offset requirements. See Attachment C for summary of District modeling results.

**C. Public Notification**

1. **Applicability**

Public noticing is required for:

a. Any new Major Source, which is a new facility that is also a Major Source,
b. Major Modifications,
c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
d. Any project which results in the offset thresholds being surpassed, and/or
e. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.
a. New Major Source

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

b. Major Modification

As demonstrated in VII.C.7, this project does not constitute a Major Modification; therefore, public noticing for Major Modification purposes is not required.

c. PE > 100 lb/day

Applications which include a new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project; therefore public noticing is not required for this project for Potential to Emit Purposes.

d. Offset Threshold

Public notification is required if the Pre-Project Stationary Source Potential to Emit (SSPE1) is increased from a level below the offset threshold to a level exceeding the emissions offset threshold, for any pollutant.

There is no change in SSPE with this project. Offset thresholds are not being surpassed. Therefore, public noticing is not required for offset purposes. (It is noted that this existing source is above offset thresholds for all pollutants.)

e. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively.

There is no change in SSPE with this project. Therefore SSPE2=SSPE1 and the SSIPE is zero. Therefore public noticing for SSIPE purposes is not required.

2. Public Notice Action

As discussed above, this project will not result in emissions, for any criteria pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.
D. Daily Emission Limits (DELS)

Daily Emissions Limitations (DELS) and other enforceable conditions are required by Section 3.17 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.17.1 and 3.17.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

The existing PTO contains explicit DELs, validated by the use of continuous emission monitors for NOx and CO, and fuel use monitoring for SOx. These same conditions will be carried onto the ATCs issued with this project. The following new conditions will be listed on the permits:

- CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District Rule 2201]
- When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District Rule 2201]
- Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District Rule 2201]

No further conditions are necessary.

E. Compliance Assurance

1. Source Testing

The gas turbine engines are required to be source tested annually for NOx and CO, and fuel sulfur content per Rule 2201 and Rule 4703, and once per 5-year permit term for PM10. No change in source testing will occur with this project as there is no change in emission control systems or change in permitted emission rates.

2. Monitoring

NOx and CO emissions are monitored by the use of continuous emissions monitors. This monitoring satisfies Rule 2201 and Rule 4703 requirements. No additional monitoring is proposed or required.

3. Recordkeeping

Sycamore is required to maintain records of emissions, source test results, CEM operations, etc. No changes are proposed or required.
4. Reporting

Sycamore is required to report deviations. CEM breakdowns, equipment breakdowns, and other malfunctions. No changes are proposed or required.

Rule 2520 Federally Mandated Operating Permits (06/21/2001)

Sycamore has received their initial Title V Permit and is subject to this rule. This project qualifies as a minor modification to the Title V permit.

Sycamore has requested to have the ATC issued with a Certificate of Conformity (COC), and a copy of Sycamore Compliance Certification is provided in Attachment B. A 45-day EPA project review period is required. Compliance with this rule is expected.

Rule 2540 Acid Rain Program (11/13/97)

The existing units are exempt (are not “affected units”) from the acid rain program pursuant to 40 CFR 72.6 (b)(1) because they are considered “simple combustion turbines that commenced commercial operation before November 15, 1990.” The existing units commenced commercial operation before November 15, 1990. The definition of “simple combustion turbine” is provided in 40 CFR 72.2 as follows:

“Simple combustion turbine means a unit that is a rotary engine driven by a gas under pressure that is created by the combustion of any fuel. This term includes combined cycle units without auxiliary firing. This term excludes combined cycle units with auxiliary firing, unless the unit did not use the auxiliary firing from 1985 through 1987 and does not use auxiliary firing at any time after November 15, 1990.”

Since “simple combustion turbine” definition includes the combined cycle units without auxiliary firing, Sycamore is considered a combined cycle unit without auxiliary firing and is therefore exempt under the provisions of 40 CFR 72.6 (b) (1). The units will continue to be considered “simple combustion turbines” when converted from cogeneration to simple cycle mode and Sycamore will continue to be exempt from Rule 2540. Compliance is expected.

Rule 4001 NSPS Subpart GG – Standards of Performance for Stationary Gas Turbines (04/14/99)

The turbines are subject to Subpart GG, which limits oxides of nitrogen and sulfur from stationary gas turbines. The current operating permits include NOx and SOx limits that meet the standards of Subpart GG. These operating permit limits will not be changed. Also, reporting and notification requirements specified in Subpart A are also contained in the current operating permits.

Rule 4101 Visible Emissions (2/17/05)

The current permit unit requirements limit visible emissions greater than 20% opacity (No. 1 Ringelmann) to periods less than three minutes in any one hour period. Continued compliance is expected.
Rule 4102 Nuisance (12/17/92)

The current facility has not generated any nuisance complaints. Operation of the turbines without recovering exhaust heat is not expected to result in any nuisance complaints. Continued compliance is expected.

A. California Health & Safety Code 41700

Pursuant to District's Risk Management Policy APR 1905, for any sources with increases in hazardous air pollutant (HAP) emissions, the health risks resulting from such projects must be evaluated. The health risk assessment (HRA) process begins with the calculation of a "prioritization score" using CAPCOA Facility Prioritization Guidelines. If the facility-wide prioritization score is \( \leq 1.0 \), then the project is approvable without further analysis of the health risks.

There is no change in HAP emissions with this project. However, because the bypass stack has different dimensions that the HRSG stack, and since the exhaust gas temperature will be different, the existing prioritization score was determined to see if further risk screening was necessary. This project has a prioritization score of 0.49; therefore, no further screening is required. See Attachment C for summary of results.

B. Discussion of T-BACT

Since the prioritization score is less than 1, T-BACT is not required.

Rule 4201 Particulate Matter Concentration (12/17/92)

Rule 4201 limits PM emissions from any source operation to less than 0.1 gr/dscf. The current operating permit limits PM emissions to less than 0.0072 gr/scf at 12% CO2 for each turbine. The proposed modifications will not alter this limit and continued compliance is expected.

Rule 4301 Fuel Burning Equipment (12/17/92)

Section 3.1 defines fuel burning equipment as "any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer". The CTGs primarily produce power via mechanical means where the combustions gas is passed across the turbine blades to drive the turbine shaft, which, in turn, drives an electrical generator shaft to produce electricity. Because mechanical means are primarily used to produce electricity, the CTGs do not meet the definition of fuel burning equipment and this rule does not apply.

Rule 4703 Stationary Gas Turbines (04/25/02)

This rule limits NOx and CO emissions from stationary gas turbines. The Sycamore turbines are currently in compliance with the emission limits and monitoring requirements of this rule. Future requirements include lowering of the NOx limit to 3 ppmv @ 15% O2 per the Enhanced option. Sycamore has submitted a compliance plan stating that they will comply with the Enhanced Option by 2008 or at the first overhaul, as required by the rule. Compliance is expected.
Rule 4801 Sulfur Compounds (12/17/92)

Rule 4801 limits sulfur compound emission to 0.2% (2,000 ppm) dry volume. SOx emissions from the turbines are based on combusting natural gas with a fuel sulfur content limited by the operating permit at 0.3 gr/100 scf. This fuel S content (assuming 1020 Btu/scf, LHV) results in a SOx emission concentration of approximately 0.2 ppmvd @ 15% O2. This is in compliance with the 2,000 ppm limit.

IX. RECOMMENDATION

Make preliminary decision to approve, with copy sent to EPA and California Energy Commission for additional input. After 45-day EPA comment period, issue ATCs. See Attachment D for ATC conditions.

X. BILLING INFORMATION

Application filing fees have been received.

No change in annual fees result with this project.

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Fee Schedule</th>
<th>Fee Rating</th>
<th>Annual Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-511-2-12</td>
<td>3020-8B-A</td>
<td>75,000 kW</td>
<td>$ 8757</td>
</tr>
<tr>
<td>S-511-3-12</td>
<td>3020-8B-A</td>
<td>75,000 kW</td>
<td>$ 8757</td>
</tr>
</tbody>
</table>

Appendices

A: Current PTO(s)
B: Compliance Certification
C: HRA Memo
D: Draft ATC(s)
E: Emission Profile(s)
Attachment A
Current Permits to Operate
AUTHORITY TO CONSTRUCT

PERMIT NO: S-511-2-10
LEGAL OWNER OR OPERATOR: SYCAMORE COGENERATION CO
MAILING ADDRESS: P O BOX 80598
BAKERSFIELD, CA 93380
LOCATION: HEAVY OIL CENTRAL
CA
SECTION: u31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS: REMOVE REQUIREMENT TO OPERATE AS A COGENERATION FACILITY, REINSTATE 2-HR NOX STARTUP EMISSION LIMIT, AND COMBINE SO2 AND SO4 EMISSION LIMITS (SYCAMORE UNIT#2)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit

2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

3. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 326-6900 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services
S-511-2-10 Apr 26 2005 0.22AM - QOPF: Jiez inspection NOT Required
4301 P St, Suite 500, Stockton, CA 95204 2979 F 209.298.2958
(209) 298.3939 Fax (209) 298.3935
4. The owner or operator shall not exceed the following applicable Tier 1 NOx emission rate of (15 x EFF / 25) ppmvd @ 15% O2, under load conditions, excluding thermal stabilization periods or reduced load periods, where EFF (efficiency) is the higher of EFF1 (100% x (3,412 Btu/kW-hr) / (Actual Heat Rate at HHV, Btu/kW-hr)) or EFF2 (EFFmr x (LHV / HHV)); where actual heat rate is a ratio of the heat input to power output taking into account the manufacturer's listed turbine efficiency, HHV is the higher heating value of the fuel, LHV is the lower heating value of the fuel, and EFFmr is the manufacturer's continuous rated percent efficiency of the gas turbine with air pollution equipment at LHV. An EFF that is less than 25 shall be assigned a value of 25. [40 CFR 60.332(a)(1) and (a)(2)] District Rule 4703, 5.1.1] Federally Enforceable Through Title V Permit

5. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.19] Federally Enforceable Through Title V Permit

6. Thermal Stabilization Period shall be defined as the start up or shut down time during which the exhaust gas is not within the normal operating range, not to exceed two hours. [District Rule 4703, 3.25] Federally Enforceable Through Title V Permit

7. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit

8. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit

9. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit

10. The HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit

11. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit

12. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 4/25/02), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit

13. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit

14. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a); County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit

15. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit

16. Operations during periods of startup and shutdown shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit

17. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
18. Records shall be maintained and shall contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit

19. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

20. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

21. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

22. The owner or operator shall not operate the gas turbine after April 30, 2008, or within 90 days following a Major Overhaul if the overhaul occurs after April 30, 2004, under load conditions, excluding the thermal stabilization period or reduced load period, which results in the measured NOx emissions concentration exceeding 3 ppmv @ 15% O2. [District Rule 4703, 5.1.2.1] Federally Enforceable Through Title V Permit

23. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.4; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

24. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit

25. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit

26. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit

27. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

28. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.8(d) and District Rule 1080, 7.0] Federally Enforceable Through Title V Permit

29. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit

30. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit

31. A violation of NOx emission standards indicated by the NOx CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
32. The APCO shall be notified no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

33. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

34. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332(a), (a)(1), (a)(2) 60.333(a) and (b); 60.334(a), (b), (c), (h) and (i)(2), (j)(5) and 60.335(a) and (b); District Rule 4703 (as amended 4/25/02), Sections 5.1.1, 5.2, 6.1, 6.3.1, 6.3.3, 6.4, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

36. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit

37. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit

38. The CGT combustors shall be a dry low NOx design capable of achieving 16.4 ppm or lower at 15% O2. [District Rule 4703 and PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit

39. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit

40. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit

41. Exhaust gas ducting from CGTs through HRSGs to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit

42. Bypass stack valve preceding each HRSG shall be designed to be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit

43. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

44. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit

45. Each HRSG exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
46. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

47. Accurate records of NOx (as NO2) and carbon monoxide (CO) flue gas concentrations corrected to 15% O2, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit

48. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit

49. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 1,629.6 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit

50. Emission rates from CGT, except during startup and/or shutdown, shall not exceed any of the following: NOx (as NO2) - 16.4 ppmvd @ 15% O2, 67.9 lb/hr on a 3-hr avg, 79.7 lb/hr on a 1-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit

51. During startup and shutdown, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, or 140 lb/hr of CO on a 2-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit

52. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit

53. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NOx and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit

54. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit

55. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

56. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit

57. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit

58. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit

59. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District’s discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09 X.D.3] Federally Enforceable Through Title V Permit

60. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

61. Startup and shutdown of CGT, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit

62. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
63. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit.

64. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit.

65. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit.

66. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit.

67. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit.

68. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85-09] Federally Enforceable Through Title V Permit.

69. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit.

70. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit.

71. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit.

72. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit.

73. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit.

74. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit.

75. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit.
AUTHORITY TO CONSTRUCT

PERMIT NO: S-511-3-10

LEGAL OWNER OR OPERATOR: SYCAMORE COGENERATION CO
MAILING ADDRESS: P O BOX 80598
                  BAKERSFIELD, CA 93380

LOCATION: HEAVY OIL CENTRAL
           CA

SECTION: NW30  TOWNSHIP: 28S  RANGE: 28E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE
COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS: REMOVE REQUIREMENT TO OPERATE AS A
COGENERATION FACILITY, REINSTATE 2-HR NOX STARTUP EMISSION LIMIT, AND COMBINE SO2 AND SO4
EMISSION LIMITS (SYCAMORE UNIT#3)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR
   70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable
   Through Title V Permit

2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application
   to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4,
   [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

3. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be
   pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern
   County Rule 407] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 326-6900 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO
OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE.
Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the
approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all
Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this
Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with
all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

David Warner, Director of Permit Services
4. The owner or operator shall not exceed the following applicable Tier 1 NOx emission rate of (15 x EFF / 25) ppmvd at 15% O2, under load conditions, excluding thermal stabilization periods or reduced load periods, where EFF (efficiency) is the higher of EFf1 (100% x (3,412 Btu/kW-hr) / (Actual Heat Rate at HHV, Btu/kW-hr)) or EFf2 (EFFmfr x (LHV / HHV)), where actual heat rate is a ratio of the heat input to power output taking into account the manufacturer's listed turbine efficiency, HHV is the higher heating value of the fuel, LHV is the lower heating value of the fuel, and EFFmfr is the manufacturer's continuous rated percent efficiency of the gas turbine with air pollution equipment at LHV. An EFF that is less than 25 shall be assigned a value of 25. [40 CFR 60.332(a)(1) and (a)(2)] District Rule 4703, 5.1.1] Federally Enforceable Through Title V Permit

5. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.19] Federally Enforceable Through Title V Permit

6. Thermal Stabilization Period shall be defined as the start up or shut down time during which the exhaust gas is not within the normal operating range, not to exceed two hours. [District Rule 4703, 3.25] Federally Enforceable Through Title V Permit

7. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit

8. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D 4468 or D 6667. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit

9. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334(h) and 40 CFR 60.334(i). [40 CFR 60.334(h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit

10. The HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit

11. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit

12. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 4/25/02), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit

13. Particulate matter emissions shall not exceed 0.1 grams/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit

14. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a); County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit

15. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit

16. Operations during periods of startup and shutdown shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit

17. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
18. Records shall be maintained and shall contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit

19. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

20. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

21. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

22. The owner or operator shall not operate the gas turbine after April 30, 2008, or within 90 days following a Major Overhaul if the overhaul occurs after April 30, 2004, under load conditions, excluding the thermal stabilization period or reduced load period, which results in the measured NOx emissions concentration exceeding 3 ppmv @ 15% O2. [District Rule 4703, 5.1.2.1] Federally Enforceable Through Title V Permit

23. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.4; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

24. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit

25. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit

26. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit

27. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

28. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.8(d) and District Rule 1080, 7.0] Federally Enforceable Through Title V Permit

29. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit

30. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit

31. A violation of NOx emission standards indicated by the NOx CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
32. The APCO shall be notified no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

33. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

34. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332(a), (a)(1), (a)(2) 60.333 (a) and (b); 60.334 (a), (b), (c), (h) and (j)(2), (j)(5) and 60.335(a) and (b); District Rule 4703 (as amended 4/25/02), Sections 5.1.1, 5.2, 6.1, 6.3.1, 6.3.3, 6.4, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

36. Operators of CEM’s installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit

37. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit

38. The CGT combustors shall be a dry low NOx design capable of achieving 16.4 ppm or lower at 15% O2. [District Rule 4703 and PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit

39. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit

40. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit

41. Exhaust gas ducting from CGTs through HRSGs to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit

42. Bypass stack valve preceding each HRSG shall be designed to be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit

43. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

44. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit

45. Each HRSG exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
46. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

47. Accurate records of NOx (as NO2) and carbon monoxide (CO) flue gas concentrations corrected to 15% O2, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit

48. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit

49. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 1,629.6 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit

50. Emission rates from CGT, except during startup and/or shutdown, shall not exceed any of the following: NOx (as NO2) - 16.4 ppmvd @ 15% O2, 67.9 lb/hr on a 3-hr avg, 79.7 lb/hr on a 1-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit

51. During startup and shutdown, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, or 140 lb/hr of CO on a 2-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit

52. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit

53. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NOx and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit

54. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit

55. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

56. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit

57. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit

58. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit

59. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

60. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

61. Startup and shutdown of CGT, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit

62. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
63. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit

64. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

65. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

66. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

67. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

68. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

69. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

70. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

71. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

72. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit

73. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

74. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

75. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[ ] SIGNIFICANT PERMIT MODIFICATION  [ ] ADMINISTRATIVE AMENDMENT
[ ] MINOR PERMIT MODIFICATION

<table>
<thead>
<tr>
<th>COMPANY NAME:</th>
<th>FACILITY ID:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

1. Type of Organization: [ ] Corporation [ ] Sole Ownership [ ] Government [ ] Partnership [ ] Utility

2. Owner's Name: 

3. Agent to the Owner: 

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

☐ Based on information and belief formed after reasonable inquiry, the source identified in this application will continue to comply with the applicable federal requirement(s) which the source is in compliance.

☐ Based on information and belief formed after reasonable inquiry, the source identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

☐ Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

☐ Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

[Signature]

Name of Responsible Official (please print)

[Signature]

Executive Director

Title of Responsible Official (please print)

Mailing Address: Central Regional Office * 1990 E. Gettysburg Avenue * Fresno, California 93726-0244 * (559) 230-5900 * FAX (559) 230-6061

TVFORM-009
Attachment C

HRA Memo
San Joaquin Valley Air Pollution Control District
Risk Management Review

To: Ben Ellenberger, AQE – Permit Services
From: Cheryl Lawler, AQT – Technical Services
Date: April 10, 2006
Facility Name: Sycamore Cogen
Location: Section 31, T28S, R28E
Application # (s): S-511-2-12 & 3-12
Project #: S-1060682

A. RMR SUMMARY

<table>
<thead>
<tr>
<th>Categories</th>
<th>Two Natural Gas Turtles (Units 2-12 &amp; 3-12)</th>
<th>Project Totals</th>
<th>Facility Totals</th>
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<tbody>
<tr>
<td>Prioritization Score</td>
<td>0.49*</td>
<td>0.49</td>
<td>0.49</td>
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<td>Acute Hazard Index</td>
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<td>T-BACT Required?</td>
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<tr>
<td>Special Permit Conditions?</td>
<td>No</td>
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*Project passed on prioritization with a score less than 1; therefore, no further analysis was required.

B. RMR REPORT

I. Project Description

Technical Services received a request on April 10, 2006, to perform a Risk Management Review and an Ambient Air Quality Analysis for the installation of two natural gas fired turbines to operate in simple cycle.

II. Analysis

Toxic emissions for the turbines were calculated using Ventura County emission factors for natural gas turbines. In accordance with the District’s Risk Management Policy for Permitting New and Modified Sources (APR 1905-1, March 2, 2001), risks for the proposed project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District’s HEART’s database. The prioritization score for the project was less than 1.0 (see RMR Summary Table). Therefore, no further analysis was necessary.
The following parameters were used for the review:

<table>
<thead>
<tr>
<th>Analysis Parameters</th>
</tr>
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<tbody>
<tr>
<td>Units 2-12 &amp; 3-12</td>
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</table>

<table>
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<tr>
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<th>Location Type</th>
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<tbody>
<tr>
<td>Closest Receptor (m)</td>
<td>1067</td>
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</table>

Technical Services also performed modeling for criteria pollutants CO, NOx, SOx, and PM_{10}, as well as the Risk Management Review. The emission rates used for criteria pollutant modeling were: 200 lb/hr CO, 280 lb/hr NOx, 0.9 lb/hr SOx, and 5 lb/hr PM_{10}.

The engineer supplied the maximum fuel rates for the turbines used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

**Criteria Pollutant Modeling Results**

Values are in μg/m^3

<table>
<thead>
<tr>
<th>Two NG Turbines</th>
<th>1 Hour</th>
<th>3 Hours</th>
<th>8 Hours</th>
<th>24 Hours</th>
<th>Annual</th>
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<tbody>
<tr>
<td>CO</td>
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</tr>
<tr>
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<tr>
<td>PM_{10}</td>
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<td>Pass</td>
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</tbody>
</table>

*Results were taken from the attached PSD spreadsheets.

The criteria pollutant is below EPA’s level of significance as found in 40 CFR Part 51.165 (b)(2).

**III. Conclusion**

The criteria modeling runs indicate the emissions from the proposed equipment will not cause or significantly contribute to a violation of a State or National AAQS.

The prioritization score for this project is not above 1.0. In accordance with the District’s Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.
From: Ben Ellenberger
Sent: Tuesday, March 14, 2006 2:39 PM
To: Ester Davila
Subject: S0511, 1060682 HRA

Ester,
Here is an HRA request for a project which will also require CO modeling to determine if offsets will be required. It is very similar to a previous project at the facility, I have included the HRA for that project for reference. If you have any questions, please give me a call.

Ben Ellenberger
SJVUAPCD
(661) 326 8967

S0511, 1060682
HRA.doc

S0511, 1043189
HRA.pdf
ENGINEERING HRA
REVIEW & MODELING REQUEST

<table>
<thead>
<tr>
<th>Facility Name:</th>
<th>Sycamore Cogen</th>
</tr>
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<tbody>
<tr>
<td>Mailing Address:</td>
<td>P O Box 81018</td>
</tr>
<tr>
<td></td>
<td>Bakersfield, CA 93380</td>
</tr>
<tr>
<td>Location:</td>
<td>Section 31, T28S, R28E</td>
</tr>
<tr>
<td>Contact Name:</td>
<td>Mervyn Soares</td>
</tr>
<tr>
<td>Telephone:</td>
<td>(661) 392-2643</td>
</tr>
<tr>
<td>Application #:</td>
<td>S-511-2-12, -3-12</td>
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<tr>
<td>Project #:</td>
<td>1060682</td>
</tr>
<tr>
<td>Process Engineer:</td>
<td>Ben Ellenberger</td>
</tr>
<tr>
<td>Life Of Project:</td>
<td></td>
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<tr>
<td>Processing Staff:</td>
<td></td>
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<tr>
<td>Start Date:</td>
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<td>Completed Date:</td>
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<td>Reviewed By:</td>
<td></td>
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FAX OR MAIL TO TECHNICAL SERVICES SUPERVISOR

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<tr>
<th>HRA Information Checklist</th>
<th>Yes</th>
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<tbody>
<tr>
<td>Is all of the following information provided (as applicable)?</td>
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<tr>
<td>☑ Receptor distances</td>
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<td>☑ Stack velocity</td>
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<td>☑ Emission/Usage Rates (hour/annual)</td>
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<td>☑ Hours of Operation</td>
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<td>☑ MSDS</td>
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<td>☑ Other (for area sources)</td>
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<tr>
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<tbody>
<tr>
<td>Yes</td>
<td>Only HRA cover page is required.</td>
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<tr>
<td>No</td>
<td>Submit complete HRA Request Form.</td>
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<table>
<thead>
<tr>
<th>Is it obvious that notification is required (NSR, COC, or school)?</th>
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<tbody>
<tr>
<td>☑ NSR (Public Notice): Distances to the fence line in all four directions are required</td>
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<td>☐</td>
</tr>
<tr>
<td>☑ COC (EPA Notice)</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>☑ School Notice</td>
<td>☐</td>
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<table>
<thead>
<tr>
<th>Has the applicant requested reimbursable overtime processing?</th>
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</thead>
<tbody>
<tr>
<td>☑ Get approval from your supervisor.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☑ Send HRA request to Tech Services before deeming complete.</td>
<td>☐</td>
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</tbody>
</table>

Supervisor’s signature for expedited processing:

Comments and References: These are identical existing units. There is no change in the emission rate for this project, but the stack parameters are changing so an HRA is required. Project S0511, 1043189 authorized two of the four units at the facility to operate in simple cycle, now this project will allow the other two units to operate in simple cycle.
CO offsets may be required for this project, please perform modelling to determine if the AAQS will be violated by this project.

The file for the HRA performed for S0511, 1043189 is attached for reference.
SCREENING HRA REQUEST

I. Project Description:

Allow two 75 MW each combined cycle natural gas-fired turbines to operate in simple cycle. Emission rates listed are for one engine. Hourly rates are based on startup emissions.

II. Receptor Location(s):

<table>
<thead>
<tr>
<th>Receptor Description (Units)</th>
<th>Distance From Source (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence</td>
<td>7000 ft SW</td>
</tr>
<tr>
<td>Business</td>
<td>3500 ft S</td>
</tr>
</tbody>
</table>

2133.60 Meters
1016.8 Meters

III. Process Rate Or Substances To Be Modeled:

<table>
<thead>
<tr>
<th>Process Description</th>
<th>Process Rates (Hourly &amp; Yearly)</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>140 lb/hr (2 hr average)</td>
<td>594841 lb/year</td>
</tr>
<tr>
<td></td>
<td>280 lb/hr (1 hr average)</td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>140 lb/hr (2 hr average)</td>
<td>385440 lb/yr</td>
</tr>
<tr>
<td></td>
<td>200 lb/hr (1 hr average)</td>
<td></td>
</tr>
<tr>
<td>SOx</td>
<td>0.9 lb/hr</td>
<td>7884 lb/yr</td>
</tr>
<tr>
<td>PM10</td>
<td>5.0 lb/hr</td>
<td>43800 lb/yr</td>
</tr>
<tr>
<td>VOC</td>
<td>12 lb/hr</td>
<td>105120 lb/yr</td>
</tr>
</tbody>
</table>

IV. Project Location (Select One): Urban (1) or Rural (2)
2. Rural - area of sparse population

V. Point Sources:

Stack Parameters:

<table>
<thead>
<tr>
<th>Stack Height (Units)</th>
<th>Inside Diameter (Units)</th>
<th>Gas Exit Velocity (Units)</th>
<th>Gas Exit Temperature (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>46.73 feet</td>
<td>17.625 feet</td>
<td>98.13 ft/sec</td>
<td>1025 F</td>
</tr>
</tbody>
</table>

VI. Area Sources:

Area Parameters:

<table>
<thead>
<tr>
<th>Release Height^2 (Units)</th>
<th>Length Of Side (Units)</th>
</tr>
</thead>
</table>

1. An area source is defined as in an area with four equal sides.
2. Release height is defined as the physical height of the source. For example, if a sump has a three meter brim surrounding it. The physical height of the sump is three meters. Height is measured from the ground to the top of the source.
Cheryl Lawler

From: Ben Ellenberger
Sent: Thursday, March 30, 2006 10:54 AM
To: Cheryl Lawler
Subject: RE: More info. needed for RMR for S-511, S-1060682 ...

Cheryl,

The Turbines are 43 meters further from the east and west fence lines.

Thanks,

Ben Ellenberger
SJUAPCD
(661) 326 8967

-----Original Message-----
From: Cheryl Lawler
Sent: Thursday, March 30, 2006 9:39 AM
To: Ben Ellenberger
Subject: More info. needed for RMR for S-511, S-1060682 ...

Hi Ben! I have your RMR/AAQA for Sycamore Cogen. In order to run the AAQA portion for the turbines, I need the fenceline distances in all four directions. I know you said this is similar to another project done for this facility (which you attached); but are these fenceline distances the same from these turbines. If they are not located in the same area, these distances could be a lot different.

Once I get these distances I continue on the project. Thanks!!!

Cheryl
### Emissions and Potency Method

<table>
<thead>
<tr>
<th>Cancer</th>
<th>CHRONIC</th>
<th>ACUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.25E-01</td>
<td>1.90E-01</td>
<td>4.92E-01</td>
</tr>
</tbody>
</table>

*S = Total Score  
SY = Specific Toxic Substance  
EYR = Emissions Lbs / Year  
EHR = Emissions Lbs / Hour  
NF = Normalization Factor (Cancer = 1700, Acute = 1500, Chronic = 150)  
URF = Unit Risk Factor  
AREL = Acute Reference Exposure Level  
CREL = Chronic Reference Exposure Level  
RP = Receptor Proximity Adjustment Factor  
R = Receptor Distance

\[ \text{TS} = \text{Total Score} \]
\[ \text{t} = \text{Specific Toxic Substance} \]
\[ \text{EYR} = \text{Emissions Lbs / Year} \]
\[ \text{EHR} = \text{Emissions Lbs / Hour} \]
\[ \text{NF} = \text{Normalization Factor (Cancer = 1700, Acute = 1500, Chronic = 150)} \]
\[ \text{URF} = \text{Unit Risk Factor} \]
\[ \text{AREL} = \text{Acute Reference Exposure Level} \]
\[ \text{CREL} = \text{Chronic Reference Exposure Level} \]
\[ \text{RP} = \text{Receptor Proximity Adjustment Factor} \]
\[ \text{R} = \text{Receptor Distance} \]

### Dispersion Adjustment Method

<table>
<thead>
<tr>
<th>Cancer</th>
<th>CHRONIC</th>
<th>ACUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.24E-01</td>
<td>1.90E-01</td>
<td>4.92E-01</td>
</tr>
</tbody>
</table>

\[ \text{For Stack - 0m} \leq H < 20m \]
\[ \text{RP} \]
\[ 0m < R < 100m \quad 1.0 \]
\[ 100m < R < 250m \quad 0.25 \]
\[ 250m < R < 500m \quad 0.04 \]
\[ 500m < R < 1000m \quad 0.011 \]
\[ 1000m < R < 1500m \quad 0.003 \]
\[ 1500m < R < 2000m \quad 0.002 \]
\[ R > 2000m \quad 0.001 \]

\[ \text{Cancer Score:} \]
\[ \text{TS}(t) = \text{EYR}(t) \times \text{URF}(t) \times \text{RP} \times 1700 \]

\[ \text{Acute Score:} \]
\[ \text{TS}(t) = \left( \frac{\text{EYR}(t)}{\text{R} \text{H} \text{O} \text{F} \text{O} \text{R} \text{A} \text{O} \text{R} \text{A} \text{R} \text{E} \text{N} \text{A} \text{L}(t)} \right) \times \text{RP} \times 1500 \]

\[ \text{Chronic Score:} \]
\[ \text{TS}(t) = \left( \frac{\text{EYR}(t)}{\text{R} \text{H} \text{O} \text{F} \text{O} \text{R} \text{A} \text{O} \text{R} \text{A} \text{R} \text{E} \text{N} \text{A} \text{L}(t)} \right) \times \text{RP} \times \text{SHA} \times 28 \]

\[ \text{For Stack - 20m} \leq H < 45m \]
\[ \text{RP} \]
\[ 0m < R < 100m \quad 1.0 \]
\[ 100m < R < 250m \quad 0.25 \]
\[ 250m < R < 500m \quad 0.04 \]
\[ 500m < R < 1000m \quad 0.011 \]
\[ 1000m < R < 1500m \quad 0.003 \]
\[ 1500m < R < 2000m \quad 0.002 \]
\[ R > 2000m \quad 0.001 \]

\[ \text{For Stack - 45m} \leq H < 60m \]
\[ \text{RP} \]
\[ 0m < R < 100m \quad 1.0 \]
\[ 100m < R < 250m \quad 0.85 \]
\[ 250m < R < 500m \quad 0.22 \]
\[ 500m < R < 1000m \quad 0.064 \]
\[ 1000m < R < 1500m \quad 0.018 \]
\[ 1500m < R < 2000m \quad 0.009 \]
\[ R > 2000m \quad 0.006 \]

\[ \text{For Stack - 60m} \leq H < 90m \]
\[ \text{RP} \]
\[ 0m < R < 100m \quad 1.0 \]
\[ 100m < R < 250m \quad 1.0 \]
\[ 250m < R < 500m \quad 0.90 \]
\[ 500m < R < 1000m \quad 0.40 \]
\[ 1000m < R < 1500m \quad 0.13 \]
\[ 1500m < R < 2000m \quad 0.066 \]
\[ R > 2000m \quad 0.042 \]

\[ \text{Cancer Score:} \]
\[ \text{TS}(t) = \text{EYR}(t) \times \text{URF}(t) \times \text{RP} \times \text{SHA} \times 28 \]

\[ \text{Acute Score:} \]
\[ \text{TS}(t) = \left( \frac{\text{EYR}(t)}{\text{R} \text{H} \text{O} \text{F} \text{O} \text{R} \text{A} \text{O} \text{R} \text{A} \text{R} \text{E} \text{N} \text{A} \text{L}(t)} \right) \times \text{RP} \times \text{SHA} \times 25 \]

\[ \text{Chronic Score:} \]
\[ \text{TS}(t) = \left( \frac{\text{EYR}(t)}{\text{R} \text{H} \text{O} \text{F} \text{O} \text{R} \text{A} \text{O} \text{R} \text{A} \text{R} \text{E} \text{N} \text{A} \text{L}(t)} \right) \times \text{RP} \times \text{SHA} \times 2.5 \]
### Prioritization for

**Sycamore CoGeneration Co**  
Project # 1060682  
Region (S) Facility (511)

#### Emissions and Potency Method

<table>
<thead>
<tr>
<th>CAS NUMBER</th>
<th>POLLUTANT NAME</th>
<th>LBS/YEAR</th>
<th>LBS/HOUR</th>
<th>Cancer</th>
<th>CHRONIC</th>
<th>ACUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>151</td>
<td>PAHs, total, w/o individ. components reported</td>
<td>1.98E+00</td>
<td>2.26E-04</td>
<td>1.11E-02</td>
<td>2.11E-05</td>
<td>6.68E-06</td>
</tr>
<tr>
<td>210</td>
<td>Xylenes (mixed)</td>
<td>2.86E+02</td>
<td>3.27E-02</td>
<td>2.85E-02</td>
<td>1.60E-02</td>
<td>5.08E-03</td>
</tr>
<tr>
<td>3000</td>
<td>Formaldehyde</td>
<td>9.30E+02</td>
<td>1.06E-01</td>
<td>1.65E-02</td>
<td>9.60E-05</td>
<td>4.42E-05</td>
</tr>
<tr>
<td>1432</td>
<td>Benzene</td>
<td>1.12E+02</td>
<td>1.28E-02</td>
<td>5.04E-03</td>
<td>2.10E-03</td>
<td>1.36E-03</td>
</tr>
<tr>
<td>3070</td>
<td>Acetaldehyde</td>
<td>3.66E+02</td>
<td>4.18E-02</td>
<td>1.37E-03</td>
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<tr>
<td>1203</td>
<td>Naphthalene</td>
<td>7.92E+00</td>
<td>9.04E-04</td>
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<tr>
<td>30414</td>
<td>Ethyl benzene</td>
<td>1.31E+02</td>
<td>1.49E-02</td>
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<tr>
<td>07026</td>
<td>Acrolein</td>
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<td>1.02E-02</td>
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<tr>
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<td>7.19E+02</td>
<td>8.20E-02</td>
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<tr>
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<td>Hexane</td>
<td>1.73E+04</td>
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<tr>
<td>15071</td>
<td>Propylene</td>
<td>1.04E+04</td>
<td>1.19E+00</td>
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</table>

**TOTALS FOR DEVICE 2**

Emissions and Potency Method Prioritization Scores

<table>
<thead>
<tr>
<th>Cancer</th>
<th>CHRONIC</th>
<th>ACUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.11E-02</td>
<td>2.11E-05</td>
<td>6.68E-06</td>
</tr>
<tr>
<td>2.85E-02</td>
<td>1.60E-02</td>
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<td>1.65E-02</td>
<td>9.60E-05</td>
<td>4.42E-05</td>
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<tr>
<td>5.04E-03</td>
<td>2.10E-03</td>
<td>1.36E-03</td>
</tr>
<tr>
<td>6.25E-02</td>
<td>9.52E-02</td>
<td>2.46E-01</td>
</tr>
<tr>
<td>6.18E-02</td>
<td>9.52E-02</td>
<td>2.46E-01</td>
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</tbody>
</table>

### Dispersion Adjustment Method

<table>
<thead>
<tr>
<th>CAS NUMBER</th>
<th>POLLUTANT NAME</th>
<th>LBS/YEAR</th>
<th>LBS/HOUR</th>
<th>Cancer</th>
<th>CHRONIC</th>
<th>ACUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>151</td>
<td>PAHs, total, w/o individ. components reported</td>
<td>1.98E+00</td>
<td>2.26E-04</td>
<td>1.10E-02</td>
<td>2.11E-05</td>
<td>6.68E-06</td>
</tr>
<tr>
<td>210</td>
<td>Xylenes (mixed)</td>
<td>2.86E+02</td>
<td>3.27E-02</td>
<td>2.81E-02</td>
<td>1.60E-02</td>
<td>5.08E-03</td>
</tr>
<tr>
<td>3000</td>
<td>Formaldehyde</td>
<td>9.30E+02</td>
<td>1.06E-01</td>
<td>1.63E-02</td>
<td>9.60E-05</td>
<td>4.42E-05</td>
</tr>
<tr>
<td>1432</td>
<td>Benzene</td>
<td>1.12E+02</td>
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<td>4.98E-03</td>
<td>2.10E-03</td>
<td>1.36E-03</td>
</tr>
<tr>
<td>3070</td>
<td>Acetaldehyde</td>
<td>3.66E+02</td>
<td>4.18E-02</td>
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<td>1203</td>
<td>Naphthalene</td>
<td>7.92E+00</td>
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<td>30414</td>
<td>Ethyl benzene</td>
<td>1.31E+02</td>
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<td>07026</td>
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<td>08883</td>
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<tr>
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<td>Propylene</td>
<td>1.04E+04</td>
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</tbody>
</table>

**TOTALS FOR DEVICE 2**

Dispersion Adjustment Method Prioritization Scores

<table>
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<tr>
<th>Cancer</th>
<th>CHRONIC</th>
<th>ACUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.10E-02</td>
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<tr>
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<tr>
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**TOTALS FOR DEVICE 3**

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<tr>
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<td>2.46E-01</td>
<td>1.27E-04</td>
<td>1.79E-04</td>
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</tbody>
</table>
### Geographic Area:
Kern Co., CA

### Pollutant:
Carbon Monoxide

### Year:
2001

#### EPA Air Quality Standards:
Carbon Monoxide: 35 ppm (1-hour average), 9 ppm (8-hour average)

ppm = parts per million

### Monitor Values Report - Criteria Air Pollutants

<table>
<thead>
<tr>
<th>Row #</th>
<th>Obs</th>
<th>1st Max</th>
<th>2nd Max</th>
<th>1st Exceed</th>
<th>2nd Exceed</th>
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<th>Site Address</th>
<th>City</th>
<th>County</th>
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#### Export this report to a text file
Create comma-delimited or tab-delimited values, compatible with PC spreadsheets and databases.

[Comma][Tab] About exporting

#### Disclaimer:
AirData reports are produced from a monthly extract of EPA's air pollution database, AQS. Data for this report were extracted on April 3, 2006. They represent the best information available to EPA from state agencies on that date. However, some values may be absent due to incomplete reporting, and some values subsequently may be changed due to quality assurance activities. The AQS database is updated daily by state and local organizations who own and submit the data. Please contact the pertinent state agency to report errors.

Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted...
# Monitor Values Report - Criteria Air Pollutants

**Geographic Area:** Kern Co, CA  
**Pollutant:** Nitrogen Dioxide  
**Year:** 2001

**EPA Air Quality Standards:**  
Nitrogen Dioxide: 0.053 ppm (annual mean)

ppm = parts per million

<table>
<thead>
<tr>
<th>NO2 (ppm)</th>
<th>1-Hour Values</th>
<th>Annual Values</th>
<th>Monitor Number</th>
<th>Site ID</th>
<th>Site Address</th>
<th>City</th>
<th>County</th>
<th>State</th>
<th>EPA Region</th>
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</thead>
<tbody>
<tr>
<td>Row #</td>
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<td>Mean</td>
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## Monitor Values Report - Criteria Air Pollutants

**Geographic Area:** Kern Co, CA  
**Pollutant:** Particulate (size < 10 micrometers)  
**Year:** 2001

**EPA Air Quality Standards:**  
Particulate (diameter < 10 micrometers): 150 μg/m³ (24-hour average), 50 μg/m³ (annual mean)

μg/m³ = micrograms per cubic meter

### 10 Rows

See [Disclaimer](#)

### Table: PM10 (μg/m³)

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<th>Obs</th>
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<th># Exceed Estimated</th>
<th>Mean</th>
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Monitor Values Report - Criteria Air Pollutants

Geographic Area: Kern Co, CA
Pollutant: Sulfur Dioxide
Year: 2001

EPA Air Quality Standards:
Sulfur Dioxide: 0.5 ppm (3-hour average), 0.14 ppm (24-hour average), 0.030 ppm (annual mean)

ppm = parts per million

1 Rows
See Disclaimer

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Export this report to a text file
Create comma-delimited or tab-delimited values, compatible with PC spreadsheets and databases.

About exporting

Disclaimer: AirData reports are produced from a monthly extract of EPA's air pollution database, AQS. Data for this report were extracted on April 3, 2006. They represent the best information available to EPA from state agencies on that date. However, some values may be absent due to incomplete reporting, and some values subsequently may be changed due to quality assurance activities. The AQS database is updated daily by state and local organizations who own and submit the data. Please contact the pertinent state agency to report errors.

Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations.

New Report Criteria | About This Report
### POINT SOURCE DATA ###

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<th>SOURCE ID</th>
<th>NUMBER</th>
<th>EMISSION RATE</th>
<th>X (METERS)</th>
<th>Y (METERS)</th>
<th>BASE ELEV. (METERS)</th>
<th>STACK HEIGHT (METERS)</th>
<th>STACK TEMP. (DEG.K)</th>
<th>EXIT VEL. (M/SEC)</th>
<th>STACK DIAMETER (METERS)</th>
<th>BUILDING EMIS. RATE SCALAR VARY</th>
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<th>X (METERS)</th>
<th>Y (METERS)</th>
<th>BASE ELEV. (METERS)</th>
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### SOURCE IDS DEFINING SOURCE GROUPS ###

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### THE SUMMARY OF MAXIMUM PERIOD (8784 HRS) RESULTS ###

** CONC OF SO2 IN MICROGRAMS/M**

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## AAQA for Sycamore Cogen (S-511)

All Values are in ug/m^3

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<th>CO 1 Hour</th>
<th>CO 8 Hour</th>
<th>SOx 1 Hour</th>
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<th>SOx 24 Hour</th>
<th>SOx Annual</th>
<th>PM 24 Hour</th>
<th>PM Annual</th>
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<th>SOx 1 Hour</th>
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<th>SOx Annual</th>
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<th>PM Annual</th>
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</table>
Attachment D

Draft Authorities to Construct
San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-511-2-12
LEGAL OWNER OR OPERATOR: SYCAMORE COGENERATION CO
MAILING ADDRESS: P O BOX 80598
BAKERSFIELD, CA 93380
LOCATION: HEAVY OIL CENTRAL
CA
SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE
COGENERATION UNIT WITH DRY LOW NOx COMBUSTORS (SYCAMORE #2): AUTHORIZE OPERATION IN SIMPLE
CYCLE MODE AND ALLOW EXHAUST THROUGH BYPASS STACK

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40
CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally
Enforceable Through Title V Permit

2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an
application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520
Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

3. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be
pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District Rule 2201; Kern
County Rule 407] Federally Enforceable Through Title V Permit

4. {2350} The owner or operator shall not exceed the following applicable Tier 1 NOx emission rate of (15 x Eff / 25)
ppmvd @ 15% O2, under load conditions, excluding thermal stabilization periods or reduced load periods, where Eff
(efficiency) is the higher of EFF1 100% x (3,412 Btu/kW-hr) / (Actual Heat Rate at HHV, Btu/kW-hr) or EFF2
{EFFmfr x (LHV / HHV)} where actual heat rate is a ratio of the heat input to power output taking into account the
manufacturer's listed turbine efficiency, HHV is the higher heating value of the fuel, LHV is the lower heating value of
the fuel, and EFFmfr is the manufacturer's continuous rated percent efficiency of the gas turbine with air pollution
equipment at LHV. An EFF that is less than 25 shall be assigned a value of 25. [40 CFR 60.332(a)(1) and (a)(2)
District Rule 4703, 5.1.1] Federally Enforceable Through Title V Permit

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 326-6900 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO
OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE.
Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the
approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all
Rules and Regulations of the San Joaquin Valley Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this
Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with
all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCC

DAVID WARNER, Director of Permit Services
S-511-2-12, Apr 28 2008 11:15AM - ELLENBURG - Jace Inspection NOT Required
Southern Regional Office • 2700 M Street, Suite 275 • Bakersfield, CA 93301-2370 • (661) 326-6900 • Fax (661) 326-6985
5. (2264) Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.19] Federally Enforceable Through Title V Permit

6. (2265) Thermal Stabilization Period shall be defined as the start up or shut down time during which the exhaust gas is not within the normal operating range, not to exceed two hours. [District Rule 4703, 3.25] Federally Enforceable Through Title V Permit

7. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit

8. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit

9. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit

10. The HHV and LHV of the fuel shall be determined using ASTM D2588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit

11. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit

12. (2351) The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 4/25/02), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit

13. (2256) Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit

14. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a); County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit

15. (2270) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit

16. Operations during periods of startup and shutdown shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit

17. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit

18. Records shall be maintained and shall contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit

19. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
20. [2271] The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

21. [2272] Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

22. The owner or operator shall not operate the gas turbine after April 30, 2008, or within 90 days following a Major Overhaul if the overhaul occurs after April 30, 2004, under load conditions, excluding the thermal stabilization period or reduced load period, which results in the measured NOx emissions concentration exceeding 3 ppmv @ 15% O2. [District Rule 4703, 5.1.2.1] Federally Enforceable Through Title V Permit

23. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.4; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

24. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit

25. When CGT exhausts to bypass stack, the CEM probe located in the transition section shall be used to measure exhaust gas NOx, CO and O2 or CO2 concentration. [District Rule 2201] Federally Enforceable Through Title V Permit

26. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit

27. [2250] The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit

28. [2251] The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

29. [2252] The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.8(d) and District Rule 1080, 7.0] Federally Enforceable Through Title V Permit

30. [2254] APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit

31. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit

32. A violation of NOx emission standards indicated by the NOx CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit

33. The APCO shall be notified no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
34. (2280) Compliance with permit conditions in the Title V permit shall be deemed compliance with the following
subsumed requirements: Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and
Stanislaus) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520,
13.2] Federally Enforceable Through Title V Permit

35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable
requirements: 40 CFR 60.332(a), (a)(1), (a)(2), 60.333(a) and (b); 60.334 (a), (b), (c), (h), and (j)(2), (j)(5) and
60.335(a) and (b); District Rule 4703 (as amended 4/25/02), Sections 5.1.1, 5.2, 6.1, 6.3.1, 6.3.3, 6.4, 6.4.5, and 6.4.6.
A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V
Permit

36. (2282) Compliance with permit conditions in the Title V permit shall be deemed compliance with the following
applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended
12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the
date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally
Enforceable Through Title V Permit

37. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the
APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the
following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(b)),
nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period
used for data reporting corresponding to the averaging period specified in the emission test period used to determine
compliance with an emission standard. [District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e]
Federally Enforceable Through Title V Permit

38. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period
during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and
adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any
3-hour period during which the average emissions for CO as measured by the CEM system, exceeds the emission limit
set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally
Enforceable Through Title V Permit

39. The CGT combustors shall be of low NOx design capable of achieving 16.4 ppm or lower at 15% O2. [District Rule
4703 and PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit

40. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased
upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be
achieved at higher fuel rates. [District Rule 2201] Federally Enforceable Through Title V Permit

41. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated
steam output of 450,000 lb/hr at 80% quality steam production. [District Rule 2201] Federally Enforceable Through Title
V Permit

42. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District
Rule 2201] Federally Enforceable Through Title V Permit

43. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be
gas-tight. [District Rule 2201] Federally Enforceable Through Title V Permit

44. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is
discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the
bypass stack. [District Rule 2201] Federally Enforceable Through Title V Permit

45. Each CGT shall have a fuel consumption monitor/recorder. [District Rule 2201 and PSD SJ 85-09, X.D.1] Federally
Enforceable Through Title V Permit

46. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District Rule
2201] Federally Enforceable Through Title V Permit

47. HRSG stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA
reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V
Permit

CONDITIONS CONTINUE ON NEXT PAGE
48. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District Rule 2201] Federally Enforceable Through Title V Permit

49. Accurate records of NOx (as NO2) and carbon monoxide (CO) flue gas concentrations corrected to 15% O2, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit

50. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit

51. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 1,629.6 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit

52. Emission rates from CGT, except during startup and/or shutdown, shall not exceed any of the following: NOx (as NO2) - 16.4 ppmvd @ 15% O2, 67.9 lb/hr on a 3-hour avg, 79.7 lb/hr on a 1-hour avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hour avg. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit

53. During startup and shutdown, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hour avg, 140 lb/hr of CO on a 2-hour avg, or 200 lb/hr of CO on a 1-hour avg. [District Rule 2201] Federally Enforceable Through Title V Permit

54. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit

55. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NOx and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit

56. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit

57. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

58. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit

59. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit

60. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit

61. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

62. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

63. Startup and shutdown of CGT, as defined in 40 CFR, Subpart A 69.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
64. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit

65. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit

66. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

67. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

68. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

69. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

70. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

71. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

72. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

73. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

74. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit

75. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

76. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
77. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-511-3-12

LEGAL OWNER OR OPERATOR: SYCAMORE COGENERATION CO
MAILING ADDRESS: P O BOX 80598
BAKERSFIELD, CA 93380

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: NW30 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE
COGENERATION UNIT WITH DRY LOW NOX COMBUSTORS (SYCAMORE #3): AUTHORIZE OPERATION IN SIMPLEX CYCLE MODE AND ALLOW EXHUST THROUGH BYPASS STACK

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit

2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

3. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District Rule 2201; Kern County Rule 407] Federally Enforceable Through Title V Permit

4. {2350} The owner or operator shall not exceed the following applicable Tier 1 NOx emission rate of (15 x EFF / 25) ppmvd at 15% O2, under load conditions, excluding thermal stabilization periods or reduced load periods, where EFF (efficiency) is the higher of EFF1 {100% x (3,412 Btu/kW-hr) / (Actual Heat Rate at HHV, Btu/kW-hr)} or EFF2 {EFFmr x (LHV / HHV)} where actual heat rate is a ratio of the heat input to power output taking into account the manufacturer's listed turbine efficiency, HHV is the higher heating value of the fuel, LHV is the lower heating value of the fuel, and EFFmr is the manufacturer's continuous rated percent efficiency of the gas turbine with air pollution equipment at LHV. An EFF that is less than 25 shall be assigned a value of 25. [40 CFR 60.332(a)(1) and (a)(2)] District Rule 4703, 5.1.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 326-6900 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER - Director of Permit Services
S-511-3-12 - Apr 22 2006 11:16AM - ELLENMC - 2nd Inspection NOT Required
Southern Regional Office • 2700 M Street, Suite 275 • Bakersfield, CA 93301-2370 • (661) 326-6900 • Fax (661) 326-6985
5. [2264] Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.19] Federally Enforceable Through Title V Permit

6. [2265] Thermal Stabilization Period shall be defined as the start up or shut down time during which the exhaust gas is not within the normal operating range, not to exceed two hours. [District Rule 4703, 3.25] Federally Enforceable Through Title V Permit

7. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit

8. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit

9. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334(h) and 40 CFR 60.334(i). [40 CFR 60.334(h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit

10. The HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit

11. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit

12. [2351] The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 4/25/02), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit

13. [2256] Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit

14. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a); County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit

15. [2270] All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer’s written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit

16. Operations during periods of startup and shutdown shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit

17. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit

18. Records shall be maintained and shall contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM’s that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and 40 CFR 60.7(b)] Federally Enforceable Through Title V Permit

19. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

A

CONDITIONS CONTINUE ON NEXT PAGE
20. (2271) The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

21. (2272) Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

22. The owner or operator shall not operate the gas turbine after April 30, 2008, or within 90 days following a Major Overhaul if the overhaul occurs after April 30, 2004, under load conditions, excluding the thermal stabilization period or reduced load period, which results in the measured NOx emissions concentration exceeding 3 ppmv @ 15% O2. [District Rule 4703, 5.1.2.1] Federally Enforceable Through Title V Permit

23. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.4; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

24. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703] Federally Enforceable Through Title V Permit

25. When CGT exhausts to bypass stack, the CEM probe located in the transition section shall be used to measure exhaust gas NOX, CO and O2 or CO2 concentration. [District Rule 2201] Federally Enforceable Through Title V Permit

26. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit

27. (2250) The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit

28. (2251) The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit

29. (2252) The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.8(d) and District Rule 1080, 7.0] Federally Enforceable Through Title V Permit

30. (2254) APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit

31. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit

32. A violation of NOx emission standards indicated by the NOx CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit

33. The APCO shall be notified no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
34. [2280] Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332(a), (a)(1), (a)(2) 60.333 (a) and (b); 60.334 (a), (b), (c), (h) and (j)(2), (j)(5) and 60.335(a) and (b); District Rule 4703 (as amended 4/25/02), Sections 5.1.1, 5.2, 6.1, 6.3.1, 6.3.3, 6.4, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

36. [2282] Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

37. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit

38. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit

39. The CGT combustors shall be a dry low NOx design capable of achieving 16.4 ppm or lower at 15% O2. [District Rule 4703 and PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit

40. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District Rule 2201] Federally Enforceable Through Title V Permit

41. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District Rule 2201] Federally Enforceable Through Title V Permit

42. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District Rule 2201] Federally Enforceable Through Title V Permit

43. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District Rule 2201] Federally Enforceable Through Title V Permit

44. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District Rule 2201] Federally Enforceable Through Title V Permit

45. Each CGT shall have a fuel consumption monitor/recorder. [District Rule 2201 and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

46. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District Rule 2201] Federally Enforceable Through Title V Permit

47. HRSG stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit

CONCEPT CONDITIONS CONTINUE ON NEXT PAGE
48. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogenation Company. [District Rule 2201] Federally Enforceable Through Title V Permit

49. Accurate records of NOx (as NO2) and carbon monoxide (CO) flue gas concentrations corrected to 15% O2, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit

50. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit

51. Emission rates from NGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 1,629.6 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit

52. Emission rates from CGT, except during startup and/or shutdown, shall not exceed any of the following: NOx (as NO2) - 16.4 ppmvd @ 15% O2, 67.9 lb/hr on a 3-hr avg, 79.7 lb/hr on a 1-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit

53. During startup and shutdown, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit

54. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit

55. Daily Emissions for the unit may be determined from the arithmetic mean of three, 40-minute test runs for NOx and CO, multiplied by the appropriate factor. [District Rule 2520, 9.4.2 and District Rule 4703] Federally Enforceable Through Title V Permit

56. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit

57. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

58. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit

59. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit

60. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit

61. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

62. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit

63. Startup and shutdown of CGT, as defined in 40 CFR, Subpart A 60.2, shall not exceed a time period of two hours and two hours, respectively, per occurrence. [40 CFR 60.8] Federally Enforceable Through Title V Permit

Conditions continue on next page
64. NO₂ and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit

65. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit

66. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

67. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

68. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

69. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

70. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

71. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

72. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

73. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

74. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit

75. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

76. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE
77. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
Attachment E

Emission Profiles
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- [ ] Quarterly Offset Amounts:

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Check if offsets are triggered but exemption applies

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SLC ID (PTE): | | | | |
SLC ID (DEL): | | | | |

Facility/SLC
APPENDIX B

REQUEST FOR EPA PSD NONAPPLICABILITY CONFIRMATION
FAXED AND MAILED ON:

March 22, 2006

SY-8473

Mr. Bob Baker
Air-3
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Sycamore Cogeneration Company (NSR 4-4-8, SJ 85-09)
Notice of PSD Nonapplicability Determination for Proposed Simple Cycle Operation of Any Two Sycamore Turbine Units

Dear Mr. Baker:

We are writing to notify EPA of a possible change in the method of operation of Sycamore Cogeneration Company (Sycamore) (NSR 4-4-8, SJ 85-09). In order to retain additional operating flexibility, Sycamore would like to be able to operate any two of the four Sycamore units in simple cycle mode at any given time. Previously, Sycamore had received a PSD modification for simple cycle operation of only Units 1 and 4. The current notice is intended to cover potential simple cycle operation of any two units at one time. Although this change constitutes a potential change in the method of operation of the units, we have concluded that no combination of two units operating in simple cycle mode would trigger PSD review. Accordingly, we are seeking EPA's confirmation that this change will not be subject to a revision to the Sycamore PSD permit.

Background

Sycamore is a cogeneration facility located in the Kern River oilfield near Bakersfield, CA. The facility employs four (4) General Electric Frame 7EA combustion turbines (CTs) and four (4) unfired heat recovery steam generators (HRSGs) to cogenerate 300 MW (nominal rating) of electricity and 1.8 million pounds per hour of steam for enhanced oil recovery. Each CT/HRSG generates approximately ¼ of the total steam and electricity output for Sycamore. Each CT is equipped with Dry Low NOx (DLN) combustor technology capable of meeting a NOx
emissions limit of 16.4 ppmv at 15% O2, dry and a CO emissions limit of 25 ppmv at 15% O2, dry.

As a result of gradually declining steam demand and anticipated negotiations regarding the Sycamore electricity contract (based on Sycamore’s sister facility KRCC), Sycamore would like the flexibility of operating up to two of the four CT units in simple cycle mode at any given time. Sycamore is requesting that all four units have the ability to be operated in both simple cycle and cogeneration mode.

**Description of Simple Cycle Operation for Units 1, 2, 3 and 4**

No additional physical construction is needed to facilitate simple cycle operation. Each CT discharges to a HRSG through a transition section that is equipped with a gas-tight bypass stack. In order to operate in simple cycle, the bypass stack damper would be repositioned to block off the HRSG, directing the CT exhaust through the bypass stack to the atmosphere. Since the DLN operation is unaffected by the positioning of the bypass damper, the change to simple cycle operation will not impact the current air pollution control system that has been previously determined to represent Best Available Control Technology (BACT). As a result, during simple cycle operations we do not anticipate any change in normal CT emission rates.

The current Sycamore permit is based on a continuous, 24-hr day operation. While Sycamore does not propose to specifically restrict its operating schedule in the future, it is anticipated up to two units will operate in simple cycle at any given time. It is also anticipated that each unit will operate for substantially fewer hours than historical operations. At the present time, we envision that the simple cycle units would operate in response to peak power demands occurring during the normal work week, Monday through Friday, and would not operate on weekends or holidays. Instead of a 24-hr operation, it is more likely that these two units would ultimately operate for no more than a 6 to 8 hr/day. However, to be conservative, projected actual emissions have been calculated assuming 5200 hr/yr of normal operation (the equivalent of a 20 hr/day operation, 5 days per week). We also anticipate that the units will operate more frequently in the summer peak power period, April through October, and less during the off-peak period of the year, November through March. The addition of simple cycle operation will increase the number of startups and shutdowns for the affected CT. We have conservatively assumed 520 startup/shutdown hr/yr for each unit in the attached emission calculations. Although emissions are higher during startups and shutdowns, Sycamore will not be increasing either permitted maximum daily or maximum annual emissions.
Redirection of the CT exhaust through the existing bypass stack will also cause a substantial increase in stack gas temperature and a minor decrease in exit velocity, improving stack gas dispersion overall. These changes have a positive impact on ambient dispersion.

**Proposed Emissions Changes Are Not Significant**

Since the proposed amendment constitutes a potential change in the method of operation, we have completed an evaluation of the applicability of PSD regulations. Pursuant to 40 CFR 52.21 (a) (2) (iv) (c), existing units are to calculate emissions increases based on an “actual to projected actual” applicability test. The test involves summing the difference between projected actual emissions and baseline actual emissions as defined in 40 CFR 52.21 (b) (41) and (b) (48), respectively. As specified in 40 CFR 52.21 (b) (48) (i), for an existing electric utility steam generating unit, baseline actual emissions is the average rate in tons per year (tpy) at which the unit actually emitted during any consecutive 24-month period within the last five years. The attached calculations demonstrate that the impact of the proposed simple cycle operation would not be considered significant under PSD regulations irrespective of which units are operated in simple cycle. Therefore an amendment to the PSD permit is not required.

- **Baseline Actual Emissions**

For NOx and CO, the reported baseline emissions reflect actual continuous emissions monitoring system (CEMS) data collected for the period Feb 2004 – Jan 2006. For VOC, SO2 and PM10 baseline emissions were calculated using continuously recorded fuel consumption in conjunction with emissions factors from source tests and fuel sulfur content from monthly fuel analyses over the same period. Historical testing has demonstrated that VOC emissions are below detection limits. Therefore, baseline VOC emissions are reported as negligible.

- **Projected Actual Emissions**

Projected actual emissions for NOx and CO emission during normal operation were calculated based on the average CEMS-based emission factors in lb/MMBtu observed during the baseline period and a maximum fuel consumption of 1020 MMBtu/hr (LHV.) Startup and shutdown NOx and CO emissions were based on the current startup and shutdown limit in the SJVACPD Permit to Operate of 140 lb/hr. The calculation is summarized in Table 1, below. In fact, for most of the criteria air contaminants, Sycamore anticipates a decrease in emissions. Projected actual VOC, SO2 and PM10 emissions during normal operation were calculated using the source test or fuel analysis based emission factors from the baseline
period and maximum fuel consumption. Since no test data are available to estimate projected actual VOC emissions during startup and shutdown, we applied the AP-42 Table 3.1-2a emission factor for natural gas-fired combustion turbines and a conservative safety factor of 10 to account for potentially higher startup and shutdown VOC emissions.

Although Sycamore anticipates that units will typically operate in simple cycle mode for no more than 500 hr/yr and in cogeneration mode for no more than 3500 hr/yr, we have conservatively based projected actual emissions on 20 hr/day, 5 days/wk, 52 wks/yr. We have assumed that each day of operation would include up to 2 startups lasting \( \frac{1}{2} \) hour each and 2 shutdowns lasting \( \frac{1}{2} \) hour each. These operating assumptions yield a conservative total of 5200 normal hr/yr of operation and 520 startup/shutdown hr/yr for each unit (for a total of 5720 hr/yr).

- **PSD Applicability Summary**

Detailed calculations based on the above assumptions are included in Attachment A. The results of these calculations are summarized in Table 1, below. These calculations demonstrate that the proposed operations change is not subject to PSD review.

**Table 1. Summary of PSD Applicability Review**

<table>
<thead>
<tr>
<th></th>
<th>NOx</th>
<th>CO</th>
<th>VOC</th>
<th>SO2</th>
<th>PM10</th>
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<tbody>
<tr>
<td><strong>PSD Applicability Summary - Units 1 &amp; 2, tons/yr</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Projected Actual Emissions - Units 1 &amp; 2, ton/yr</td>
<td>231.76</td>
<td>123.09</td>
<td>11.14</td>
<td>0.98</td>
<td>14.53</td>
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<tr>
<td>Baseline Actual Emissions - Units 1 &amp; 2, ton/yr</td>
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<td>0.00</td>
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<td>16.97</td>
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<td>Net change, ton/yr</td>
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<td>PSD Review Triggered?</td>
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<td>No</td>
<td>No</td>
<td>No</td>
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<table>
<thead>
<tr>
<th></th>
<th>NOx</th>
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<th>VOC</th>
<th>SO2</th>
<th>PM10</th>
</tr>
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<tbody>
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<td>Projected Actual Emissions - Units 1 &amp; 3, ton/yr</td>
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<td>130.45</td>
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### PSD Applicability Summary - Units 1 & 4, tons/yr

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<th>PM10</th>
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<td>Projected Actual Emissions - Units 1 &amp; 4, ton/yr</td>
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### PSD Applicability Summary - Units 2 & 3, tons/yr

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<th>PM10</th>
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### PSD Applicability Summary - Units 2 & 4, tons/yr

<table>
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<tr>
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<th>PM10</th>
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<td>27.58</td>
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### PSD Applicability Summary - Units 3 & 4, tons/yr

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<tbody>
<tr>
<td>Projected Actual Emissions - Units 3 &amp; 4, ton/yr</td>
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Summary

Based on the foregoing analysis, we have concluded that Sycamore’s addition of simple cycle operating flexibility for all of the Sycamore units will not be subject to PSD review. We respectfully request your written concurrence as expeditiously as possible. If you have any questions, please contact either Mervyn Soares at (661) 392-2643 or our consultant, David Stein of CH2M HILL at (510) 587-7787. Thank you for your prompt consideration.

[Signature]
N.J Burgess

DLB:yh

Attachments

xc:  D. Stein – CH2M HILL -Oakland (w/attachments)
     C. Meyer – CEC (w/attachments)
ATTACHMENT A

Supporting Emissions Calculations and Historical Operating Data
## Unit 2 - CEMS Data

<table>
<thead>
<tr>
<th>Month/Year</th>
<th>Daily Fuel Used (ton)</th>
<th>Daily tCO2 eq. emissions (ton)</th>
<th>Daily COV &amp; COV target</th>
<th>Daily FAME &amp; FAME target</th>
<th>Daily NOx &amp; NOx target</th>
<th>Daily SO2 &amp; SO2 target</th>
<th>Daily HC &amp; HC target</th>
<th>Daily CO &amp; CO target</th>
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<tr>
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<td>5.24117784</td>
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<td>9.19749937</td>
<td>0.02900279</td>
<td>9.08649675</td>
<td>24</td>
</tr>
</tbody>
</table>

### Notes
- **Daily Fuel Used (ton)**: The amount of fuel used daily in tons.
- **Daily tCO2 eq. emissions (ton)**: The total carbon dioxide equivalent emissions in tons.
- **Daily COV & COV target**: The current COV and the COV target.
- **Daily FAME & FAME target**: The current FAME and the FAME target.
- **Daily NOx & NOx target**: The current NOx and the NOx target.
- **Daily SO2 & SO2 target**: The current SO2 and the SO2 target.
- **Daily HC & HC target**: The current HC and the HC target.
- **Daily CO & CO target**: The current CO and the CO target.