



NOV 05 2015

Mr. Gregory E. Pritchett  
Chevron USA, Inc.  
P.O. Box 1392  
Bakersfield, CA 93302

**Re: Notice of Significant Title V Permit Modification  
District Facility # C-311  
Project # C-1150307**

Dear Mr. Pritchett:

Enclosed for your review is the District's analysis of an application for significant Title V permit modification for the facility identified above. Chevron USA, Inc. is proposing a Title V significant permit modification to incorporate the recently issued Authority to Construct C-311-88-14 (under project C-1152452) into the Title V operating permit (see enclosures). The purpose of the project is the modification of a 86.4 MMBtu/hr cogeneration system with a gas-fired turbine to install a selective catalytic reduction (SCR) system, replace the heat recovery steam generator (HRSG) and duct burner, and to install a continuous emissions monitoring system (CEMS).

Enclosed are the current Title V permit, recently issued Authority to Construct C-311-88-14, proposed modified Title V permit, engineering evaluation, and application. The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the modified Title V operating permit. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice.

Seyed Sadredin  
Executive Director/Air Pollution Control Officer

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**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

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Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Errol Villegas, Permit Services Manager, at (559) 230-5900.

Sincerely,

A handwritten signature in cursive script that reads "Arnaud Marjollet". The signature is written in black ink and is positioned above a horizontal line.

Arnaud Marjollet  
Director of Permit Services

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email  
cc: Gerardo C. Rios, EPA (w/enclosure) via email

# **TITLE V APPLICATION REVIEW**

Significant Modification

Project #: C-1150307

Engineer: Sandra Lowe-Leseth

Date: October 29, 2015

Facility Number: C-311  
Facility Name: Chevron USA, Inc.  
Mailing Address: P.O. Box 1392  
Bakersfield, CA 93302

Contact Name: Gregory Pritchett  
Phone: (661) 654-7145

Responsible Official: Troy Latham  
Title: Operations Supervisor

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## **I. PROPOSAL**

Chevron USA, Inc. is proposing a Title V significant permit modification to incorporate recently-issued Authority to Construct (ATC) C-311-88-14 (under project C-1152452) into the Title V operating permit. The purpose of the project is the modification of a 86.4 MMBtu/hr cogeneration system with a gas-fired turbine to install a selective catalytic reduction (SCR) system, replace the heat recovery steam generator (HRSG) and duct burner, and to install a continuous emissions monitoring system (CEMS). The cogeneration system was modified to bring the turbine into compliance with District Rule 4703 (Stationary Gas Turbines). Additionally, the non-compliant dormant emissions unit (DEU) provisions of Permit to Operate C-311-88-12 will be removed.

The purpose of this evaluation is to identify all applicable requirements, determine if the facility will comply with the applicable requirements and to provide the legal and factual basis for the proposed revisions.

## **II. FACILITY LOCATION**

The cogeneration operation is located at Chevron's Coalinga Oilfield in Fresno County.

### **III. EQUIPMENT DESCRIPTION**

**ATC C-311-88-15:** 86.4 MMBTU/HR COGENERATION SYSTEM WITH A NOMINAL RATED 40.9 MMBTU/HR SOLAR MODEL CENTAUR 40-4500 TURBINE ENGINE #TG-104, DRIVING A 2.7 MW ELECTRICAL GENERATOR AND INCLUDING A RENTECH WASTE HEAT RECOVERY STEAM GENERATOR, WITH A 37 MMBTU/HR JOHN ZINC HAMWORTHY COMBUSTION DUCT BURNER SERVED BY A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION AND A CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)

### **IV. SCOPE OF EPA AND PUBLIC REVIEW**

This change to a Title V permit is considered to be a significant modification, discussed in Section VI below. Because the applicant did not apply for a Certificate of Conformity (COC) with the original New Source Review (NSR) Authority to Construct (ATC), this project requires public review.

### **V. APPLICABLE REQUIREMENTS**

District Rule 2520, Federally Mandated Operating Permits (Adopted June 21, 2001)

### **VI. DESCRIPTION OF PROPOSED MODIFICATIONS**

Chevron USA Inc is proposing to modify one 86.4 MMBtu/hr cogeneration system with a gas fired turbine to comply with the District Rule 4703 Tier 3 NOx emission standards. Additionally, the ATC project also removes the permit condition with daily heat input rate along with monitoring, recordkeeping, and reporting requirements associated with the provision. Because the unit will become a compliant unit and the facility will operate the turbine, the DEU conditions of the current permit, C-311-88-12, will be removed.

There is an increase in the SOx, PM10, PM2.5, and VOC emissions; however, the increase is less than 0.5 lb/day; therefore, per District policy, the increase is rounded to zero and there is no increase in the emissions of these pollutants. The increase in CO emissions is greater than 0.5 lb/day, but less than 2.0 lb/day; therefore, the change does not trigger BACT, offsets, or other NSR requirement. See Appendix D for details.

ATC to Proposed PTO Comparison

Condition #1 states that the ATC supercedes and replaces an earlier ATC. ATC C-311-88-10 has been cancelled.

Condition #2 of the ATC requires that the applicant submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. The applicant has applied within the appropriate timeframe; therefore, this condition will not be included on the proposed permit.

Condition #3 of the ATC is already contained in the facility-wide permit C-311-0-2 as condition #41; therefore it will not be included on the proposed permit.

ATC conditions #9 outlines emission rates during the initial shakedown period. Since the proposed permit will be issued after the initial shakedown period, this condition will not be included in the proposed permit.

ATC condition #38 will not be included on the proposed PTO. The condition is related to the initial start-up test only.

All other ATC conditions are included in the proposed PTO.

Current PTO to Proposed PTO Comparison

The following table lists conditions in the current permit, C-311-88-12 that are different from the proposed permit, C-311-88-15.

Current Permit Condition No.	Description	Proposed Permit Condition No.	Comments
1	No modification to this unit shall be performed without an Authority to Construct for such modification(s), except for changes specified in conditions below. [District Rule 2010]	---	Current permit conditions are for a non-compliant dormant emissions unit (DEU). These conditions are not included in the proposed permit because unit will not be dormant and the unit has been modified to be compliant with District Rule 4703.
2	The fuel supply line shall be physically disconnected from this unit. [District Rule 4703]	---	
3	This equipment shall not be operated for any reason until an Authority to Construct permit is issued approving all necessary retrofits required to comply with the applicable requirements of District Rule 4703 and all other applicable District regulations. [District Rule 4703]	---	
5	The Owner/Operator shall maintain a separate fuel meter to the turbine and a fuel meter to the duct burners. [District Rule 2201]	---	

Current Permit Condition No.	Description	Proposed Permit Condition No.	Comments
---	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 Rules 2201 and 4703]	35	
6	Natural gas consumption by the cogeneration system (turbine and duct burner) shall not exceed 1,812,000 scf/day. Natural gas consumption by the cogeneration system shall not exceed 654 million scf/year. [District Rule 2201]	---	Current fuel usage limiting condition not included in proposed permit.
7	Emissions from the cogeneration system shall not exceed any of the following limits: 233.7 lb-NOx/day, 3.6 lb-SOx/day, 47.1 lb-PM10/day, 257.3 lb-CO/day, or 47.1 lb-VOC/day. [District Rule 2201]	---	The current daily emission limit includes a non-compliant NOx emissions limit.
---	Emissions from the gas turbine system, on days when startup, shutdown, or black start occurs, shall not exceed any of the following limits: 67.4 lb-NOx/day referenced as NO2; 1,199.5 lb-CO/day; 3.7 lb-SOx/day; 48.2 lb-PM10/day; 99.6 lb-VOC/day referenced as methane; and 52.7 lb-NH3/day. [District Rule 2201] Y	7	Proposed permit's daily emissions limits when start-up, shutdown and/or black start occur.
---	Emissions from the gas turbine system shall not exceed any of the following limits: 22,343 lb-NOx/year; 84,878 lb-CO/year; 1,354 lb-SOx/year; 17,606 lb-PM10/year; 17,863 lb-VOC/year; 19,239 lb-NH3/year. All annual emission limits are based on 12 consecutive month rolling emissions totals. [District Rule 2201] Y	8	Proposed permit's annual emission limits.
8	The owner or operator shall not operate the gas turbine under load conditions, excluding the thermal stabilization period or reduced load period, which results in the measured NOx emissions concentration exceeding 35 ppmv @ 15% O2. [40 CFR 60.332(a)(1), (a)(2) and District Rules 2201 and 4703, 5.1.2.1]	---	The current permit's NOx concentration limit does not comply with District Rule 4703.

Current Permit Condition No.	Description	Proposed Permit Condition No.	Comments
---	Emissions from the gas turbine system, when startup or shutdown or black start do not occur, shall not exceed any of the following limits: 9 ppmvd NO <sub>x</sub> @ 15% O <sub>2</sub> referenced as NO <sub>2</sub> ; 53 ppmvd CO @ 15% O <sub>2</sub> when firing both gas turbine and duct burner simultaneously; 63 ppmvd CO @ 15% O <sub>2</sub> when firing gas turbine only; 0.026 lb-PM <sub>10</sub> /MMBtu; 0.026 lb-VOC/MMBtu referenced as methane; and 0.002 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]	6	Proposed concentration limit for NO <sub>x</sub> in compliance with District Rule 4703.
9, 10, 11	SO <sub>x</sub> , CO, PM <sub>10</sub> , and VOC concentration limits	6	Proposed SO <sub>x</sub> , CO, PM <sub>10</sub> , and VOC concentration limits are the same as the current permit for normal operations
23 - 28	Monitoring, recordkeeping, and reporting conditions related to a water-to-fuel ratio operating limit	---	Water-to-fuel ratio operational limit is obsolete, so related conditions will not be included on the proposed permit
32	If the water injection system is inoperative when the turbine is running, the operator shall follow procedures pursuant to District Rule 1100 (Equipment Breakdown). [District Rule 1100]	---	Breakdown condition for water injection system will not be included in proposed permit.
---	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]	9	Proposed permit's ammonia slip limit related to installed SCR system.
---	Conditions related to how the CEMS will calculate emissions	10-12	Required CEMS conditions
16, 17, 21, 22	Source testing conditions and test methods	13-20	Source test requirements
---	Conditions related to the CEMS being in compliance with applicable 40 CFR 60 requirements	21 – 32	Required CEMS conditions.
---	Definitions of start-up, shutdown, reduced load, and black start event. Each term has an associated time limit.	39 – 42	Definitions included in proposed permit for compliance clarity.

## VII. COMPLIANCE

District Rule 2520, Section 6.0 describes the source's ability to make changes including significant permit modification. This modification does not meet the minor permit modification criteria pursuant to Section 3.20 described as follows.

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
  - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
  - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

In accordance with Rule 2520, the application meets the procedural requirements of Section 11.3 by including;

1. The identification of the source, the name and address of the permit holder, the activities and emissions change involved in the permit action;
2. The name and address of the District, the name and telephone number of District staff to contact for additional information;
3. The availability, upon request, of a statement that sets forth the legal and factual basis for the proposed permit conditions;
4. The location where the public may inspect the complete application, the District analysis, the proposed permit, and all relevant supporting materials;



5. A statement that the public may submit written comments regarding the proposed decision within at least 30 days from the date of publication and a brief description of commenting procedures, and
6. A statement that members of the public may request the APCO or his designee to preside over a public hearing for the purpose of receiving oral public comment, if a hearing has not already been scheduled. The APCO shall provide notice of any public hearing scheduled to address the proposed decision at least 30 days prior to such hearing.

## **VIII. ATTACHMENTS**

- A. Proposed Modified Title V Operating Permit No. C-311-88-15
- B. Authority to Construct No. C-311-88-14
- C. Previous Title V Operating Permit No. C-311-88-12
- D. Emissions Increases
- E. Application

# ATTACHMENT A

Proposed Modified Title V Operating Permit No.  
C-311-88-15

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-311-88-15

EXPIRATION DATE: 12/31/2016

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

86.4 MMBTU/HR COGENERATION SYSTEM WITH A NOMINAL RATED 40.9 MMBTU/HR SOLAR MODEL CENTAUR 40-4500 TURBINE ENGINE #TG-104, DRIVING A 2.7 MW ELECTRICAL GENERATOR AND INCLUDING A RENTECH WASTE HEAT RECOVERY STEAM GENERATOR, WITH A 37 MMBTU/HR JOHN ZINC HAMWORTHY COMBUSTION DUCT BURNER SERVED BY A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION AND A CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)

## PERMIT UNIT REQUIREMENTS

1. {2256} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit
2. If the gas turbine system is fired on PUC-regulated or FERC regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520] Federally Enforceable Through Title V Permit
3. This unit shall be fired exclusively on natural gas as defined in 40 CFR 60.331(u) and the natural gas shall have a total sulfur content less than or equal to 1.0 gr/100 scf. [40 CFR 60.333(b) and District Rules 2201 and 4201] Federally Enforceable Through Title V Permit
4. If the gas turbine system is not fired on PUC-regulated or FERC 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 60.334(h)(3)] Federally Enforceable Through Title V Permit
5. HHV and LHV of the fuel shall be determined by using ASTM D3588, ASTM 1826, or ASTM 1945. [40 CFR 60.335(b), District Rule 4703] Federally Enforceable Through Title V Permit
6. Emissions from the gas turbine system, when startup or shutdown or black start do not occur, shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 15% O<sub>2</sub> referenced as NO<sub>2</sub>; 53 ppmvd CO @ 15% O<sub>2</sub> when firing both gas turbine and duct burner simultaneously; 63 ppmvd CO @ 15% O<sub>2</sub> when firing gas turbine only; 0.026 lb-PM<sub>10</sub>/MMBtu; 0.026 lb-VOC/MMBtu referenced as methane; and 0.002 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
7. Emissions from the gas turbine system, on days when startup, shutdown, or black start occurs, shall not exceed any of the following limits: 67.4 lb-NO<sub>x</sub>/day referenced as NO<sub>2</sub>; 1199.5 lb-CO/day; 3.7 lb-SO<sub>x</sub>/day; 48.2 lb-PM<sub>10</sub>/day; 99.6 lb-VOC/day referenced as methane; and 52.7 lb-NH<sub>3</sub>/day. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Emissions from the gas turbine system shall not exceed any of the following limits: 22,343 lb-NO<sub>x</sub>/year; 84,878 lb-CO/year; 1,354 lb-SO<sub>x</sub>/year; 17,606 lb-PM<sub>10</sub>/year; 17,863 lb-VOC/year; 19,239 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

9. 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
10. 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
11. 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
12. 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
13. 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
14. 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
15. 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 engines (C-311-88, -93, -95 or -97) at least once every seven years. 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
16. 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 annually. [District Rules 2201 and 4703, CFR 60.335(a)] Federally Enforceable Through Title V Permit
17. 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
18. 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, 40 CFR 60.335(a), and 40 CFR 60.335(b)(1)] Federally Enforceable Through Title V Permit
19. Source test to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted with duct burner "on" and "off" configurations. 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 Rule 2201 and 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

20. The results of each source test shall be submitted to the District within 60 days of the source test. [District Rule 1081] Federally Enforceable Through Title V Permit
21. 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 60.334(b)(1)] Federally Enforceable Through Title V Permit
22. 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 CARB and the EPA. [District Rule 1080 and 40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
23. 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), District approved protocol for startups, or shall meet equivalent specifications established by mutual agreement of the District, the CARB, and the EPA. [District Rule 1080 and 40 CFR 60.334(b)(1)] Federally Enforceable Through Title V Permit
24. 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
25. 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 (C-311-88, -93, -95 or -97), and rotate the unit tested so that all four units are tested over four years, 2) annual RAA testing for the three gas turbine engines 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 Rules 1080 and 4703, 40 CFR 60.334(b)(1)] Federally Enforceable Through Title V Permit
26. 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
27. 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 CARB, and the EPA. [District Rule 1080 and 40 CFR 60.334(b)(3)] Federally Enforceable Through Title V Permit
28. 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
29. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEMS data polling software system, or a District approved alternative polling method, and shall make CEMS data available to the District 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
30. 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

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PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

31. 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 NOx 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 and 40 CFR 60.334(j)(5)] Federally Enforceable Through Title V Permit
32. Monitor downtime for NOx shall be any unit operating hour in which sufficient data are not obtained to validate the hour for either NOx concentration or diluent O2 (or both). [40 CFR 60.334(j)(1)(iii)(B)] Federally Enforceable Through Title V Permit
33. 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; D3031; D3246; D4084; D4468; D6228; or D6667; or double GC for H2S 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 60.335(b)(10)] Federally Enforceable Through Title V Permit
34. Should the applicant decide to conduct performance evaluation of CEMS with the initial performance test, a minimum of 9 reference method runs, with a minimum time per run of 21 minutes, at a single load level, between 90 and 100 percent of peak (or the highest physically achievable) load shall be performed. The test data obtained during these runs can be used to demonstrate compliance with the applicable NOx emission limit and to provide reference method data for the RATA of the CEMS. The requirement to test at three additional load levels is waived under this option. [40 CFR 60.335(b)(6)] Federally Enforceable Through Title V Permit
35. 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 Rules 2201 and 4703] Federally Enforceable Through Title V Permit
36. Except during black start, each startup shall not exceed two hours per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
37. Each shutdown shall not exceed two hours per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
38. 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
39. 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
40. 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
41. 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
42. 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 event shall not exceed 4.0 hours. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
43. The owner or operator shall submit to the District information correlating the NOx control system operating parameters to the associated measured NOx output. The information must be sufficient to allow the District to determine compliance with the NOx emission limits of this permit when the CEMS is not operating properly. [District Rule 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

44. 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
45. 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
46. {741} The requirements of 40 CFR 72.6 (b) do not apply to this source because only non-Title IV sources can qualify to use the applicable template. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirement: 40 CFR 60.332(a), 60.335 (a), (b) and (c) . A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
48. Compliance with the permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: SJVUAPCD Rule 4703, 6.2.4, 6.3, 6.4.1, 6.4.3 and 6.4.5. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. Compliance with permit conditions in the Title V permit shall be deemed compliance with District Rule 4201 (as amended 12/17/92). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

DRAFT

# ATTACHMENT B

Authority to Construct No.  
C-311-88-14





**COPY**

# AUTHORITY TO CONSTRUCT

**PERMIT NO:** C-311-88-14

**ISSUANCE DATE:** 10/12/2015

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

**LOCATION:** HEAVY OIL PRODUCTION  
UTM 10S 734,027E 4,007,848N COALINGA  
FRESNO COUNTY, CA 93210

**SECTION:** 25 **TOWNSHIP:** 20S **RANGE:** 14E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 86.4 MMBTU/HR COGENERATION SYSTEM WITH A NOMINAL RATED 40.9 MMBTU/HR SOLAR MODEL CENTAUR 40-4500 TURBINE ENGINE #TG-104, DRIVING A 2.7 MW ELECTRICAL GENERATOR AND INCLUDING A STRUTHERS WASTE HEAT RECOVERY STEAM GENERATOR #SG-204, WITH A 36.4 MMBTU/HR COEN DUCT BURNER: REMOVE DAILY HEAT INPUT RATE (MMBTU/DAY); INSTALL A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION TO COMPLY WITH RULE 4703 TIER 3 EMISSION LIMIT OF 9 PPMVD NOX @ 15% O2; REPLACE STRUTHERS-WELLS HEAT RECOVERY STEAM GENERATOR (HRSG) WITH ANOTHER HRSG (IF NECESSARY); REPLACE THE EXISTING 36.4 MMBTU/HR DUCT BURNER WITH A NEW 37 MMBTU/HR (NOMINAL RATING) DUCT BURNER (IF NECESSARY); AND INSTALL A CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) TO MEASURE NOX, CO AND O2 CONCENTRATIONS

## CONDITIONS

1. This Authority to Construct (ATC) cancels and supersedes ATC C-311-88-10. [District Rule 2201]
2. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit
5. If the gas turbine system is fired on PUC-regulated or FERC regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520]

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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 / APCCO

Arnaud Marjollet, Director of Permit Services

C-311-88-14: Oct 12 2015 10:32AM - LOWELES : Joint Inspection NOT Required

6. This unit shall be fired exclusively on natural gas as defined in 40 CFR 60.331(u) and the natural gas shall have a total sulfur content less than or equal to 1.0 gr/100 scf. [40 CFR 60.333(b) and District Rules 2201 and 4201] Federally Enforceable Through Title V Permit
7. If the gas turbine system is not fired on PUC-regulated or FERC 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 60.334(h)(3)] Federally Enforceable Through Title V Permit
8. HHV and LHV of the fuel shall be determined by using ASTM D3588, ASTM 1826, or ASTM 1945. [40 CFR 60.335(b), District Rule 4703] Federally Enforceable Through Title V Permit
9. During an initial shakedown period, the emissions shall not exceed any of the following limits: 35 ppmvd NO<sub>x</sub> @ 15% O<sub>2</sub> referenced as NO<sub>2</sub>; 53 ppmvd CO @ 15% O<sub>2</sub> when firing both gas turbine and duct burner simultaneously; 63 ppmvd CO @ 15% O<sub>2</sub> when firing gas turbine only; 0.026 lb-PM<sub>10</sub>/MMBtu; 0.026 lb-VOC/MMBtu referenced as methane; and 0.002 lb-SO<sub>x</sub>/MMBtu referenced as SO<sub>2</sub>. The shakedown period shall not exceed 60 calendar days from the initial startup of the unit under this permit. The shakedown period must be concluded prior to the applicable Rule 4703 compliance deadline selected for this unit. 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]
10. Upon concluding the initial shakedown period, emissions from the gas turbine system, when startup or shutdown or black start do not occur, shall not exceed any of the following limits: 9 ppmvd NO<sub>x</sub> @ 15% O<sub>2</sub> referenced as NO<sub>2</sub>; 53 ppmvd CO @ 15% O<sub>2</sub> when firing both gas turbine and duct burner simultaneously; 63 ppmvd CO @ 15% O<sub>2</sub> when firing gas turbine only; 0.026 lb-PM<sub>10</sub>/MMBtu; 0.026 lb-VOC/MMBtu referenced as methane; and 0.002 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]
11. Upon concluding the initial shakedown period, emissions from the gas turbine system, on days when startup, shutdown, or black start occurs, shall not exceed any of the following limits: 67.4 lb-NO<sub>x</sub>/day referenced as NO<sub>2</sub>; 1199.5 lb-CO/day; 3.7 lb-SO<sub>x</sub>/day; 48.2 lb-PM<sub>10</sub>/day; 99.6 lb-VOC/day referenced as methane; and 52.7 lb-NH<sub>3</sub>/day. [District Rule 2201]
12. Upon concluding the initial shakedown period, the emissions from the gas turbine system shall not exceed any of the following limits: 22,343 lb-NO<sub>x</sub>/year; 84,878 lb-CO/year; 1,354 lb-SO<sub>x</sub>/year; 17,606 lb-PM<sub>10</sub>/year; 17,863 lb-VOC/year; 19,239 lb-NH<sub>3</sub>/year. All annual emission limits are based on 12 consecutive month rolling emissions totals. [District Rule 2201]
13. 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]
14. 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]
15. 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]
16. 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]
17. 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

CONDITIONS CONTINUE ON NEXT PAGE

Conditions for C-311-88-14 (continued)

18. 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
19. 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 engines (C-311-88, -93, -95 or -97) within 60-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]
20. 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 60 days of initial startup under this permit and annually thereafter. [District Rules 2201 and 4703, CFR 60.335(a)]
21. 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]
22. 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, 40 CFR 60.335(a), and 40 CFR 60.335(b)(1)] Federally Enforceable Through Title V Permit
23. Source test to demonstrate compliance with NO<sub>x</sub> and CO emission limits shall be conducted with duct burner "on" and "off" configurations. 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 Rule 2201 and 4703] Federally Enforceable Through Title V Permit
24. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
25. 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 60.334(b)(1)]
26. 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 CARB and the EPA. [District Rule 1080 and 40 CFR 60.334(b)(2)]
27. 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), District approved protocol for startups, or shall meet equivalent specifications established by mutual agreement of the District, the CARB, and the EPA. [District Rule 1080 and 40 CFR 60.334(b)(1)]
28. 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]

CONDITIONS CONTINUE ON NEXT PAGE

29. 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 (C-311-88, -93, -95 or -97), and rotate the unit tested so that all four units are tested over four years, 2) annual RAA testing for the three gas turbine engines 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 Rules 1080 and 4703, 40 CFR 60.334(b)(1)]
30. 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]
31. 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 CARB, and the EPA. [District Rule 1080 and 40 CFR 60.334(b)(3)]
32. 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]
33. The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEMS data polling software system, or a District approved alternative polling method, and shall make CEMS data available to the District 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]
34. 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)]
35. 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 NOx 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 and 40 CFR 60.334(j)(5)]
36. Monitor downtime for NOx shall be any unit operating hour in which sufficient data are not obtained to validate the hour for either NOx concentration or diluent O2 (or both). [40 CFR 60.334(j)(1)(iii)(B)]
37. 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; D3031; D3246; D4084; D4468; D6228; or D6667; or double GC for H2S 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 60.335(b)(10)]
38. Should the applicant decide to conduct performance evaluation of CEMS with the initial performance test, a minimum of 9 reference method runs, with a minimum time per run of 21 minutes, at a single load level, between 90 and 100 percent of peak (or the highest physically achievable) load shall be performed. The test data obtained during these runs can be used to demonstrate compliance with the applicable NOx emission limit and to provide reference method data for the RATA of the CEMS. The requirement to test at three additional load levels is waived under this option. [40 CFR 60.335(b)(6)]
39. 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 Rules 2201 and 4703]
40. Except during black start, each startup shall not exceed two hours per event. [District Rules 2201 and 4703]
41. Each shutdown shall not exceed two hours per event. [District Rules 2201 and 4703]

CONDITIONS CONTINUE ON NEXT PAGE

42. 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]
43. 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]
44. 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]
45. 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
46. 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 event shall not exceed 4.0 hours. [District Rules 2201 and 4703]
47. The owner or operator shall submit to the District information correlating the NOx control system operating parameters to the associated measured NOx output. The information must be sufficient to allow the District to determine compliance with the NOx emission limits of this permit when the CEMS is not operating properly. [District Rule 4703]
48. 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]
49. 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
50. The requirements of 40 CFR 72.6 (b) do not apply to this source because only non-Title IV sources can qualify to use the applicable template. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
51. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirement: 40 CFR 60.332(a), 60.335 (a), (b) and (c) . A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. Compliance with the permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: SJVUAPCD Rule 4703, 6.2.4, 6.3, 6.4.1, 6.4.3 and 6.4.5. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
53. Compliance with permit conditions in the Title V permit shall be deemed compliance with District Rule 4201 (as amended 12/17/92). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

# ATTACHMENT C

Previous Title V Operating Permit No.  
C-311-88-12

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-311-88-12

EXPIRATION DATE: 12/31/2016

SECTION: 25 TOWNSHIP: 20S RANGE: 14E

## EQUIPMENT DESCRIPTION:

NON-COMPLIANT DORMANT EMISSIONS UNIT CONSISTING OF 86.4 MMBTU/HR COGENERATION SYSTEM WITH A NOMINAL RATED 40.9 MMBTU/HR SOLAR MODEL CENTAUR 40-4500 TURBINE ENGINE #TG-104, DRIVING A 2.7 MW ELECTRICAL GENERATOR AND INCLUDING A STRUTHERS WASTE HEAT RECOVERY STEAM GENERATOR #SG-204, WITH A 36.4 MMBTU/HR COEN DUCT BURNER

## PERMIT UNIT REQUIREMENTS

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1. No modification to this unit shall be performed without an Authority to Construct for such modification(s), except for changes specified in conditions below. [District Rule 2010] Federally Enforceable Through Title V Permit
2. The fuel supply line shall be physically disconnected from this unit. [District Rule 4703] Federally Enforceable Through Title V Permit
3. This equipment shall not be operated for any reason until an Authority to Construct permit is issued approving all necessary retrofits required to comply with the applicable requirements of District Rule 4703 and all other applicable District regulations. [District Rule 4703] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit
5. The Owner/Operator shall maintain a separate fuel meter to the turbine and a fuel meter to the duct burners. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Natural gas consumption by the cogeneration system (turbine and duct burner) shall not exceed 1,812,000 scf/day. Natural gas consumption by the cogeneration system shall not exceed 654 million scf/year. [District Rule 2201]
7. Emissions from the cogeneration system shall not exceed any of the following limits: 233.7 lb-NOx/day, 3.6 lb-SOx/day, 47.1 lb-PM10/day, 257.3 lb-CO/day, or 47.1 lb-VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The owner or operator shall not operate the gas turbine under load conditions, excluding the thermal stabilization period or reduced load period, which results in the measured NOx emissions concentration exceeding 35 ppmv @ 15% O2. [40 CFR 60.332(a)(1), (a)(2) and District Rules 2201 and 4703, 5.1.2.1] Federally Enforceable Through Title V Permit
9. CO emissions from the cogeneration system with the duct burner firing shall not exceed 53 ppmv CO @ 15% O2 or 0.119 lb-CO/MMBtu, excluding thermal stabilization periods or reduced load periods. [District Rule 4703, 5.2] Federally Enforceable Through Title V Permit
10. CO emissions from the cogeneration system without duct burner firing shall not exceed 63 ppmv CO @ 15% O2 or 0.142 lb CO/MMBtu, excluding thermal stabilization periods or reduced load periods. [District Rule 4703, 5.2] Federally Enforceable Through Title V Permit
11. Emissions from the cogeneration system (with or without duct burner firing) shall not exceed any of the following limits: 0.002 lb-SOx/MMBtu, 0.026 lb-PM10/MMBtu, or 0.026 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: CHEVRON USA INC

Location: HEAVY OIL PRODUCTION, UTM 10S 734,027E 4,007,848N COALINGA, FRESNO COUNTY, CA 93210

C-311-88-12; Oct 13 2015 7:40AM - LOWELES

12. Reduced Load Period shall be defined as the time during which the gas turbine is operated at less than rated capacity in order to change the position of the exhaust gas diverter gate, not exceeding one hour. [District Rule 4703, 3.19] Federally Enforceable Through Title V Permit
13. Thermal Stabilization Period shall be defined as the startup or shutdown, as defined in 40 CFR 60.2, time during which the exhaust gas is not within the normal operating temperature range, not to exceed two hours per startup or shutdown event. [District Rule 4703, 3.25] Federally Enforceable Through Title V Permit
14. This unit shall be fired exclusively on natural gas as defined in 40 CFR 60.331(u) and the natural gas shall have a total sulfur content less than or equal to 1.0 gr/100 scf. [40 CFR 60.333(b) and District Rules 2201 and 4201] Federally Enforceable Through Title V Permit
15. The sulfur fuel content of each fuel source shall be: (i) documented in a valid purchase contract, a supplier certification, a tariff sheet or transportation contract or (ii) monitored weekly using ASTM Methods D4084, D5504, D6228, or Gas Processors Association Standard 2377, or double GC for H<sub>2</sub>S and mercaptans. If the sulfur fuel content is less than 1.0 gr/100 scf for eight consecutive weeks, then the monitoring frequency shall be every 6 months. If any six-month monitoring tests result in a sulfur fuel content exceedance, weekly monitoring shall resume. [40 CFR 60.334(h)(3)] Federally Enforceable Through Title V Permit
16. Performance testing shall be conducted annually to measure NO<sub>x</sub> and CO emissions concentrations using the following test methods: EPA Methods 7E or 20 for NO<sub>x</sub> emissions, EPA Methods 10 or 10B for CO emissions, EPA Methods 3, 3A, or 20 for Oxygen content of the exhaust gas. The test will be comprised of three test runs performed at the highest physically achievable load of the gas turbine. The measured NO<sub>x</sub> concentrations shall be averaged over a three hour period, using consecutive 15-minute sampling periods. [40 CFR 60.335(a), (b)(2) and District Rule 4703, 5.1, 6.3.1, 6.3.2, and 6.4] Federally Enforceable Through Title V Permit
17. Any gas turbine with an intermittently operated auxiliary burner shall demonstrate compliance with the auxiliary burner both on and off. Source testing shall not be required with the duct burner on if it has not been in operation during the previous 12 months, i.e. the duct burner need not be started to solely perform source testing. Source testing shall not be required with the duct burner off if it has been in continuous operation during the previous 12 months, i.e. the duct burner need not be shut-down solely to perform source testing. Source testing shall be performed within 60 days of startup or shutdown of the duct burner unless source testing of the duct burner has been performed in the previous 12 months. [40 CFR 60.335(b) and District Rule 4703, 6.3.3] Federally Enforceable Through Title V Permit
18. HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [40 CFR 60.335(b) and District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
19. The owner or operator shall be required to conform to the sampling facilities and testing procedures described in Rule 1081 (as amended 12/16/93), Sections 3.0 and 6.1. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The District must be notified 30 days prior to any performance testing and a test plan shall be submitted for approval 15 days prior to such testing. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Performance testing shall be witnessed or authorized by District personnel. Test results must be submitted to the District within 60 days of performance testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. The owner or operator shall operate and maintain in calibration a system which continuously measures and records: control system operating parameters, elapsed time of operation, the fuel consumption and the ratio of water to fuel being fired in the turbine. [40 CFR 60.334(a) and District Rule 4703, 6.2.2] Federally Enforceable Through Title V Permit
23. The owner or operator shall develop and keep on-site a parameter monitoring plan which includes the procedures used to document the proper operation of the NO<sub>x</sub> emissions controls (water injection). This plan shall include the parameter(s) monitored, such as the water-to-fuel ratio, and the acceptable range(s) of the parameter(s) as well as the basis for designating the parameter(s) and acceptable range(s). Any supplemental data such as engineering analyses, design specifications, manufacturers recommendations and other relevant information shall be included in the monitoring plan. [40 CFR 60.334(g)] Federally Enforceable Through Title V Permit
24. The water to fuel ratio shall not be less than 0.45 on a weight basis. [District Rule 4703, 6.2.5] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.



25. The owner or operator shall submit a semi-annual excess NOx emissions and monitor downtime report to the APCO. Excess emissions shall be reported for all periods of operation, including startup, shutdown and malfunction. The report, post marked by the 30th day following the end of every other calendar quarter, shall include the following: Time intervals, average steam or water-to-fuel ratio, turbine load, nature and cause of excess emissions (if known), and corrective actions taken and preventative measures adopted. [40 CFR 60.334(j), (j)(5) and District Rule 2520, 9.3.2]] Federally Enforceable Through Title V Permit
26. Excess emissions shall be defined as any operating hour for which the steam or water to fuel ratio, as measured by the continuous monitoring system, falls below the established steam or water to fuel ratio. Any operating hour in which no steam or water is injected into the turbine shall also be considered as excess emissions. [40 CR 60.334(j)(1)(i)(A)] Federally Enforceable Through Title V Permit
27. Monitor downtime shall be any operating hour in which the water or steam is injected into the turbine, but essential parametric data needed to determine the steam or water to fuel ratio are unavailable or invalid. [40 CFR 60.334(j)(1)(i)(B)] Federally Enforceable Through Title V Permit
28. Fuel consumption and the water-to-fuel ratio shall be monitored continuously with a system that is accurate to within 5 percent. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The cogeneration system shall be equipped with a meter recording the total elapsed operating time. [District NSR Rule] Federally Enforceable Through Title V Permit
30. Permittee shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100] Federally Enforceable Through Title V Permit
31. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100] Federally Enforceable Through Title V Permit
32. If the water injection system is inoperative when the turbine is running, the operator shall follow procedures pursuant to District Rule 1100 (Equipment Breakdown). [District Rule 1100] Federally Enforceable Through Title V Permit
33. The requirements of 40 CFR 72.6 (b) do not apply to this source because only non-Title IV sources can qualify to use the applicable template. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
34. If the turbine is fired on PUC-regulated natural gas, then the operator shall maintain a log describing the source of natural gas and quantity used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
35. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments and emissions measurements. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
36. The owner or operator shall maintain a record of the cumulative rolling 12 month fuel usage for each turbine. The record shall be updated at the end of each calendar month. [District Rule 2201] Federally Enforceable Through Title V Permit
37. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis, 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(a),(b) and District Rule 4703, 6.2.4] Federally Enforceable Through Title V Permit
38. 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
39. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332(a)(1), (a)(2), 60.333 (b), (g), (h)(3), (j), (j)(1)(i)(A), (j)(1)(i)(b), and (j)(5); 60.335(a), (b)(2), (b)(3); and District Rule 4703 (as amended 4/25/02), Sections 5.1.2.1, 5.2, 6.2.2, 6.4, and 6.2.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

40. Compliance with permit conditions in the Title V permit shall be deemed compliance with District Rule 1081(as amended 12/16/93), Section 3.0, 6.0, 7.1, 7.2, 7.3 and Rule 4201 (as amended 12/17/92). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: CHEVRON USA INC

Location: HEAVY OIL PRODUCTION,UTM 10S 734,027E 4,007,848N COALINGA,FRESNO COUNTY, CA 93210

C-311-88-12: Oct 13 2015 7:40AM -- LOWELES

# ATTACHMENT D

Emissions Increases

	SSIPE (lb/yr)				
	NOx	VOC	CO	SOx	PM10
C-311-88-14	-64,170	136	428	9	137
<b>TOTAL</b>	<b>-64,170</b>	<b>136 *</b>	<b>428</b>	<b>9 *</b>	<b>137 *</b>

\* Per District Policy APR 1130, the emission increase for this pollutant is less than 0.5 lb/day; therefore, the increase is rounded to zero for the purposes of triggering NSR requirements.

# ATTACHMENT E

Application

# San Joaquin Valley Air Pollution Control District

www.valleyair.org

RECEIVED

FEB 19 2015

SJVAPCD  
Southern Region

## Permit Application For:

[ ] ADMINISTRATIVE AMENDMENT    [ X ] MINOR MODIFICATION    [ ] SIGNIFICANT MODIFICATION

1. PERMIT TO BE ISSUED TO: <b>CHEVRON U.S.A. INC.</b>	
2. MAILING ADDRESS:  STREET/P.O. BOX: <u>PO BOX 1392</u>  CITY: <u>BAKERSFIELD</u> STATE: <u>CA</u> 9-DIGIT ZIP CODE: <u>93302</u>	
3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:  STREET: <u>Fresno Heavy Oil Source</u> CITY: <u>Coalinga</u>  <u>      </u> ¼ SECTION <u>25</u> TOWNSHIP <u>20S</u> RANGE <u>14E</u>	INSTALLATION DATE:
4. GENERAL NATURE OF BUSINESS: CRUDE OIL AND GAS PRODUCTION	
5. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE (include Permit #'s if known, and use additional sheets if necessary)  <b>Implementation of ATC C-311-88-11 Rule 4703 compliance for turbine 104</b>	
6. TYPE OR PRINT NAME OF APPLICANT: <b>Gregory E. Pritchett</b>	TITLE OF APPLICANT: <b>HES Manager</b>
7. SIGNATURE OF APPLICANT: <i>Gregory E. Pritchett</i>	DATE: <u>2/19/15</u> PHONE: (661) 654-7145 FAX: (661) 654-7606 EMAIL: Lance.Ericksen@chevron.com

**For APCD Use Only:**

no \$

DATE STAMP	FILING FEE RECEIVED: \$ _____ CHECK#: _____
	DATE PAID: _____
	PROJECT NO: <u>C-1150307</u> FACILITY ID: <u>C-311</u>

RECEIVED

FEB 19 2015

SJVAPCD  
Southern Region

# San Joaquin Valley Unified Air Pollution Control District

## TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

### I. TYPE OF PERMIT ACTION (Check appropriate box)

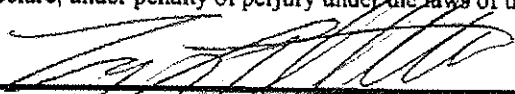
- SIGNIFICANT PERMIT MODIFICATION                       ADMINISTRATIVE AMENDMENT  
 MINOR PERMIT MODIFICATION

COMPANY NAME: <b>CHEVRON U.S.A. INC.</b>	FACILITY ID: <b>C-311</b>
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: <b>CHEVRON U.S.A. INC.</b>	
3. Agent to the Owner: <b>N/A</b>	

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

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment 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 of Responsible Official

2/16/15  
 \_\_\_\_\_  
 Date

**Troy Latham**

Name of Responsible Official (please print)

Implement ATC C-311-88-11 Rule 4703 Compliance

**Operations Supervisor**

Title of Responsible Official (please print)