



AUG - 5 2010

Mr. John Gruber  
Chevron USA Inc  
PO Box 1392  
Bakersfield, CA 93302

**Re: Notice of Final Decision - ATC / Certificate of Conformity**  
**Facility # S-1129**  
**Project # 1101916**

Dear Mr. Gruber:

The Air Pollution Control Officer has issued Authority to Construct permits to Chevron USA Inc for its McKittrick Cogeneration plant within the heavy oil production stationary source in the western Kern County fields, California. The ATCs authorize installation of two 5.285 MW Solar Taurus gas turbine engine/cogeneration units, each with 40 MMBtu/hr duct burner, heat recovery steam generator, a Selective Catalytic Reduction (SCR) System, and an Oxidation Catalyst. These units will replace existing equipment and are being installed to achieve compliance with District Rule 4703.

Enclosed are copies of the Authority to Construct permits and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the Authority to Construct permits with Certificate of Conformity was published on June 24, 2010. The District's analysis of the proposal was also sent to US EPA Region IX on June 24, 2010. No comments were received following the District's preliminary decision on this project.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Sincerely,



David Warner  
Director of Permit Services

DW: RE/cm

Enclosures

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061

**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: 661-392-5500 FAX: 661-392-5585



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

AUG - 5 2010

Gerardo C. Rios, Chief  
Permits Office  
Air Division  
U.S. EPA - Region IX  
75 Hawthorne St.  
San Francisco, CA 94105



**Re: Notice of Final Decision - ATC / Certificate of Conformity  
Facility # S-1129  
Project # 1101916**

Dear Mr. Rios:

The Air Pollution Control Officer has issued Authority to Construct permits to Chevron USA Inc for its McKittrick Cogeneration plant within the heavy oil production stationary source in the western Kern County fields, California. The ATCs authorize installation of two 5.285 MW Solar Taurus gas turbine engine/cogeneration units, each with 40 MMBtu/hr duct burner, heat recovery steam generator, a Selective Catalytic Reduction (SCR) System, and an Oxidation Catalyst. These units will replace existing equipment and are being installed to achieve compliance with District Rule 4703.

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Thank you for your cooperation in this matter.

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# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

AUG - 5 2010

Mike Tollstrup, Chief  
Project Assessment Branch  
Air Resources Board  
P O Box 2815  
Sacramento, CA 95812-2815

**Re: Notice of Final Decision - ATC / Certificate of Conformity  
Facility # S-1129  
Project # 1101916**

Dear Mr. Tollstrup:

The Air Pollution Control Officer has issued Authority to Construct permits to Chevron USA Inc for its McKittrick Cogeneration plant within the heavy oil production stationary source in the western Kern County fields, California. The ATCs authorize installation of two 5.285 MW Solar Taurus gas turbine engine/cogeneration units, each with 40 MMBtu/hr duct burner, heat recovery steam generator, a Selective Catalytic Reduction (SCR) System, and an Oxidation Catalyst. These units will replace existing equipment and are being installed to achieve compliance with District Rule 4703.

Enclosed are copies of the Authority to Construct permits and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the Authority to Construct permits with Certificate of Conformity was published on June 24, 2010. The District's analysis of the proposal was also sent to US EPA Region IX on June 24, 2010. No comments were received following the District's preliminary decision on this project.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Sincerely,

David Warner  
Director of Permit Services

DW: RE/cm

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Executive Director/Air Pollution Control Officer

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Tel: 661-392-5500 FAX: 661-392-5585

Bakersfield Californian

**NOTICE OF FINAL DECISION  
FOR THE ISSUANCE OF AUTHORITY  
TO CONSTRUCT PERMITS**

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Authority to Construct permits to Chevron USA Inc for its McKittrick Cogeneration plant at the McKittrick Cogeneration plant within the heavy oil production stationary source in the western Kern County fields, California. The ATCs authorize installation of two 5.285 MW Solar Taurus gas turbine engine/cogeneration units, each with 40 MMBtu/hr duct burner, heat recovery steam generator, a Selective Catalytic Reduction (SCR) System, and an Oxidation Catalyst. These units will replace existing equipment and are being installed to achieve compliance with District Rule 4703.

No comments were received following the District's preliminary decision on this project.

The application review for Project # S-1101916, is available for public inspection at [http://www.valleyair.org/notices/public\\_notices\\_idx.htm](http://www.valleyair.org/notices/public_notices_idx.htm) and the District office at the address below. SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT BAKERSFIELD, 93308.



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1129-868-0

**ISSUANCE DATE:** 08/02/2010

**LEGAL OWNER OR OPERATOR:** CHEVRON U S A INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN  
CA

**EQUIPMENT DESCRIPTION:**

5.285 MW (NOMINAL RATING) GAS TURBINE ENGINE COGENERATION UNIT #1 (MCKITTRICK) EQUIPPED WITH: 63 MMBTU/HR (NOMINAL) SOLAR TAURUS 60-7901 GAS TURBINE ENGINE (GTE); HEAT RECOVERY STEAM GENERATOR (HRSG) WITH A 40 MMBTU/HR (NOMINAL) DUCT BURNER; WATER INJECTION SYSTEM FOR INTERMEDIATE NOX CONTROL; SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION TO COMPLY WITH RULE 4703 TIER 3 EMISSION LIMIT OF 5 PPMV NOX @ 15% O2; OXIDATION CATALYST FOR CO CONTROL; AND SHARED CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) TO MEASURE NOX, CO, AND O2 CONCENTRATIONS

## 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. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 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

  
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DAVID WARNER, Director of Permit Services

S-1129-868-0 : Aug 2 2010 10:55AM - EDGEHLR : Joint Inspection NOT Required

6. The sulfur content in the fuel being combusted shall not exceed 0.71 grains/100 scf, otherwise, the fuel shall be of PUC-regulated quality. [District Rule 2201] Federally Enforceable Through Title V Permit
7. If the gas turbine system is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520] Federally Enforceable Through Title V Permit
8. If the gas turbine system is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.4360, 40 CFR 60.4365(a), 40 CFR 60.4370(c)] Federally Enforceable Through Title V Permit
9. HHV and LHV of the fuel shall be determined by using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703] Federally Enforceable Through Title V Permit
10. During an initial shakedown period, the emissions shall not exceed any of the following limits, except during periods of startup, shutdown, and black start: 42 ppmvd NO<sub>x</sub> @ 15% O<sub>2</sub> referenced as NO<sub>2</sub>; 50 ppmvd CO @ 15% O<sub>2</sub>; 0.013 lb-PM<sub>10</sub>/MMBtu; 0.024 lb-VOC/MMBtu referenced as methane; and 0.00233 lb-SO<sub>x</sub>/MMBtu referenced as SO<sub>2</sub>. The shakedown period shall not exceed 90 calendar days from the initial startup of the unit under this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Within 90 days of startup, permits S-1127-47, '-48, and '-49 shall be canceled. The permittee shall maintain a record of the date of initial operation of this unit, fuel combusted (scf/day) on daily basis, and water-to-fuel ratio or results of NO<sub>x</sub> and CO over 3-hour rolling average period from CEMS (if operational). These records shall be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Upon concluding the initial shakedown period, emissions from the gas turbine system, except during periods of startup, shutdown, and black start, shall not exceed any of the following limits: 5 ppmvd NO<sub>x</sub> @ 15% O<sub>2</sub> referenced as NO<sub>2</sub>; 29 ppmvd CO @ 15% O<sub>2</sub>; 0.013 lb-PM<sub>10</sub>/MMBtu; 0.024 lb-VOC/MMBtu referenced as methane; and 0.00233 lb-SO<sub>x</sub>/MMBtu referenced as SO<sub>2</sub>. NO<sub>x</sub> and CO emission limits are based on 3-hour rolling average period. If unit is in either startup, shutdown, or black start mode during any portion of a clock hour, the unit will not be subject to the ppmvd limits for NO<sub>x</sub> and CO during that clock hour. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
13. Upon concluding the initial shakedown period, emissions from the gas turbine system shall not exceed any of the following limits: 64.1 lb-NO<sub>x</sub>/day referenced as NO<sub>2</sub>; 1,658.9 lb-CO/day; 5.8 lb-SO<sub>x</sub>/day; 32.1 lb-PM<sub>10</sub>/day; 138.8 lb-VOC/day referenced as methane; and 70.2 lb-NH<sub>3</sub>/day. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Upon concluding the initial shakedown period, the emissions from the gas turbine system shall not exceed any of the following limits: 16,615 lb-NO<sub>x</sub>/year; 65,810 lb-CO/year; 2,102 lb-SO<sub>x</sub>/year; 11,730 lb-PM<sub>10</sub>/year; 22,052 lb-VOC/year; 25,637 lb-NH<sub>3</sub>/year. All annual emission limits are based on 12 consecutive month rolling emissions totals. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Ammonia (NH<sub>3</sub>) emissions shall not exceed 21 ppmvd @ 15% O<sub>2</sub> over a 24-hour average period. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Each three hour rolling average will be compiled from the three most recent one hour periods. Each one hour period shall commence on the hour. Each one hour period in a twenty-four hour average for ammonia slip will commence on the hour. The twenty-four hour average will be calculated starting and ending at twelve-midnight. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Daily emissions shall be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each calendar month in a twelve consecutive month rolling emissions total shall commence at the beginning of the first day of the month. The twelve consecutive month rolling emissions totals used to determine compliance with annual emission limits shall be compiled from the twelve most recent calendar months. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source testing shall be witnessed or authorized by District personnel and samples shall be collected by a California Air Resources Board (CARB) certified testing laboratory or a CARB certified source testing firm. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source testing to measure start-up mass emission rates of NO<sub>x</sub>, CO, and VOC shall be conducted for one of the gas turbine systems (S-1129-868, '-869) within 90-days of initial startup under this permit and at least once every seven years thereafter. CEMS relative accuracy shall be determined during source testing in accordance with the procedure listed in 40 CFR Part 60, Appendix F with any necessary changes approved by the District. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing to determine compliance with the NO<sub>x</sub>, CO and NH<sub>3</sub> emission rates (ppmvd @ 15% O<sub>2</sub>) during normal operation shall be conducted within 90 days of initial startup under this permit and annually thereafter. [District Rules 2201 and 40 CFR 60.4400(a)] Federally Enforceable Through Title V Permit
23. Unit shall demonstrate compliance annually with NO<sub>x</sub> and CO emissions limits with the duct burner in operation and not in operation. An annual demonstration of compliance with the duct burner in operation is not required in any year in which the duct burner is not operated at all in the preceding 12 months, in such case, the unit shall be compliance source tested within 60 days of resumption of operation of the duct burner. An annual demonstration of compliance with the duct burner not in operation is not required in any year in which the duct burner operated continuously in conjunction with the turbine in the preceding 12 months, in such case, the unit shall be compliance source tested within 60 days of shutdown of operation of the duct burner. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
24. For the purpose of determining compliance with the emissions limits (ppmvd @ 15% O<sub>2</sub>) during normal operation in this permit, the arithmetic mean of three test runs shall apply, unless two of the three results are above an applicable limit. If two of three runs are above the applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The following test methods shall be used: NO<sub>x</sub> - EPA Method 7E or 20 or CARB Method 100; CO - EPA Method 10 or 10B or CARB Method 100; VOC - EPA Method 18 or 25; PM<sub>10</sub> - EPA Method 5 (front half and back half) or 201 and 202a; ammonia - BAAQMD ST-1B; and O<sub>2</sub> - EPA Method 3, 3A, or 20 or CARB Method 100. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081 and 4703, and 40 CFR 60.4400 (1)(i)] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall install, certify, maintain, operate, and quality-assure a continuous emission monitor system (CEMS) which continuously measures and records the exhaust gas NO<sub>x</sub>, CO, and O<sub>2</sub> concentrations. Continuous emissions monitors shall be capable of monitoring emissions during normal operating conditions and during startups and shutdowns, provided that CEMS passes the relative accuracy requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 (PS-2) and District approved protocol for startups. If relative accuracy of CEMS cannot be demonstrated during the startup, CEMS results during startup and shutdown events shall be replaced with startup emission rates obtained from the source test conducted by the facility to determine compliance with emission limits contained in this document. [District Rules 1080, 2201 and 4703, 40 CFR 60.4340(b)(1) and 40 CFR 60.4345(a)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

28. The CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, and 40 CFR 60.4345(b)] Federally Enforceable Through Title V Permit
29. The NO<sub>x</sub>, CO and O<sub>2</sub> CEMS shall meet the requirements in 40 CFR 60, Appendix F Procedure 1 and Part 60, Appendix B Performance Specification 2 (PS 2), or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, and 40 CFR 60.4345(a)] Federally Enforceable Through Title V Permit
30. In accordance with 40 CFR Part 60, Appendix F, 5.1, the CEMS must be audited at least once each calendar quarter. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
31. The requirements in 40 CFR 60, Appendix F, shall be met through the following EPA and District approved modified procedures: 1) annual RATA testing of at least one gas turbine engine (S-1129-868, '-869), and rotate the unit tested so that the two units are tested over two years, 2) annual RAA testing for the one gas turbine engine for which the annual RATA testing is not performed, 3) if any of the gas turbine engines fail the RAA testing, they must have a RATA test within 60 days, and 4) for every quarter that RATA or RAA testing is not performed, a CGA is to be performed for each gas turbine engine. [District Rule 1080] Federally Enforceable Through Title V Permit
32. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rule 1080] Federally Enforceable Through Title V Permit
33. The CEMS data shall be reduced to hourly averages as specified in 40 CFR 60.13(h), or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080 and 40 CFR 60.4350] Federally Enforceable Through Title V Permit
34. Upon written notice from the District, the owner or operator shall provide a summary of the data obtained from the CEMS. This summary shall be in the form and the manner prescribed by the District. [District Rule 1080] Federally Enforceable Through Title V Permit
35. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEMS data polling software system and shall make CEMS data available to the District's automated polling system on a daily basis. Upon notice by the District that the facility's CEMS is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEMS data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
36. The permittee shall maintain the following records: the date, time and duration of any malfunction of the continuous monitoring equipment; dates of performance testing; dates of evaluations, calibrations, checks, and adjustments of the continuous monitoring equipment; date and time period which a continuous monitoring system or monitoring device was inoperative. [District Rules 1080 and 2201 and 40 CFR 60.8(d)] Federally Enforceable Through Title V Permit
37. The owner or operator shall submit a written report of CEM operations for each calendar quarter to the District. The report is due on the 30th day following the end of the calendar quarter and shall include the following: Time intervals, data and magnitude of excess NO<sub>x</sub> emissions, nature and the cause of excess (if known), corrective actions taken and preventive measures adopted; 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; 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; A negative declaration when no excess emissions occurred. [District Rule 1080, 40 CFR 60.4375(a) and 40 CFR 60.4395] Federally Enforceable Through Title V Permit
38. Monitor downtime for NO<sub>x</sub> shall be any unit operating hour in which sufficient data are not obtained to validate the hour for either NO<sub>x</sub> concentration or diluent O<sub>2</sub> (or both). [40 CFR 60.4380(b)(2)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE



39. If the gas turbine system is not fired on PUC-regulated or FERC-regulated natural gas, then a fuel sample shall be collected during the source test to determine sulfur content of the fuel combusted in the turbine. The fuel sample shall be analyzed for the total sulfur content using ASTM D1072; D3246; D4084; D4468; D6228; or D6667; or double GC for H<sub>2</sub>S and mercaptans. The applicable ranges of some ASTM methods are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of dilution ratio) may be used after getting a prior approval from the District. [40 CFR 60.4415(a)(1)(i)] Federally Enforceable Through Title V Permit
40. A totalizing mass or volumetric fuel flow computer shall be utilized and maintained to calculate the amount of natural gas combusted based on measured flow meter parameters (fuel pressure and temperature) and gas composition. [District Rule 4703] Federally Enforceable Through Title V Permit
41. Except during black start, start-up shall not exceed 2.0 hours per event. [District Rule 4703] Federally Enforceable Through Title V Permit
42. Shutdown shall not exceed 2.0 hours per event. [District Rule 4703] Federally Enforceable Through Title V Permit
43. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup (black start) and shutdown. [District Rule 4703] Federally Enforceable Through Title V Permit
44. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. [District Rule 4703] Federally Enforceable Through Title V Permit
45. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4703] Federally Enforceable Through Title V Permit
46. Reduced load period is defined as the time during which a gas turbine is operated at less than rated capacity in order to change the position of the exhaust gas diverter gate. Each reduced load period shall not exceed one hour. [District Rule 4703] Federally Enforceable Through Title V Permit
47. A black start event is defined as the startup of a unit while the cogen plant is electrically separated from the utility grid. A black start shall not exceed 4.0 hours per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
48. The owner or operator shall submit to the District information correlating the NO<sub>x</sub> control system operating parameters to the associated measured NO<sub>x</sub> output. The information must be sufficient to allow the District to determine compliance with the NO<sub>x</sub> emission limits of this permit when the CEMS is not operating properly. [District Rule 4703] Federally Enforceable Through Title V Permit
49. The owner or operator shall maintain a stationary gas turbine system operating log that includes, on a daily basis, the actual local startup and stop time, length and reason for reduced load periods, total hours of operation, the type and quantity of fuel used, duration of each start-up (or black start) and each shutdown time period. [District Rule 4703] Federally Enforceable Through Title V Permit
50. The owner or operator shall maintain all records of required monitoring data and support information for a period of five years from the date of data entry and shall make such records available to the District upon request. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
51. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Kern County Rule 407; SJVUAPCD Rule 4703 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.2, 6.4.3, and 6.4.5; 60.4320(a); 40 CFR 60.4330(a)(2); 40 CFR 60.4340(b)(1); 40 CFR 60.4345(a) and (b); 40 CFR 60.4350; 40 CFR 60.4360; 40 CFR 60.4365(a); 40 CFR 60.4370(c); 40 CFR 60.4375(a); 40 CFR 60.4380(b)(2); 40 CFR 60.4395; 40 CFR 60.4400(a); 40 CFR 60.4400(1)(i); and 40 CFR 60.4415(a)(1)(i). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit



## AUTHORITY TO CONSTRUCT

**PERMIT NO:** S-1129-869-0

**ISSUANCE DATE:** 08/02/2010

**LEGAL OWNER OR OPERATOR:** CHEVRON U S A INC  
**MAILING ADDRESS:** PO BOX 1392  
BAKERSFIELD, CA 93302

**LOCATION:** HEAVY OIL WESTERN  
CA

**EQUIPMENT DESCRIPTION:**

5.285 MW (NOMINAL RATING) GAS TURBINE ENGINE COGENERATION UNIT #2 (MCKITTRICK) EQUIPPED WITH: 63 MMBTU/HR (NOMINAL) SOLAR TAURUS 60-7901 GAS TURBINE ENGINE (GTE); HEAT RECOVERY STEAM GENERATOR (HRSG) WITH A 40 MMBTU/HR (NOMINAL) DUCT BURNER; WATER INJECTION SYSTEM FOR INTERMEDIATE NOX CONTROL; SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION TO COMPLY WITH RULE 4703 TIER 3 EMISSION LIMIT OF 5 PPMV NOX @ 15% O2; OXIDATION CATALYST FOR CO CONTROL; AND SHARED CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) TO MEASURE NOX, CO, AND O2 CONCENTRATIONS

## 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. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

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**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 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-1129-869-0: Aug 2 2010 10:55AM - EDGEHLR : Joint Inspection NOT Required

6. The sulfur content in the fuel being combusted shall not exceed 0.71 grains/100 scf, otherwise, the fuel shall be of PUC-regulated quality. [District Rule 2201] Federally Enforceable Through Title V Permit
7. If the gas turbine system is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520] Federally Enforceable Through Title V Permit
8. If the gas turbine system is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.4360, 40 CFR 60.4365(a), 40 CFR 60.4370(c)] Federally Enforceable Through Title V Permit
9. HHV and LHV of the fuel shall be determined by using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703] Federally Enforceable Through Title V Permit
10. During an initial shakedown period, the emissions shall not exceed any of the following limits, except during periods of startup, shutdown, and black start: 42 ppmvd NO<sub>x</sub> @ 15% O<sub>2</sub> referenced as NO<sub>2</sub>; 50 ppmvd CO @ 15% O<sub>2</sub>; 0.013 lb-PM<sub>10</sub>/MMBtu; 0.024 lb-VOC/MMBtu referenced as methane; and 0.00233 lb-SO<sub>x</sub>/MMBtu referenced as SO<sub>2</sub>. The shakedown period shall not exceed 90 calendar days from the initial startup of the unit under this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Within 90 days of startup, permits S-1127-47, '-48, and '-49 shall be canceled. The permittee shall maintain a record of the date of initial operation of this unit, fuel combusted (scf/day) on daily basis, and water-to-fuel ratio or results of NO<sub>x</sub> and CO over 3-hour rolling average period from CEMS (if operational). These records shall be made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Upon concluding the initial shakedown period, emissions from the gas turbine system, except during periods of startup, shutdown, and black start, shall not exceed any of the following limits: 5 ppmvd NO<sub>x</sub> @ 15% O<sub>2</sub> referenced as NO<sub>2</sub>; 29 ppmvd CO @ 15% O<sub>2</sub>; 0.013 lb-PM<sub>10</sub>/MMBtu; 0.024 lb-VOC/MMBtu referenced as methane; and 0.00233 lb-SO<sub>x</sub>/MMBtu referenced as SO<sub>2</sub>. NO<sub>x</sub> and CO emission limits are based on 3-hour rolling average period. If unit is in either startup, shutdown, or black start mode during any portion of a clock hour, the unit will not be subject to the ppmvd limits for NO<sub>x</sub> and CO during that clock hour. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
13. Upon concluding the initial shakedown period, emissions from the gas turbine system shall not exceed any of the following limits: 64.1 lb-NO<sub>x</sub>/day referenced as NO<sub>2</sub>; 1,658.9 lb-CO/day; 5.8 lb-SO<sub>x</sub>/day; 32.1 lb-PM<sub>10</sub>/day; 138.8 lb-VOC/day referenced as methane; and 70.2 lb-NH<sub>3</sub>/day. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Upon concluding the initial shakedown period, the emissions from the gas turbine system shall not exceed any of the following limits: 16,615 lb-NO<sub>x</sub>/year; 65,810 lb-CO/year; 2,102 lb-SO<sub>x</sub>/year; 11,730 lb-PM<sub>10</sub>/year; 22,052 lb-VOC/year; 25,637 lb-NH<sub>3</sub>/year. All annual emission limits are based on 12 consecutive month rolling emissions totals. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Ammonia (NH<sub>3</sub>) emissions shall not exceed 21 ppmvd @ 15% O<sub>2</sub> over a 24-hour average period. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Each three hour rolling average will be compiled from the three most recent one hour periods. Each one hour period shall commence on the hour. Each one hour period in a twenty-four hour average for ammonia slip will commence on the hour. The twenty-four hour average will be calculated starting and ending at twelve-midnight. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Daily emissions shall be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each calendar month in a twelve consecutive month rolling emissions total shall commence at the beginning of the first day of the month. The twelve consecutive month rolling emissions totals used to determine compliance with annual emission limits shall be compiled from the twelve most recent calendar months. [District Rule 2201] Federally Enforceable Through Title V Permit

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18. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO<sub>x</sub>, CO, and O<sub>2</sub> analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source testing shall be witnessed or authorized by District personnel and samples shall be collected by a California Air Resources Board (CARB) certified testing laboratory or a CARB certified source testing firm. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source testing to measure start-up mass emission rates of NO<sub>x</sub>, CO, and VOC shall be conducted for one of the gas turbine systems (S-1129-868, '-869) within 90-days of initial startup under this permit and at least once every seven years thereafter. CEMS relative accuracy shall be determined during source testing in accordance with the procedure listed in 40 CFR Part 60, Appendix F with any necessary changes approved by the District. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing to determine compliance with the NO<sub>x</sub>, CO and NH<sub>3</sub> emission rates (ppmvd @ 15% O<sub>2</sub>) during normal operation shall be conducted within 90 days of initial startup under this permit and annually thereafter. [District Rules 2201 and 40 CFR 60.4400(a)] Federally Enforceable Through Title V Permit
23. Unit shall demonstrate compliance annually with NO<sub>x</sub> and CO emissions limits with the duct burner in operation and not in operation. An annual demonstration of compliance with the duct burner in operation is not required in any year in which the duct burner is not operated at all in the preceding 12 months, in such case, the unit shall be compliance source tested within 60 days of resumption of operation of the duct burner. An annual demonstration of compliance with the duct burner not in operation is not required in any year in which the duct burner operated continuously in conjunction with the turbine in the preceding 12 months, in such case, the unit shall be compliance source tested within 60 days of shutdown of operation of the duct burner. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
24. For the purpose of determining compliance with the emissions limits (ppmvd @ 15% O<sub>2</sub>) during normal operation in this permit, the arithmetic mean of three test runs shall apply, unless two of the three results are above an applicable limit. If two of three runs are above the applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The following test methods shall be used: NO<sub>x</sub> - EPA Method 7E or 20 or CARB Method 100; CO - EPA Method 10 or 10B or CARB Method 100; VOC - EPA Method 18 or 25; PM<sub>10</sub> - EPA Method 5 (front half and back half) or 201 and 202a; ammonia - BAAQMD ST-1B; and O<sub>2</sub> - EPA Method 3, 3A, or 20 or CARB Method 100. EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081 and 4703, and 40 CFR 60.4400 (1)(i)] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall install, certify, maintain, operate, and quality-assure a continuous emission monitor system (CEMS) which continuously measures and records the exhaust gas NO<sub>x</sub>, CO, and O<sub>2</sub> concentrations. Continuous emissions monitors shall be capable of monitoring emissions during normal operating conditions and during startups and shutdowns, provided that CEMS passes the relative accuracy requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 (PS-2) and District approved protocol for startups. If relative accuracy of CEMS cannot be demonstrated during the startup, CEMS results during startup and shutdown events shall be replaced with startup emission rates obtained from the source test conducted by the facility to determine compliance with emission limits contained in this document. [District Rules 1080, 2201 and 4703, 40 CFR 60.4340(b)(1) and 40 CFR 60.4345(a)] Federally Enforceable Through Title V Permit

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28. The CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, and 40 CFR 60.4345(b)] Federally Enforceable Through Title V Permit
29. The NO<sub>x</sub>, CO and O<sub>2</sub> CEMS shall meet the requirements in 40 CFR 60, Appendix F Procedure 1 and Part 60, Appendix B Performance Specification 2 (PS 2), or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, and 40 CFR 60.4345(a)] Federally Enforceable Through Title V Permit
30. In accordance with 40 CFR Part 60, Appendix F, 5.1, the CEMS must be audited at least once each calendar quarter. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
31. The requirements in 40 CFR 60, Appendix F, shall be met through the following EPA and District approved modified procedures: 1) annual RATA testing of at least one gas turbine engine (S-1129-868, '-869), and rotate the unit tested so that the two units are tested over two years, 2) annual RAA testing for the one gas turbine engine for which the annual RATA testing is not performed, 3) if any of the gas turbine engines fail the RAA testing, they must have a RATA test within 60 days, and 4) for every quarter that RATA or RAA testing is not performed, a CGA is to be performed for each gas turbine engine. [District Rule 1080] Federally Enforceable Through Title V Permit
32. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rule 1080] Federally Enforceable Through Title V Permit
33. The CEMS data shall be reduced to hourly averages as specified in 40 CFR 60.13(h), or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080 and 40 CFR 60.4350] Federally Enforceable Through Title V Permit
34. Upon written notice from the District, the owner or operator shall provide a summary of the data obtained from the CEMS. This summary shall be in the form and the manner prescribed by the District. [District Rule 1080] Federally Enforceable Through Title V Permit
35. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEMS data polling software system and shall make CEMS data available to the District's automated polling system on a daily basis. Upon notice by the District that the facility's CEMS is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEMS data is sent to the District by a District-approved alternative method. [District Rule 1080] Federally Enforceable Through Title V Permit
36. The permittee shall maintain the following records: the date, time and duration of any malfunction of the continuous monitoring equipment; dates of performance testing; dates of evaluations, calibrations, checks, and adjustments of the continuous monitoring equipment; date and time period which a continuous monitoring system or monitoring device was inoperative. [District Rules 1080 and 2201 and 40 CFR 60.8(d)] Federally Enforceable Through Title V Permit
37. The owner or operator shall submit a written report of CEM operations for each calendar quarter to the District. The report is due on the 30th day following the end of the calendar quarter and shall include the following: Time intervals, data and magnitude of excess NO<sub>x</sub> emissions, nature and the cause of excess (if known), corrective actions taken and preventive measures adopted; 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; 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; A negative declaration when no excess emissions occurred. [District Rule 1080, 40 CFR 60.4375(a) and 40 CFR 60.4395] Federally Enforceable Through Title V Permit
38. Monitor downtime for NO<sub>x</sub> shall be any unit operating hour in which sufficient data are not obtained to validate the hour for either NO<sub>x</sub> concentration or diluent O<sub>2</sub> (or both). [40 CFR 60.4380(b)(2)] Federally Enforceable Through Title V Permit

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39. If the gas turbine system is not fired on PUC-regulated or FERC-regulated natural gas, then a fuel sample shall be collected during the source test to determine sulfur content of the fuel combusted in the turbine. The fuel sample shall be analyzed for the total sulfur content using ASTM D1072; D3246; D4084; D4468; D6228; or D6667; or double GC for H<sub>2</sub>S and mercaptans. The applicable ranges of some ASTM methods are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of dilution ratio) may be used after getting a prior approval from the District. [40 CFR 60.4415(a)(1)(i)] Federally Enforceable Through Title V Permit
40. A totalizing mass or volumetric fuel flow computer shall be utilized and maintained to calculate the amount of natural gas combusted based on measured flow meter parameters (fuel pressure and temperature) and gas composition. [District Rule 4703] Federally Enforceable Through Title V Permit
41. Except during black start, start-up shall not exceed 2.0 hours per event. [District Rule 4703] Federally Enforceable Through Title V Permit
42. Shutdown shall not exceed 2.0 hours per event. [District Rule 4703] Federally Enforceable Through Title V Permit
43. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup (black start) and shutdown. [District Rule 4703] Federally Enforceable Through Title V Permit
44. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. [District Rule 4703] Federally Enforceable Through Title V Permit
45. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rule 4703] Federally Enforceable Through Title V Permit
46. Reduced load period is defined as the time during which a gas turbine is operated at less than rated capacity in order to change the position of the exhaust gas diverter gate. Each reduced load period shall not exceed one hour. [District Rule 4703] Federally Enforceable Through Title V Permit
47. A black start event is defined as the startup of a unit while the cogen plant is electrically separated from the utility grid. A black start shall not exceed 4.0 hours per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
48. The owner or operator shall submit to the District information correlating the NO<sub>x</sub> control system operating parameters to the associated measured NO<sub>x</sub> output. The information must be sufficient to allow the District to determine compliance with the NO<sub>x</sub> emission limits of this permit when the CEMS is not operating properly. [District Rule 4703] Federally Enforceable Through Title V Permit
49. The owner or operator shall maintain a stationary gas turbine system operating log that includes, on a daily basis, the actual local startup and stop time, length and reason for reduced load periods, total hours of operation, the type and quantity of fuel used, duration of each start-up (or black start) and each shutdown time period. [District Rule 4703] Federally Enforceable Through Title V Permit
50. The owner or operator shall maintain all records of required monitoring data and support information for a period of five years from the date of data entry and shall make such records available to the District upon request. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
51. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Kern County Rule 407; SJVUAPCD Rule 4703 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.2, 6.4.3, and 6.4.5; 60.4320(a); 40 CFR 60.4330(a)(2); 40 CFR 60.4340(b)(1); 40 CFR 60.4345(a) and (b); 40 CFR 60.4350; 40 CFR 60.4360; 40 CFR 60.4365(a); 40 CFR 60.4370(c); 40 CFR 60.4375(a); 40 CFR 60.4380(b)(2); 40 CFR 60.4395; 40 CFR 60.4400(a); 40 CFR 60.4400(1)(i); and 40 CFR 60.4415(a)(1)(i). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit