



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

JUN 14 2010

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

Re: **Notice of Minor Title V Permit Modification**
District Facility # S-1128
Project # S-1095612

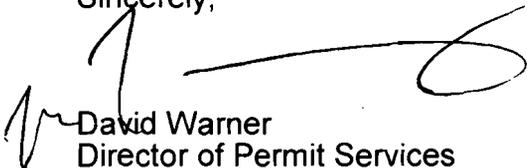
Dear Mr. Rios:

Enclosed for you to review is an application for minor Title V permit modification for the facility identified above. Chevron USA, Inc. is proposing a Title V minor permit modification to incorporate the recently issued Authorities to Construct S-1128-366-16, -366-17, -367-15, and -367-16 into the Title V operating permit. The modification involves designating each of the two gas turbine engines as non-compliant dormant emissions units and subsequently retrofitting each with an SCR system for District Rule 4703 compliance.

Enclosed is the engineering evaluation with the following attachments: proposed modified Title V permit, recently issued Authorities to Construct S-1128-366-16, -366-17, -367-15, and -367-16, emission increases, application, and previous Title V permit. Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Jim Swaney at (559) 230-5900.

Sincerely,



David Warner
Director of Permit Services

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
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34946 Flyover Court
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San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

JUN 14 2010

William Fall
Chevron USA, Inc.
P.O. Box 1392
Bakersfield, CA 93302

**Re: Notice of Minor Title V Permit Modification
District Facility # S-1128
Project # S-1095612**

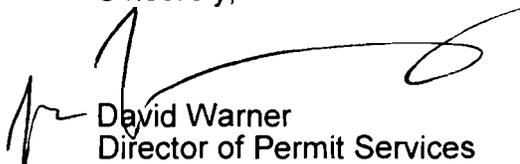
Dear Mr. Fall:

Enclosed is the District's analysis of your application for minor Title V permit modification for the facility identified above. You proposed a Title V minor permit modification to incorporate recently issued Authorities to Construct S-1128-366-16, -366-17, -367-15, and -367-16 into the Title V operating permit. The modification involves designating each of the two gas turbine engines as non-compliant dormant emissions units and subsequently retrofit each with an SCR system for District Rule 4703 compliance.

Enclosed is the engineering evaluation with the following attachments: proposed modified Title V permit, recently issued Authorities to Construct S-1128-366-16, -366-17, -367-15, and -367-16, emission increases, application, and previous Title V permit. This project will be subject to a 45-day EPA commenting period prior to the District taking final action.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Jim Swaney at (559) 230-5900.

Sincerely,



David Warner
Director of Permit Services

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TITLE V APPLICATION REVIEW

Minor Modification
Project #: S-1095612

Engineer: Sajjad Ahmad
Date: March 15, 2010

Facility Number: S-1128
Facility Name: Chevron USA, Inc.
Mailing Address: P.O. Box 1392
Bakersfield, CA 93302

Contact Name: Martin Lundy
Phone: (661) 654-7142

Responsible Official: William Fall
Title: HES Manager

I. PROPOSAL

Chevron USA, Inc. is proposing a Title V minor permit modification to incorporate the recently issued Authorities to Construct S-1128-366-16, -366-17, -367-15, and -367-16 into the Title V operating permit. The modification involves designating each of the two cogeneration gas turbine engines as non-compliant dormant emissions units and subsequently retrofitting each with an SCR system for District Rule 4703 compliance.

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

These gas turbines are located at Chevron's Midway Sunset Oilfield in the Heavy Oil Western Stationary Source in Kern County, within Section 26, Township 32S, Range 23E.

III. EQUIPMENT DESCRIPTION

After Implementation of DEU ATCs:

- S-1128-366-18: NON-COMPLIANT DORMANT EMISSIONS UNIT CONSISTING OF 2.7 MW COGEN FACILITY (CUSA ID# CG-1) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND STRUTHERS HEAT RECOVERY STEAM GENERATOR WITH 39 MMBTU/HR (NOMINAL RATING) COEN DUCT BURNER
- S-1128-367-17: NON-COMPLIANT DORMANT EMISSIONS UNIT CONSISTING OF 2.7 MW COGEN FACILITY (CUSA ID# CG-2) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND STRUTHERS HEAT RECOVERY STEAM GENERATOR WITH 37 MMBTU/HR (NOMINAL RATING) COEN DUCT BURNER

After Implementation of SCR Retrofit ATCs:

- S-1128-366-19: 2.7 MW COGEN FACILITY (CUSA ID# CG-1) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND A PCL HEAT RECOVERY STEAM GENERATOR WITH 37 MMBTU/HR (NOMINAL RATING) COEN DUCT BURNER SERVED BY A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION AND A CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)
- S-1128-367-18: 2.7 MW COGEN FACILITY (CUSA ID# CG-2) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND A PCL HEAT RECOVERY STEAM GENERATOR WITH 37 MMBTU/HR (NOMINAL RATING) COEN 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 minor modification and, as such, requires no 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 incorporate the recently issued Authorities to Construct S-1128-366-16, -366-17, -367-15, and -367-16 into the Title V operating permit. The modification involves with designating each of the two cogeneration gas turbine engines as non-compliant dormant emissions unit and subsequently retrofit each with an SCR system for District Rule 4703 compliance.

Both of the permit units modified under this project are identical in function, as such, the previous Title V operating permits are nearly identical. The modifications made to these units are also identical; therefore, the description of the modifications to both permit units is described below:

Dormant Emissions Unit ATCs S-1128-366-16 and -367-15:

Conditions deleted from the ATCs:

Condition 1 on the ATCs was not included on the proposed PTOs, since the requirement has been satisfied with the submittal of this Title V Minor Modification application.

SCR System Retrofit ATCs S-1128-366-17 and -367-16:

Conditions deleted from the ATCs:

Condition 1 on the ATCs was not included on the proposed PTOs, since the requirement has been satisfied with the submittal of this Title V Minor Modification application.

Condition 2 on the ATCs was not included on the proposed PTOs, since the condition is redundant with condition # 40 on the facility wide permit to operate S-1128-0-1.

Condition 9 on the ATCs was not included on the proposed PTOs. This condition allowed a "shakedown" period of 60 calendar days to have the gas turbine comply with the new emissions limits of Rule 4703. Once the units are started and pass initial source test, this condition will no longer be required on the new PTOs.

Condition 55 on the ATCs was not included on the proposed PTOs. This condition required the facility to supply the information regarding heat recovery steam generator (HRSG) manufacturer's name, and duct burner model number and manufacturer's name. Since the facility has already supplied this information and equipment description has been modified, this condition is no longer required on the new PTOs.

Conditions modified from the ATCs:

Conditions 10 through 12 on the ATCs were modified and included as conditions 7 through 9 on the proposed PTO. The phrase "Upon concluding the initial shakedown period..." at the beginning of these conditions has been removed. Once the units are started and pass initial source test, the reference to shake down period will no longer be required on the new PTOs.

Conditions 19 and 20 on the ATCs were modified and included as conditions 16 and 17 on the proposed PTOs. These conditions required an initial source test conducted to measure NO_x, CO, and VOC emissions within 60 days of initial start-up. Once the units are started and pass an initial source test, the reference to initial source test will no longer be required on the new PTOs.

Condition deleted from the existing PTOs:

Condition 1 was not included on the proposed PTOs, since the condition is redundant with condition # 40 on the facility wide permit to operate S-1128-0-1.

Condition 26 was not included on the proposed PTOs because the daily heat input rate is calculated from the hourly heat input rate of the gas turbine engine (37.6 MMBtu/hr) and the duct burner (37 MMBtu/hr), which is stated in each permit's equipment description and 24 hr/day of operation. Thus stating a daily heat input rate is irrelevant given that the permit has an hourly heat input rate for the gas turbine and duct burner. Therefore, this condition has been removed from each permit.

Conditions 19, 20, 24, 27, 29, 30, and 31 were not included on the proposed PTOs because water-to-fuel ratio is a parametric approach to verify on-going compliance with NO_x and CO emissions. This parametric approach is not necessary when Chevron will have CEMS analyzing NO_x and CO in the exhaust gas. Therefore, these conditions have been removed from each permit.

Condition 5 was not included on the proposed PTO. This condition refers to complying with compliance testing procedures described in Rule 1081. This condition was replaced by conditions 13 through 16, 16, 18, 19, and 21 on the proposed PTOs. These conditions contain more specific compliance source testing requirements of Rule 1081.

Modified conditions from the existing PTOs:

The following table summarized the conditions modified from the existing permits:

Modified Conditions for Existing PTO's S-1128-366-14 and '-367-13		
<i>Condition# on Existing PTOs</i>	<i>Condition# on Proposed PTOs</i>	<i>Comment</i>
2 and 25	2	These conditions refer to the use of PUC-quality natural gas as the only fuel source for the gas turbines.
3	1	This condition refers to the particulate matter emission limit of Rule 4201.
4	47	This condition refers to the NSPS emission limit for NOx.
6	34	This condition refers to the sulfur content test methods when turbine is not fired on PUC-regulated natural gas.
7	5	This condition refers to the sulfur content testing frequency when turbine is not fired on PUC-regulated natural gas.
8	6	This condition refers to fuel HHV and LHV test methods.
9	19	This condition refers to the test methods for compliance source testing.
10	21	This condition refers to the submittal of source test results.
11	20	This condition refers to the compliance source testing requirements with duct burners.
12	4	This condition refers to the record keeping requirements related to maintaining natural gas bills.
13 and 28	46	This condition refers to the record keeping requirements of Rules 2201 and 4703.
14	45	This condition refers to maintaining of gas turbine system operating log.

Modified Conditions for Existing PTO's S-1128-366-14 and '-367-13 (continued)		
<i>Condition# on Existing PTOs</i>	<i>Condition# on Proposed PTOs</i>	<i>Comment</i>
15	48	These conditions refer to all applicable permit shield requirements.
16	49	
17	50	
18	51	
23	32	This condition refers to the permit shield from the requirements of 40 CFR 72.6 (b).
32, 33, and 36	7	This condition refers to the quarterly submittal of written reports of CEMS operations
34	42 and 43	These conditions refer to the reduced load period and black start event requirements
35	37, 38, 40, and 41	These conditions refer to the start-up and shutdown requirements of Rule 4703.

VII. COMPLIANCE

In accordance with Rule 2520, 3.20, these modifications:

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 11.4 by including;

1. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
2. The source's suggested draft permit; and
3. Certification by a responsible official that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used.

VIII. ATTACHMENTS

- A. Proposed Modified Title V Operating Permit No. S-1128-366-18 and -367-17 (after the implementation of DEU ATCs)
- B. Proposed Modified Title V Operating Permit No. S-1128-366-19 and -367-18 (after the implementation of SCR retrofit ATCs)
- C. Authorities to Construct No.'s S-1128-366-16, -366-17, -367-15, and -367-16
- D. Emissions Increases
- E. Application
- F. Previous Title V Operating Permit No.'s S-1128-366-14 and -367-13

ATTACHMENT A

Proposed Modified Title V Operating Permit No.
S-1128-366-18 and -367-17
(after the implementation of DEU ATCs)

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1128-366-18

EXPIRATION DATE: 02/28/2006

SECTION: 26 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

NON-COMPLIANT DORMANT EMISSIONS UNIT CONSISTING OF 2.7 MW COGEN FACILITY (CUSA ID# CG-1) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND STRUTHERS HEAT RECOVERY STEAM GENERATOR WITH 39 MMBTU/HR (NOMINAL RATING) COEN DUCT BURNER

PERMIT UNIT REQUIREMENTS

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]
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]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {777} Units shall be fired exclusively on PUC-quality natural gas which has a sulfur content of less than or equal to 0.017% by weight. [40 CFR 60.333(a) & (b);60.332(a); Rule 404 (Madera), 406 (Fresno) and 407 (6 remaining counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
6. {778} Operator shall not discharge into the atmosphere combustion contaminants (PM) exceeding in concentration at the point of discharge, 0.1 gr/dscf. [District Rule 4201; Rule 402 (Madera) and 404 (all 7 remaining counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
7. Operator shall not exceed a NOx emission rate of 42 ppmvd @ 15% O2, excluding thermal stabilization and reduced load periods. [40 CFR 60.332(a)(1) & 60.332(a)(2)] Federally Enforceable Through Title V Permit
8. {780} Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081; Rule 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), Rule 110 (Madera), and Rule 108 (Kings)] Federally Enforceable Through Title V Permit
9. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM methods D 1072, D 3031, D 4084, D 3246, D 6228 or grab sample analysis by double GC for H2S and mercaptans. [Rules 1081 and 40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
10. {781} If the turbine 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 60.334(b)(2)] Federally Enforceable Through Title V Permit
11. HHV and LHV of the fuel shall be determined using ASTM D 3588, ASTM 1826, or ASTM 1945. [40 CFR 60.335(b) and District Rule 4703, 6.4.5] 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.

12. Nitrogen oxides (NO_x) concentrations shall be determined using EPA Method 7E or 20, carbon monoxide (CO) concentrations shall be determined using EPA Method 10 or 10B, and oxygen (O₂) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
13. The operator shall provide source test information annually regarding the exhaust gas NO_x, CO and O₂ concentrations corrected to 15% O₂ (dry). [40 CFR 60.332(a), (b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
14. Unit shall demonstrate compliance annually with NO_x 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. [40 CFR 60.335(b) and District Rule 4703, 6.3.2] Federally Enforceable Through Title V Permit
15. {737} If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. {786} The 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, 9.5.2] Federally Enforceable Through Title V Permit
17. {787} 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
18. {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
19. {788} Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rule 1081, 4201, 3.1; Rules 406 (Fresno), 407 (Kings, San Joaquin, Stanislaus, Tulare, Merced, and Kern), and 404(Madera); 40 CFR 60.332(c), (d); 60.334 (b), and (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
20. {789} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: SJVUAPCD Rule 4703, 6.2.2; Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern and Stanislaus), and 110 (Madera); Rules 402 (Madera) and 404 (Fresno, Kern, Kings, San Joaquin, Merced, Stanislaus, Tulare); 40 CFR 60.332 (a) and (b); 60.333(a) and (b); 60.334 (a), (b), and (c)(1); 60.335 (a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. {790} Compliance with the permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: SJVUAPCD Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
22. Permittee shall install, operate and maintain in calibration a predictive emissions monitoring system which continuously measures and records the water-to-fuel ratio and which correlates the water-to-fuel ratio with the NO_x concentration in the exhaust by using the method described in 40 CFR 60.335(c). [District Rule 4703 and 40 CFR 60.334] Federally Enforceable Through Title V Permit
23. {792} Permittee shall submit to the APCO the information correlating the control system operating parameters to the associated measured NO_x output. [District Rule 4703, 6.2.5] 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.

24. {793} Permittee shall install, operate and maintain in calibration a system which continuously measures and records elapsed time of turbine operation. [40 CFR 60.334 and District Rule 4703, 6.2.1] Federally Enforceable Through Title V Permit
25. {749} Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
26. Permittee shall submit an excess NSPS emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form to the APCO semiannually, except when more frequent reporting is specifically required by an applicable subpart. All reports shall be postmarked by the 30th day of each calendar half (or quarter, as appropriate). [40 CFR 60.7(c)] Federally Enforceable Through Title V Permit
27. Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with the NOx emissions limit required by NSPS shall be reported to the APCO. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, turbine gas load and nitrogen content of the fuel during the period of excess emissions. [40 CFR 60.334(c)] Federally Enforceable Through Title V Permit
28. Gas combusted shall be exclusively PUC regulated natural gas or natural gas documented to be of comparable sulfur quality. [District NSR Rule] Federally Enforceable Through Title V Permit
29. Total heat input to the turbine/duct burner system shall not exceed 1,790 MM btu/day. [District NSR Rule] Federally Enforceable Through Title V Permit
30. Gas turbine engine water injection rate shall be maintained such that water to fuel ratio is no less than that amount determined necessary to insure emission limitation compliance. [District NSR Rule] Federally Enforceable Through Title V Permit
31. Permittee shall keep accurate records of fuel source and consumption (daily), fuel gas sulfur and nitrogen contents (quarterly) and higher heating value of the fuel (annually), for a period of five years, and shall make such records available for District inspection upon request. [District Rules 2520, 9.4.2 and NSR] Federally Enforceable Through Title V Permit
32. Permittee shall continuously monitor and record the water/fuel ratio to the turbine. [District NSR Rule] Federally Enforceable Through Title V Permit
33. NOx emissions may be measured by use of water/fuel ratio and District approved correlation equation. [District NSR Rule] Federally Enforceable Through Title V Permit
34. If water injection system is inoperative, gas turbine engine shall be shut down. [District NSR Rule] Federally Enforceable Through Title V Permit
35. Except during periods of thermal stabilization or reduced load, CO emissions shall not exceed the following: with only the gas turbine engine firing, 86 ppmv at 15 % O2 and , with the gas turbine engine and duct burner both firing, 44 ppmv at 15% O2. [District NSR Rule] Federally Enforceable Through Title V Permit
36. NOx emission rate shall not exceed 35 ppmv at 15% O2 on a 3 hour rolling average basis, except during periods of thermal stabilization or reduced loads. [District Rule 4703, 5.1.2 and 7.2.1] Federally Enforceable Through Title V Permit
37. Thermal Stabilization period shall be defined as the startup or shutdown time necessary to bring the heat recovery steam generator to proper temperature, not exceeding two hours. [District Rule 4703] Federally Enforceable Through Title V Permit
38. Startup and shutdown of gas turbine engine, as defined in 40 CFR Subpart A 60.2, shall not exceed time periods of two hours and two hours, respectively, per occurrence. [District Rule 4703] Federally Enforceable Through Title V Permit
39. Emission rates shall not exceed PM10: 0.013 lb/MMBtu, SOx (as SO2): 0.002 lb/MMBtu, NOx (as NO2): 0.139 lb/MMBtu and VOC: 0.027 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1128-367-17

EXPIRATION DATE: 02/28/2006
DRAFT

SECTION: 26 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

NON-COMPLIANT DORMANT EMISSIONS UNIT CONSISTING OF 2.7 MW COGEN FACILITY (CUSA ID# CG-2) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND STRUTHERS HEAT RECOVERY STEAM GENERATOR WITH 37 MMBTU/HR (NOMINAL RATING) COEN DUCT BURNER

PERMIT UNIT REQUIREMENTS

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]
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]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Total heat input to the turbine/duct burner system shall not exceed 1,790 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. {777} Units shall be fired exclusively on PUC-quality natural gas which has a sulfur content of less than or equal to 0.017% by weight. [40 CFR 60.333(a) & (b); 60.332(a); Rule 404 (Madera), 406 (Fresno) and 407 (6 remaining counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
7. {778} Operator shall not discharge into the atmosphere combustion contaminants (PM) exceeding in concentration at the point of discharge, 0.1 gr/dscf. [District Rule 4201; Rule 402 (Madera) and 404 (all 7 remaining counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
8. Operator shall not exceed a NOx emission rate of 42 ppmvd @ 15% O2, excluding thermal stabilization and reduced load periods. [40 CFR 60.332(a)(1) & 60.332(a)(2)] Federally Enforceable Through Title V Permit
9. {780} Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081; Rule 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), Rule 110 (Madera), and Rule 108 (Kings)] Federally Enforceable Through Title V Permit
10. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM methods D 1072, D 3031, D 4084, D 3246, D 6228 or grab sample analysis by double GC for H2S and mercaptans. [Rules 108] and 40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
11. {781} If the turbine 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 60.334(b)(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.

12. HHV and LHV of the fuel shall be determined using ASTM D 3588, ASTM 1826, or ASTM 1945. [40 CFR 60.335(b) and District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
13. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, carbon monoxide (CO) concentrations shall be determined using EPA Method 10 or 10B, and oxygen (O2) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
14. The operator shall provide source test information annually regarding the exhaust gas NOx, CO and O2 concentrations corrected to 15% O2 (dry). [40 CFR 60.332(a), (b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
15. Unit shall demonstrate compliance annually with NOx 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. [40 CFR 60.335(b) and District Rule 4703, 6.3.2] Federally Enforceable Through Title V Permit
16. {737} If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
17. {786} The 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, 9.5.2] Federally Enforceable Through Title V Permit
18. {787} 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
19. {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
20. {788} Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rule 1081, 420I, 3.1; Rules 406 (Fresno), 407 (Kings, San Joaquin, Stanislaus, Tulare, Merced, and Kern), and 404(Madera); 40 CFR 60.332(c), (d); 60.334 (b), and (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
21. {789} Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: SJVUAPCD Rule 4703, 6.2.2; Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern and Stanislaus), and 110 (Madera); Rules 402 (Madera) and 404 (Fresno, Kern, Kings, San Joaquin, Merced, Stanislaus, Tulare); 40 CFR 60.332 (a) and (b); 60.333(a) and (b); 60.334 (a), (b), and (c)(1); 60.335 (a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
22. {790} Compliance with the permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: SJVUAPCD Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
23. Permittee shall install, operate and maintain in calibration a predictive emissions monitoring system which continuously measures and records the water-to-fuel ratio and which correlates the water-to-fuel ratio with the NOx concentration in the exhaust by using the method described in 40 CFR 60.335(c). [District Rule 4703 and 40 CFR 60.334] Federally Enforceable Through Title V Permit
24. {792} Permittee shall submit to the APCO the information correlating the control system operating parameters to the associated measured NOx output. [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. {793} Permittee shall install, operate and maintain in calibration a system which continuously measures and records elapsed time of turbine operation. [40 CFR 60.334 and District Rule 4703, 6.2.1] Federally Enforceable Through Title V Permit
26. {749} Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
27. Permittee shall submit an excess NSPS emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form to the APCO semiannually, except when more frequent reporting is specifically required by an applicable subpart. All reports shall be postmarked by the 30th day of each calendar half (or quarter, as appropriate). [40 CFR 60.7(c)] Federally Enforceable Through Title V Permit
28. Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with the NO_x emissions limit required by NSPS shall be reported to the APCO. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, turbine gas load and nitrogen content of the fuel during the period of excess emissions. [40 CFR 60.334(c)] Federally Enforceable Through Title V Permit
29. Gas combusted shall be exclusively PUC regulated natural gas or natural gas documented to be of comparable sulfur quality. [District NSR Rule] Federally Enforceable Through Title V Permit
30. Gas turbine engine water injection rate shall be maintained such that water to fuel ratio is no less than that amount determined necessary to insure emission limitation compliance. [District NSR Rule] Federally Enforceable Through Title V Permit
31. Permittee shall keep accurate records of fuel source and consumption (daily), fuel gas sulfur and nitrogen contents (quarterly) and higher heating value of the fuel (annually), for a period of five years, and shall make such records available for District inspection upon request. [District Rules 2520, 9.4.2 and NSR] Federally Enforceable Through Title V Permit
32. Permittee shall continuously monitor and record the water/fuel ratio to the turbine. [District NSR Rule] Federally Enforceable Through Title V Permit
33. NO_x emissions may be measured by use of water/fuel ratio and District approved correlation equation. [District NSR Rule] Federally Enforceable Through Title V Permit
34. If water injection system is inoperative, gas turbine engine shall be shut down. [District NSR Rule] Federally Enforceable Through Title V Permit
35. Except during periods of thermal stabilization or reduced load, CO emissions shall not exceed the following: with only the gas turbine engine firing, 86 ppmv at 15 % O₂ and , with the gas turbine engine and duct burner both firing, 44 ppmv at 15% O₂. [District NSR Rule] Federally Enforceable Through Title V Permit
36. Thermal Stabilization period shall be defined as the startup or shutdown time necessary to bring the heat recovery steam generator to proper temperature, not exceeding two hours. [District Rule 4703] Federally Enforceable Through Title V Permit
37. Startup and shutdown of gas turbine engine, as defined in 40 CFR Subpart A 60.2, shall not exceed time periods of two hours and two hours, respectively, per occurrence. [District Rule 4703] Federally Enforceable Through Title V Permit
38. NO_x emission rate shall not exceed 35 ppmv at 15% O₂ on a 3 hour rolling average basis, except during periods of thermal stabilization or reduced loads. [District Rule 4703, 5.1.2 and 7.2.1] Federally Enforceable Through Title V Permit
39. Emission rates shall not exceed PM₁₀: 0.013 lb/MMBtu, SO_x (as SO₂): 0.002 lb/MMBtu, NO_x (as NO₂): 0.139 lb/MMBtu and VOC: 0.027 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit

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

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ATTACHMENT B

Proposed Modified Title V Operating Permit No.
S-1128-366-19 and -367-18
(after the implementation of SCR retrofit ATCs)

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1128-366-19

EXPIRATION DATE: 02/28/2006

SECTION: 26 TOWNSHIP: 32S RANGE: 23E

EQUIPMENT DESCRIPTION:

2.7 MW COGEN FACILITY (CUSA ID# CG-1) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND A PCL HEAT RECOVERY STEAM GENERATOR WITH 37 MMBTU/HR (NOMINAL RATING) COEN DUCT BURNER SERVED BY A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION AND A CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. The gas turbine system (i.e. gas turbine and duct burner) shall be fired exclusively on PUC-regulated gas or PUC-quality natural gas which has a sulfur content less than or equal to 0.017% by weight. [40 CFR 60.333(a) and District Rule 4801] Federally Enforceable Through Title V Permit
3. 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
4. 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
5. 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 60.334(h)(3)] Federally Enforceable Through Title V Permit
6. 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
7. Emissions from the gas turbine system shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ referenced as NO₂; 44 ppmvd CO @ 15% O₂ when firing both gas turbine and duct burner simultaneously; 86 ppmvd CO @ 15% O₂ when firing gas turbine only; 0.013 lb-PM₁₀/MMBtu; 0.027 lb-VOC/MMBtu referenced as methane; and 0.002 lb-SO_x/MMBtu referenced as SO₂. NO_x 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_x and CO during that clock hour. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
8. Emissions from the gas turbine system, on days when startup, shutdown, or black start occurs, shall not exceed any of the following limits: 65.6 lb-NO_x/day referenced as NO₂; 1,164.1 lb-CO/day; 3.6 lb-SO_x/day; 23.3 lb-PM₁₀/day; 99.6 lb-VOC/day referenced as methane; and 50.9 lb-NH₃/day. [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. Emissions from the gas turbine system shall not exceed any of the following limits: 21,566 lb-NO_x/year; 69,019 lb-CO/year; 1,307 lb-SO_x/year; 8,495 lb-PM₁₀/year; 17,901 lb-VOC/year; 18,567 lb-NH₃/year. All annual emission limits are based on 12 consecutive month rolling emissions total. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Ammonia (NH₃) emissions shall not exceed 21 ppmvd @ 15% O₂ over a 24-hour average period. [District Rule 2201] Federally Enforceable Through Title V Permit
11. 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
12. 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
13. 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_x, CO, and O₂ 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
14. 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
15. 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
16. Source testing to measure start-up mass emission rates of NO_x, CO, and VOC shall be conducted for one of the gas turbine engines (S-1128-366, -367, -368 or -369) 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
17. Source testing to determine compliance with the NO_x, CO and NH₃ emission rates (ppmvd @ 15% O₂) during normal operation shall be conducted annually. [District Rules 2201 and 4703, CFR 60.335(a)] Federally Enforceable Through Title V Permit
18. For the purpose of determining compliance with the emissions limits (ppmvd @ 15% O₂) 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
19. The following test methods shall be used: NO_x - 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; PM₁₀ - EPA Method 5 (front half and back half) or 201 and 202a; ammonia - BAAQMD ST-1B; and O₂ - 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

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

20. Source test to demonstrate compliance with NO_x 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
21. 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
22. 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_x, CO, and O₂ 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
23. 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
24. The NO_x, CO and O₂ 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
25. 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
26. 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-1128-366, -367, -368, or -369), 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
27. 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
28. 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
29. 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

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

30. 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
31. 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
32. The owner or operator shall submit a written report of CEMS 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
33. 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
34. If the gas turbine system is not fired on PUC-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
35. 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 run 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
36. 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
37. Except during black start, each startup shall not exceed two hours per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
38. Each shutdown shall not exceed two hours per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
39. 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
40. 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
41. 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

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

42. 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
43. 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 per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
44. 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
45. 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
46. 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
47. NOx emissions shall not exceed 42 ppmvd @ 15% O2 (1-hour average), excluding startup (black start), shutdown and reduced load periods. [40 CFR 60.332(a)(1) & 60.332(a)(2)] Federally Enforceable Through Title V Permit
48. The requirements of 40 CFR 72.6 (b) do not apply to this source because it is not a Title IV source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rule 4201, 3.1; Rules 406 (Fresno), 407 (Kings, San Joaquin, Stanislaus, Tulare, Merced, and Kern), and 404 (Madera). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
50. 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
51. 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

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

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1128-367-18

EXPIRATION DATE: 02/28/2006

SECTION: 26 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

2.7 MW COGEN FACILITY (CUSA ID# CG-2) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND A PCL HEAT RECOVERY STEAM GENERATOR WITH 37 MMBTU/HR (NOMINAL RATING) COEN DUCT BURNER SERVED BY A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION AND A CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. The gas turbine system (i.e. gas turbine and duct burner) shall be fired exclusively on PUC-regulated gas or PUC-quality natural gas which has a sulfur content less than or equal to 0.017% by weight. [40 CFR 60.333(a) and District Rule 4801] Federally Enforceable Through Title V Permit
3. 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
4. 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
5. 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 60.334(h)(3)] Federally Enforceable Through Title V Permit
6. 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
7. Emissions from the gas turbine system shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ referenced as NO₂; 44 ppmvd CO @ 15% O₂ when firing both gas turbine and duct burner simultaneously; 86 ppmvd CO @ 15% O₂ when firing gas turbine only; 0.013 lb-PM₁₀/MMBtu; 0.027 lb-VOC/MMBtu referenced as methane; and 0.002 lb-SO_x/MMBtu referenced as SO₂. NO_x 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_x and CO during that clock hour. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
8. Emissions from the gas turbine system, on days when startup, shutdown, or black start occurs, shall not exceed any of the following limits: 65.6 lb-NO_x/day referenced as NO₂; 1,164.1 lb-CO/day; 3.6 lb-SO_x/day; 23.3 lb-PM₁₀/day; 99.6 lb-VOC/day referenced as methane; and 50.9 lb-NH₃/day. [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. Emissions from the gas turbine system shall not exceed any of the following limits: 21,566 lb-NO_x/year; 69,019 lb-CO/year; 1,307 lb-SO_x/year; 8,495 lb-PM₁₀/year; 17,901 lb-VOC/year; 18,567 lb-NH₃/year. All annual emission limits are based on 12 consecutive month rolling emissions total. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Ammonia (NH₃) emissions shall not exceed 21 ppmvd @ 15% O₂ over a 24-hour average period. [District Rule 2201] Federally Enforceable Through Title V Permit
11. 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
12. 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
13. 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_x, CO, and O₂ 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
14. 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
15. 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
16. Source testing to measure start-up mass emission rates of NO_x, CO, and VOC shall be conducted for one of the gas turbine engines (S-1128-366, -367, -368 or -369) 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
17. Source testing to determine compliance with the NO_x, CO and NH₃ emission rates (ppmvd @ 15% O₂) during normal operation shall be conducted annually. [District Rules 2201 and 4703, CFR 60.335(a)] Federally Enforceable Through Title V Permit
18. For the purpose of determining compliance with the emissions limits (ppmvd @ 15% O₂) 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
19. The following test methods shall be used: NO_x - 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; PM₁₀ - EPA Method 5 (front half and back half) or 201 and 202a; ammonia - BAAQMD ST-1B; and O₂ - 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

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

20. Source test to demonstrate compliance with NO_x 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
21. 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
22. 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_x, CO, and O₂ 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
23. 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
24. The NO_x, CO and O₂ 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
25. 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
26. 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-1128-366, -367, -368, or -369), 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
27. 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
28. 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
29. 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

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

30. 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
31. 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
32. The owner or operator shall submit a written report of CEMS 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
33. 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
34. If the gas turbine system is not fired on PUC-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
35. 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 run 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
36. 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
37. Except during black start, each startup shall not exceed two hours per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
38. Each shutdown shall not exceed two hours per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
39. 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
40. 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
41. 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

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

42. 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
43. 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 per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
44. The owner or operator shall submit to the District information correlating the NO_x control system operating parameters to the associated measured NO_x output. The information must be sufficient to allow the District to determine compliance with the NO_x emission limits of this permit when the CEMS is not operating properly. [District Rule 4703] Federally Enforceable Through Title V Permit
45. 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
46. 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
47. NO_x emissions shall not exceed 42 ppmvd @ 15% O₂ (1-hour average), excluding startup (black start), shutdown and reduced load periods. [40 CFR 60.332(a)(1) & 60.332(a)(2)] Federally Enforceable Through Title V Permit
48. The requirements of 40 CFR 72.6 (b) do not apply to this source because it is not a Title IV source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rule 4201, 3.1; Rules 406 (Fresno), 407 (Kings, San Joaquin, Stanislaus, Tulare, Merced, and Kern), and 404 (Madera). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
50. 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
51. 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

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

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ATTACHMENT C

Authorities to Construct No.'s
(S-1128-366-16, -366-17, -367-15, and -367-16)



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1128-366-16

ISSUANCE DATE: 08/12/2009

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

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 26 TOWNSHIP: 32S RANGE: 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 2.7 MW COGEN FACILITY (CUSA ID# CG-1) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND STRUTHERS HEAT RECOVERY STEAM GENERATOR WITH 39 MMBTU/HR (NOMINAL RATING) COEN DUCT BURNER; DESIGNATE AS A NON-COMPLIANT DORMANT EMISSIONS UNIT FOR TIER-3 NOX STANDARDS OF RULE 4703

CONDITIONS

1. 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
2. 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]
3. The fuel supply line shall be physically disconnected from this unit. [District Rule 4703]
4. 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. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. Units shall be fired exclusively on PUC-quality natural gas which has a sulfur content of less than or equal to 0.017% by weight. [40 CFR 60.333(a) & (b);60.332(a); Rule 404 (Madera), 406 (Fresno) and 407 (6 remaining counties in the San Joaquin Valley)] 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


DAVID WARNER, Director of Permit Services

S-1128-366-16 : Aug 12 2009 2:45PM - AHMADS : Joint Inspection NOT Required

7. Operator shall not discharge into the atmosphere combustion contaminants (PM) exceeding in concentration at the point of discharge, 0.1 gr/dscf. [District Rule 4201; Rule 402 (Madera) and 404 (all 7 remaining counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
8. Operator shall not exceed a NO_x emission rate of 42 ppmvd @ 15% O₂, excluding thermal stabilization and reduced load periods. [40 CFR 60.332(a)(1) & 60.332(a)(2)] Federally Enforceable Through Title V Permit
9. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081; Rule 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), Rule 110 (Madera), and Rule 108 (Kings)] Federally Enforceable Through Title V Permit
10. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM methods D 1072, D 3031, D 4084, D 3246, D 6228 or grab sample analysis by double GC for H₂S and mercaptans. [Rules 1081 and 40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
11. If the turbine 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 60.334(b)(2)] Federally Enforceable Through Title V Permit
12. HHV and LHV of the fuel shall be determined using ASTM D 3588, ASTM 1826, or ASTM 1945. [40 CFR 60.335(b) and District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
13. Nitrogen oxides (NO_x) concentrations shall be determined using EPA Method 7E or 20, carbon monoxide (CO) concentrations shall be determined using EPA Method 10 or 10B, and oxygen (O₂) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
14. The operator shall provide source test information annually regarding the exhaust gas NO_x, CO and O₂ concentrations corrected to 15% O₂ (dry). [40 CFR 60.332(a), (b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
15. Unit shall demonstrate compliance annually with NO_x 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. [40 CFR 60.335(b) and District Rule 4703, 6.3.2] Federally Enforceable Through Title V Permit
16. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
17. The 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, 9.5.2] Federally Enforceable Through Title V Permit
18. 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
19. 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
20. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rule 1081, 4201, 3.1; Rules 406 (Fresno), 407 (Kings, San Joaquin, Stanislaus, Tulare, Merced, and Kern), and 404(Madera); 40 CFR 60.332(c), (d); 60.334 (b), and (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: SJVUAPCD Rule 4703, 6.2.2; Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern and Stanislaus), and 110 (Madera); Rules 402 (Madera) and 404 (Fresno, Kern, Kings, San Joaquin, Merced, Stanislaus, Tulare); 40 CFR 60.332 (a) and (b); 60.333(a) and (b); 60.334 (a), (b), and (c)(1); 60.335 (a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
22. Compliance with the permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: SJVUAPCD Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
23. Permittee shall install, operate and maintain in calibration a predictive emissions monitoring system which continuously measures and records the water-to-fuel ratio and which correlates the water-to-fuel ratio with the NOx concentration in the exhaust by using the method described in 40 CFR 60.335(c). [District Rule 4703 and 40 CFR 60.334] Federally Enforceable Through Title V Permit
24. Permittee shall submit to the APCO the information correlating the control system operating parameters to the associated measured NOx output. [District Rule 4703, 6.2.5] Federally Enforceable Through Title V Permit
25. Permittee shall install, operate and maintain in calibration a system which continuously measures and records elapsed time of turbine operation. [40 CFR 60.334 and District Rule 4703, 6.2.1] Federally Enforceable Through Title V Permit
26. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
27. Permittee shall submit an excess NSPS emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form to the APCO semiannually, except when more frequent reporting is specifically required by an applicable subpart. All reports shall be postmarked by the 30th day of each calendar half (or quarter, as appropriate). [40 CFR 60.7(c)] Federally Enforceable Through Title V Permit
28. Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with the NOx emissions limit required by NSPS shall be reported to the APCO. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, turbine gas load and nitrogen content of the fuel during the period of excess emissions. [40 CFR 60.334(c)] Federally Enforceable Through Title V Permit
29. Gas combusted shall be exclusively PUC regulated natural gas or natural gas documented to be of comparable sulfur quality. [District NSR Rule] Federally Enforceable Through Title V Permit
30. Total heat input to the turbine/duct burner system shall not exceed 1,790 MM btu/day. [District NSR Rule] Federally Enforceable Through Title V Permit
31. Gas turbine engine water injection rate shall be maintained such that water to fuel ratio is no less than that amount determined necessary to insure emission limitation compliance. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Permittee shall keep accurate records of fuel source and consumption (daily), fuel gas sulfur and nitrogen contents (quarterly) and higher heating value of the fuel (annually), for a period of five years, and shall make such records available for District inspection upon request. [District Rules 2520, 9.4.2 and NSR] Federally Enforceable Through Title V Permit
33. Permittee shall continuously monitor and record the water/fuel ratio to the turbine. [District NSR Rule] Federally Enforceable Through Title V Permit
34. NOx emissions may be measured by use of water/fuel ratio and District approved correlation equation. [District NSR Rule] Federally Enforceable Through Title V Permit
35. If water injection system is inoperative, gas turbine engine shall be shut down. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

36. Except during periods of thermal stabilization or reduced load, CO emissions shall not exceed the following: with only the gas turbine engine firing, 86 ppmv at 15 % O₂ and , with the gas turbine engine and duct burner both firing, 44 ppmv at 15% O₂. [District NSR Rule] Federally Enforceable Through Title V Permit
37. NO_x emission rate shall not exceed 35 ppmv at 15% O₂ on a 3 hour rolling average basis, except during periods of thermal stabilization or reduced loads. [District Rule 4703, 5.1.2 and 7.2.1] Federally Enforceable Through Title V Permit
38. Thermal Stabilization period shall be defined as the startup or shutdown time necessary to bring the heat recovery steam generator to proper temperature, not exceeding two hours. [District Rule 4703] Federally Enforceable Through Title V Permit
39. Startup and shutdown of gas turbine engine, as defined in 40 CFR Subpart A 60.2, shall not exceed time periods of two hours and two hours, respectively, per occurrence. [District Rule 4703] Federally Enforceable Through Title V Permit
40. Emission rates shall not exceed PM₁₀: 0.013 lb/MMBtu, SO_x (as SO₂): 0.002 lb/MMBtu, NO_x (as NO₂): 0.139 lb/MMBtu and VOC: 0.027 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1128-366-17

ISSUANCE DATE: 08/12/2009

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

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 26 TOWNSHIP: 32S RANGE: 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 2.7 MW COGEN FACILITY (CUSA ID# 26C CG-1) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND STRUTHERS HEAT RECOVERY STEAM GENERATOR WITH 39 MMBTU/HR (NOMINAL RATING) 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; INSTALL A CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) TO MEASURE NOX, CO AND O2 CONCENTRATIONS; REPLACE STRUTHERS HEAT RECOVERY STEAM GENERATOR (HRSG) WITH ANOTHER HRSG (IF NECESSARY); AND REPLACE THE EXISTING 39 MMBTU/HR DUCT BURNER WITH A NEW 37 MMBTU/HR (NOMINAL RATING) DUCT BURNER

CONDITIONS

1. 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
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. The gas turbine system (i.e. gas turbine and duct burner) shall be fired exclusively on PUC-regulated gas or PUC-quality natural gas which has a sulfur content less than or equal to 0.017% by weight. [40 CFR 60.333(a) and District Rule 4801]
5. 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]

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

DAVID WARNER, Director of Permit Services

S-1128-366-17 : Aug 13 2009 11:05AM - AHMA03 : Job Inspection NOT Required

6. If the gas turbine system is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520]
7. 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 60.334(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_x @ 15% O₂ referenced as NO₂; 44 ppmvd CO @ 15% O₂ when firing both gas turbine and duct burner simultaneously; 86 ppmvd CO @ 15% O₂ when firing gas turbine only; 0.013 lb-PM₁₀/MMBtu; 0.027 lb-VOC/MMBtu referenced as methane; and 0.002 lb-SO_x/MMBtu referenced as SO₂. 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_x 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 shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ referenced as NO₂; 44 ppmvd CO @ 15% O₂ when firing both gas turbine and duct burner simultaneously; 86 ppmvd CO @ 15% O₂ when firing gas turbine only; 0.013 lb-PM₁₀/MMBtu; 0.027 lb-VOC/MMBtu referenced as methane; and 0.002 lb-SO_x/MMBtu referenced as SO₂. NO_x 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_x 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: 65.6 lb-NO_x/day referenced as NO₂; 1,164.1 lb-CO/day; 3.6 lb-SO_x/day; 23.3 lb-PM₁₀/day; 99.6 lb-VOC/day referenced as methane; and 50.9 lb-NH₃/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: 21,566 lb-NO_x/year; 69,019 lb-CO/year; 1,307 lb-SO_x/year; 8,495 lb-PM₁₀/year; 17,901 lb-VOC/year; 18,567 lb-NH₃/year. All annual emission limits are based on 12 consecutive month rolling emissions total. [District Rule 2201]
13. Ammonia (NH₃) emissions shall not exceed 21 ppmvd @ 15% O₂ 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_x, CO, and O₂ 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]

CONDITIONS CONTINUE ON NEXT PAGE

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]
19. Source testing to measure start-up mass emission rates of NO_x, CO, and VOC shall be conducted for one of the gas turbine engines (S-1128-366, -367, -368 or -369) 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_x, CO and NH₃ emission rates (ppmvd @ 15% O₂) 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% O₂) 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_x - 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; PM₁₀ - EPA Method 5 (front half and back half) or 201 and 202a; ammonia - BAAQMD ST-1B; and O₂ - 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)]
23. Source test to demonstrate compliance with NO_x 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]
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_x, CO, and O₂ 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_x, CO and O₂ 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 (S-1128-366, -367, -368, or -369), 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 CEMS 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 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 run 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]
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 per event. [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]
50. NOx emissions shall not exceed 42 ppmvd @ 15% O2 (1-hour average), excluding startup (black start), shutdown and reduced load periods. [40 CFR 60.332(a)(1) & 60.332(a)(2)] Federally Enforceable Through Title V Permit
51. The requirements of 40 CFR 72.6 (b) do not apply to this source because it is not a Title IV source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rule 4201, 3.1; Rules 406 (Fresno), 407 (Kings, San Joaquin, Stanislaus, Tulare, Merced, and Kern), and 404 (Madera). 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 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
54. 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
55. The permittee shall supply the following items prior to initial startup under this permit: 1.) HRSG manufacturer's name, and 2.) Duct burner model number and manufacturer's name. This information shall be used in establishing equipment description on Permit to Operate. [District Rule 2201]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1128-367-15

ISSUANCE DATE: 08/12/2009

LEGAL OWNER OR OPERATOR: CHEVRON USA INC.
MAILING ADDRESS: P O BOX 1392
BAKERSFIELD, CA 93302

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 26 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 2.7 MW COGEN FACILITY (CUSA ID# CG-2) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND STRUTHERS HEAT RECOVERY STEAM GENERATOR WITH 37 MMBTU/HR (NOMINAL RATING) COEN DUCT BURNER: DESIGNATE AS A NON-COMPLIANT DORMANT EMISSIONS UNIT FOR TIER-3 NOX STANDARDS OF RULE 4703

CONDITIONS

1. 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
2. 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]
3. The fuel supply line shall be physically disconnected from this unit. [District Rule 4703]
4. 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. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. Total heat input to the turbine/duct burner system shall not exceed 1,790 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5600 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-1128-367-15 : Aug 12 2009 2:45PM - AHMADS : Joint Inspection NOT Required

7. Units shall be fired exclusively on PUC-quality natural gas which has a sulfur content of less than or equal to 0.017% by weight. [40 CFR 60.333(a) & (b); 60.332(a); Rule 404 (Madera), 406 (Fresno) and 407 (6 remaining counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
8. Operator shall not discharge into the atmosphere combustion contaminants (PM) exceeding in concentration at the point of discharge, 0.1 gr/dscf. [District Rule 4201; Rule 402 (Madera) and 404 (all 7 remaining counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
9. Operator shall not exceed a NOx emission rate of 42 ppmvd @ 15% O2, excluding thermal stabilization and reduced load periods. [40 CFR 60.332(a)(1) & 60.332(a)(2)] Federally Enforceable Through Title V Permit
10. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081; Rule 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), Rule 110 (Madera), and Rule 108 (Kings)] Federally Enforceable Through Title V Permit
11. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM methods D 1072, D 3031, D 4084, D 3246, D 6228 or grab sample analysis by double GC for H2S and mercaptans. [Rules 1081 and 40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
12. If the turbine 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 60.334(b)(2)] Federally Enforceable Through Title V Permit
13. HHV and LHV of the fuel shall be determined using ASTM D 3588, ASTM 1826, or ASTM 1945. [40 CFR 60.335(b) and District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
14. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, carbon monoxide (CO) concentrations shall be determined using EPA Method 10 or 10B, and oxygen (O2) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
15. The operator shall provide source test information annually regarding the exhaust gas NOx, CO and O2 concentrations corrected to 15% O2 (dry). [40 CFR 60.332(a), (b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
16. Unit shall demonstrate compliance annually with NOx 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. [40 CFR 60.335(b) and District Rule 4703, 6.3.2] Federally Enforceable Through Title V Permit
17. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
18. The 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, 9.5.2] Federally Enforceable Through Title V Permit
19. 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
20. 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

CONDITIONS CONTINUE ON NEXT PAGE

21. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rule 1081, 4201, 3.1; Rules 406 (Fresno), 407 (Kings, San Joaquin, Stanislaus, Tulare, Merced, and Kern), and 404(Madera); 40 CFR 60.332(c), (d); 60.334 (b), and (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
22. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: SJVUAPCD Rule 4703, 6.2.2; Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern and Stanislaus), and 110 (Madera); Rules 402 (Madera) and 404 (Fresno, Kern, Kings, San Joaquin, Merced, Stanislaus, Tulare); 40 CFR 60.332 (a) and (b); 60.333(a) and (b); 60.334 (a), (b), and (c)(1); 60.335 (a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
23. Compliance with the permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: SJVUAPCD Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
24. Permittee shall install, operate and maintain in calibration a predictive emissions monitoring system which continuously measures and records the water-to-fuel ratio and which correlates the water-to-fuel ratio with the NOx concentration in the exhaust by using the method described in 40 CFR 60.335(c). [District Rule 4703 and 40 CFR 60.334] Federally Enforceable Through Title V Permit
25. Permittee shall submit to the APCO the information correlating the control system operating parameters to the associated measured NOx output. [District Rule 4703, 6.2.5] Federally Enforceable Through Title V Permit
26. Permittee shall install, operate and maintain in calibration a system which continuously measures and records elapsed time of turbine operation. [40 CFR 60.334 and District Rule 4703, 6.2.1] Federally Enforceable Through Title V Permit
27. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
28. Permittee shall submit an excess NSPS emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form to the APCO semiannually, except when more frequent reporting is specifically required by an applicable subpart. All reports shall be postmarked by the 30th day of each calendar half (or quarter, as appropriate). [40 CFR 60.7(c)] Federally Enforceable Through Title V Permit
29. Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with the NOx emissions limit required by NSPS shall be reported to the APCO. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, turbine gas load and nitrogen content of the fuel during the period of excess emissions. [40 CFR 60.334(c)] Federally Enforceable Through Title V Permit
30. Gas combusted shall be exclusively PUC regulated natural gas or natural gas documented to be of comparable sulfur quality. [District NSR Rule] Federally Enforceable Through Title V Permit
31. Gas turbine engine water injection rate shall be maintained such that water to fuel ratio is no less than that amount determined necessary to insure emission limitation compliance. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Permittee shall keep accurate records of fuel source and consumption (daily), fuel gas sulfur and nitrogen contents (quarterly) and higher heating value of the fuel (annually), for a period of five years, and shall make such records available for District inspection upon request. [District Rules 2520, 9.4.2 and NSR] Federally Enforceable Through Title V Permit
33. Permittee shall continuously monitor and record the water/fuel ratio to the turbine. [District NSR Rule] Federally Enforceable Through Title V Permit
34. NOx emissions may be measured by use of water/fuel ratio and District approved correlation equation. [District NSR Rule] Federally Enforceable Through Title V Permit
35. If water injection system is inoperative, gas turbine engine shall be shut down. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

36. Except during periods of thermal stabilization or reduced load, CO emissions shall not exceed the following: with only the gas turbine engine firing, 86 ppmv at 15 % O₂ and , with the gas turbine engine and duct burner both firing, 44 ppmv at 15% O₂. [District NSR Rule] Federally Enforceable Through Title V Permit
37. Thermal Stabilization period shall be defined as the startup or shutdown time necessary to bring the heat recovery steam generator to proper temperature, not exceeding two hours. [District Rule 4703] Federally Enforceable Through Title V Permit
38. Startup and shutdown of gas turbine engine, as defined in 40 CFR Subpart A 60.2, shall not exceed time periods of two hours and two hours, respectively, per occurrence. [District Rule 4703] Federally Enforceable Through Title V Permit
39. NO_x emission rate shall not exceed 35 ppmv at 15% O₂ on a 3 hour rolling average basis, except during periods of thermal stabilization or reduced loads. [District Rule 4703, 5.1.2 and 7.2.1] Federally Enforceable Through Title V Permit
40. Emission rates shall not exceed PM₁₀: 0.013 lb/MMBtu, SO_x (as SO₂): 0.002 lb/MMBtu, NO_x (as NO₂): 0.139 lb/MMBtu and VOC: 0.027 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1128-367-16

ISSUANCE DATE: 08/12/2009

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

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY

SECTION: 26 TOWNSHIP: 32S RANGE: 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 2.7 MW COGEN FACILITY (CUSA ID# 26C CG-2) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND STRUTHERS HEAT RECOVERY STEAM GENERATOR WITH 37 MMBTU/HR (NOMINAL RATING) 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; INSTALL A CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) TO MEASURE NOX, CO AND O2 CONCENTRATIONS; REPLACE STRUTHERS HEAT RECOVERY STEAM GENERATOR (HRSG) WITH ANOTHER HRSG (IF NECESSARY); AND REPLACE THE EXISTING 37 MMBTU/HR DUCT BURNER WITH A NEW 37 MMBTU/HR (NOMINAL RATING) DUCT BURNER

CONDITIONS

1. 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
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. The gas turbine system (i.e. gas turbine and duct burner) shall be fired exclusively on PUC-regulated gas or PUC-quality natural gas which has a sulfur content less than or equal to 0.017% by weight. [40 CFR 60.333(a) and District Rule 4801]
5. 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]

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

DAVID WARNER, Director of Permit Services

6-1128-367-16 : Aug 12 2009 11:03AM - APPROVED : Joint Inspection NOT Required

6. If the gas turbine system is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520]
7. 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 60.334(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_x @ 15% O₂ referenced as NO₂; 44 ppmvd CO @ 15% O₂ when firing both gas turbine and duct burner simultaneously; 86 ppmvd CO @ 15% O₂ when firing gas turbine only; 0.013 lb-PM₁₀/MMBtu; 0.027 lb-VOC/MMBtu referenced as methane; and 0.002 lb-SO_x/MMBtu referenced as SO₂. 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_x 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 shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ referenced as NO₂; 44 ppmvd CO @ 15% O₂ when firing both gas turbine and duct burner simultaneously; 86 ppmvd CO @ 15% O₂ when firing gas turbine only; 0.013 lb-PM₁₀/MMBtu; 0.027 lb-VOC/MMBtu referenced as methane; and 0.002 lb-SO_x/MMBtu referenced as SO₂. NO_x 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_x 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: 65.6 lb-NO_x/day referenced as NO₂; 1,164.1 lb-CO/day; 3.6 lb-SO_x/day; 23.3 lb-PM₁₀/day; 99.6 lb-VOC/day referenced as methane; and 50.9 lb-NH₃/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: 21,566 lb-NO_x/year; 69,019 lb-CO/year; 1,307 lb-SO_x/year; 8,495 lb-PM₁₀/year; 17,901 lb-VOC/year; 18,567 lb-NH₃/year. All annual emission limits are based on 12 consecutive month rolling emissions total. [District Rule 2201]
13. Ammonia (NH₃) emissions shall not exceed 21 ppmvd @ 15% O₂ 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_x, CO, and O₂ 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]

CONDITIONS CONTINUE ON NEXT PAGE

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]
19. Source testing to measure start-up mass emission rates of NO_x, CO, and VOC shall be conducted for one of the gas turbine engines (S-1128-366, -367, -368 or -369) 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_x, CO and NH₃ emission rates (ppmvd @ 15% O₂) 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% O₂) 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_x - 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; PM₁₀ - EPA Method 5 (front half and back half) or 201 and 202a; ammonia - BAAQMD ST-1B; and O₂ - 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)]
23. Source test to demonstrate compliance with NO_x 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]
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_x, CO, and O₂ 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_x, CO and O₂ 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 (S-1128-366, -367, -368, or -369), 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 CEMS 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_x 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 NO_x shall be any unit operating hour in which sufficient data are not obtained to validate the hour for either NO_x 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 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 run can be used to demonstrate compliance with the applicable NO_x 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]
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 per event. [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]
50. NOx emissions shall not exceed 42 ppmvd @ 15% O2 (1-hour average), excluding startup (black start), shutdown and reduced load periods. [40 CFR 60.332(a)(1) & 60.332(a)(2)] Federally Enforceable Through Title V Permit
51. The requirements of 40 CFR 72.6 (b) do not apply to this source because it is not a Title IV source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rule 4201, 3.1; Rules 406 (Fresno), 407 (Kings, San Joaquin, Stanislaus, Tulare, Merced, and Kern), and 404 (Madera). 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 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
54. 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
55. The permittee shall supply the following items prior to initial startup under this permit: 1.) HRSG manufacturer's name, and 2.) Duct burner model number and manufacturer's name. This information shall be used in establishing equipment description on Permit to Operate. [District Rule 2201]

ATTACHMENT D

Emissions Increases

Stationary Source Increase in Permitted Emissions (SSIPE)

It is a District Practice to define the SSIPE as the difference of SSPE2 and SSPE1. Negative SSIPE is equated to zero.

NO_x, SO_x, PM₁₀, CO and VOC

SSPE2 is less than or equal to SSPE1 for these pollutants. Therefore, SSIPE is equal to zero for NO_x, SO_x, PM₁₀, CO and VOC emissions.

NH₃

$$\begin{aligned} \text{SSIPE} &= \text{SSPE2} - \text{SSPE1} \\ &= 74,268 \text{ lb/yr} \end{aligned}$$

ATTACHMENT E

Application

San Joaquin Valley Air Pollution Control District

www.valleyair.org

RECEIVED

DEC 11 2009

Permits Srvc
SJVABCD

Permit Application For:

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

1. PERMIT TO BE ISSUED TO: Chevron U.S.A. Inc. (CUSA)	
2. MAILING ADDRESS:	
STREET/P.O. BOX: PO Box 1392	
CITY: Bakersfield	STATE: CA 9-DIGIT 93302 ZIP CODE:
3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:	INSTALLATION DATE:
STREET: Heavy Oil Western Source – Midway Sunset Field	
4. GENERAL NATURE OF BUSINESS: 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)	
Implement ATCs S-1128-366-16 and '-367-15 (26C cogeneration units #1 and #2): Make dormant for Rule 4703 compliance.	
6. TYPE OR PRINT NAME OF APPLICANT:	TITLE OF APPLICANT:
William Fall	HES Manager
7. SIGNATURE OF APPLICANT:	DATE:
	12/10/09
	PHONE: (661) 654-7142 FAX: (661) 654-7004 EMAIL: martin.lundy@chevron.com

For APCD Use Only:

DATE STAMP	FILING FEE RECEIVED: \$ Ø	CHECK#: _____
	DATE PAID: _____	
	PROJECT NO: S-1095612	FACILITY ID: S-1128

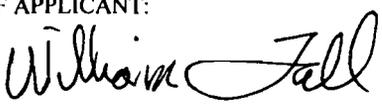
San Joaquin Valley Air Pollution Control District

www.valleyair.org

RECEIVED
 DEC 11 2009
 Permits Section
 SJVAPCD

Permit Application For:

ADMINISTRATIVE AMENDMENT MINOR MODIFICATION SIGNIFICANT MODIFICATION

1. PERMIT TO BE ISSUED TO: Chevron U.S.A. Inc. (CUSA)	
2. MAILING ADDRESS: STREET/P.O. BOX: PO Box 1392 CITY: Bakersfield STATE: CA 9-DIGIT ZIP CODE: 93302	
3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: STREET: Heavy Oil Western Source – Midway Sunset Field CITY: _____	INSTALLATION DATE:
4. GENERAL NATURE OF BUSINESS: 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) Implement ATCs S-1128-366-17 and '367-16 (26C cogeneration units #1 and #2): Install SCR and CEMS required for Rule 4703 compliance.	
6. TYPE OR PRINT NAME OF APPLICANT: William Fall	TITLE OF APPLICANT: HES Manager
7. SIGNATURE OF APPLICANT:  DATE: 12/10/09	PHONE: (661) 654-7142 FAX: (661) 654-7004 EMAIL: martin.lundy@chevron.com

For APCD Use Only:

DATE STAMP	FILING FEE RECEIVED: \$ <u> </u> CHECK#: _____
	DATE PAID: _____
	PROJECT NO: <u>S-1095612</u> FACILITY ID: <u>S-1128</u>

**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
 MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME: Chevron U.S.A. Inc. (CUSA)	FACILITY ID: S-1128
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: Chevron U.S.A. Inc. (CUSA)	
3. Agent to the Owner: N/A	

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:

William Fall
 Signature of Responsible Official

12/10/09
 Date

William Fall
 Name of Responsible Official (please print)

ATCs S-1128-366-16, '-366-17, '-367-15 and '-367-16

HES Manager
 Title of Responsible Official (please print)

ATTACHMENT F

Previous Title V Operating Permit No.'s
S-1128-366-14 and -367-13

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1128-366-14

EXPIRATION DATE: 02/28/2006

SECTION: 26 TOWNSHIP: 32S RANGE: 23E

EQUIPMENT DESCRIPTION:

2.7 MW COGEN FACILITY (CUSA ID# CG-1) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND STRUTHERS HEAT RECOVERY STEAM GENERATOR WITH 39 MMBTU/HR (NOMINAL RATING) COEN DUCT BURNER

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Units shall be fired exclusively on PUC-quality natural gas which has a sulfur content of less than or equal to 0.017% by weight. [40 CFR 60.333(a) & (b); 60.332(a); Rule 404 (Madera), 406 (Fresno) and 407 (6 remaining counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
3. Operator shall not discharge into the atmosphere combustion contaminants (PM) exceeding in concentration at the point of discharge, 0.1 gr/dscf. [District Rule 4201; Rule 402 (Madera) and 404 (all 7 remaining counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
4. Operator shall not exceed a NOx emission rate of 42 ppmvd @ 15% O2, excluding thermal stabilization and reduced load periods. [40 CFR 60.332(a)(1) & 60.332(a)(2)] Federally Enforceable Through Title V Permit
5. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081; Rule 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), Rule 110 (Madera), and Rule 108 (Kings)] Federally Enforceable Through Title V Permit
6. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM methods D 1072, D 3031, D 4084, D 3246, D 6228 or grab sample analysis by double GC for H2S and mercaptans. [Rules 1081 and 40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
7. If the turbine 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 60.334(b)(2)] Federally Enforceable Through Title V Permit
8. HHV and LHV of the fuel shall be determined using ASTM D 3588, ASTM 1826, or ASTM 1945. [40 CFR 60.335(b) and District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
9. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, carbon monoxide (CO) concentrations shall be determined using EPA Method 10 or 10B, and oxygen (O2) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
10. The operator shall provide source test information annually regarding the exhaust gas NOx, CO and O2 concentrations corrected to 15% O2 (dry). [40 CFR 60.332(a), (b) and District Rule 4703, 5.1] 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.

11. Unit shall demonstrate compliance annually with NO_x 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. [40 CFR 60.335(b) and District Rule 4703, 6.3.2] Federally Enforceable Through Title V Permit
12. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
13. The 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, 9.5.2] Federally Enforceable Through Title V Permit
14. 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
15. 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
16. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rule 1081, 4201, 3.1; Rules 406 (Fresno), 407 (Kings, San Joaquin, Stanislaus, Tulare, Merced, and Kern), and 404(Madera); 40 CFR 60.332(c), (d); 60.334 (b), and (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
17. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: SJVUAPCD Rule 4703, 6.2.2; Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern and Stanislaus), and 110 (Madera); Rules 402 (Madera) and 404 (Fresno, Kern, Kings, San Joaquin, Merced, Stanislaus, Tulare); 40 CFR 60.332 (a) and (b); 60.333(a) and (b); 60.334 (a), (b), and (c)(1); 60.335 (a), (b), (c), and (e). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
18. Compliance with the permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: SJVUAPCD Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
19. Permittee shall install, operate and maintain in calibration a predictive emissions monitoring system which continuously measures and records the water-to-fuel ratio and which correlates the water-to-fuel ratio with the NO_x concentration in the exhaust by using the method described in 40 CFR 60.335(c). [District Rule 4703 and 40 CFR 60.334] Federally Enforceable Through Title V Permit
20. Permittee shall submit to the APCO the information correlating the control system operating parameters to the associated measured NO_x output. [District Rule 4703, 6.2.5] Federally Enforceable Through Title V Permit
21. Permittee shall install, operate and maintain in calibration a system which continuously measures and records elapsed time of turbine operation. [40 CFR 60.334 and District Rule 4703, 6.2.1] Federally Enforceable Through Title V Permit
22. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(2)] Federally Enforceable Through Title V Permit
23. Permittee shall submit an excess NSPS emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form to the APCO semiannually, except when more frequent reporting is specifically required by an applicable subpart. All reports shall be postmarked by the 30th day of each calendar half (or quarter, as appropriate). [40 CFR 60.7(c)] 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.

24. Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with the NO_x emissions limit required by NSPS shall be reported to the APCO. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, turbine gas load and nitrogen content of the fuel during the period of excess emissions. [40 CFR 60.334(c)] Federally Enforceable Through Title V Permit
25. Gas combusted shall be exclusively PUC regulated natural gas or natural gas documented to be of comparable sulfur quality. [District NSR Rule] Federally Enforceable Through Title V Permit
26. Total heat input to the turbine/duct burner system shall not exceed 1,790 MM btu/day. [District NSR Rule] Federally Enforceable Through Title V Permit
27. Gas turbine engine water injection rate shall be maintained such that water to fuel ratio is no less than that amount determined necessary to insure emission limitation compliance. [District NSR Rule] Federally Enforceable Through Title V Permit
28. Permittee shall keep accurate records of fuel source and consumption (daily), fuel gas sulfur and nitrogen contents (quarterly) and higher heating value of the fuel (annually), for a period of five years, and shall make such records available for District inspection upon request. [District Rules 2520, 9.4.2 and NSR] Federally Enforceable Through Title V Permit
29. Permittee shall continuously monitor and record the water/fuel ratio to the turbine. [District NSR Rule] Federally Enforceable Through Title V Permit
30. NO_x emissions may be measured by use of water/fuel ratio and District approved correlation equation. [District NSR Rule] Federally Enforceable Through Title V Permit
31. If water injection system is inoperative, gas turbine engine shall be shut down. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Except during periods of thermal stabilization or reduced load, CO emissions shall not exceed the following: with only the gas turbine engine firing, 86 ppmv at 15 % O₂ and , with the gas turbine engine and duct burner both firing, 44 ppmv at 15% O₂. [District NSR Rule] Federally Enforceable Through Title V Permit
33. NO_x emission rate shall not exceed 35 ppmv at 15% O₂ on a 3 hour rolling average basis, except during periods of thermal stabilization or reduced loads. [District Rule 4703, 5.1.2 and 7.2.1] Federally Enforceable Through Title V Permit
34. Thermal Stabilization period shall be defined as the startup or shutdown time necessary to bring the heat recovery steam generator to proper temperature, not exceeding two hours. [District Rule 4703] Federally Enforceable Through Title V Permit
35. Startup and shutdown of gas turbine engine, as defined in 40 CFR Subpart A 60.2, shall not exceed time periods of two hours and two hours, respectively, per occurrence. [District Rule 4703] Federally Enforceable Through Title V Permit
36. Emission rates shall not exceed PM₁₀: 0.013 lb/MMBtu, SO_x (as SO₂): 0.002 lb/MMBtu, NO_x (as NO₂): 0.139 lb/MMBtu and VOC: 0.027 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1128-367-13

EXPIRATION DATE: 02/28/2006

SECTION: 26 **TOWNSHIP:** 32S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

2.7 MW COGEN FACILITY (CUSA ID# CG-2) INCLUDING: SOLAR CENTAUR 37.6 MMBTU/HR (NOMINAL RATING), WATER INJECTED, GAS TURBINE ENGINE AND STRUTHERS HEAT RECOVERY STEAM GENERATOR WITH 37 MMBTU/HR (NOMINAL RATING) COEN DUCT BURNER

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Total heat input to the turbine/duct burner system shall not exceed 1,790 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Units shall be fired exclusively on PUC-quality natural gas which has a sulfur content of less than or equal to 0.017% by weight. [40 CFR 60.333(a) & (b);60.332(a); Rule 404 (Madera), 406 (Fresno) and 407 (6 remaining counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
4. Operator shall not discharge into the atmosphere combustion contaminants (PM) exceeding in concentration at the point of discharge, 0.1 gr/dscf . [District Rule 4201; Rule 402 (Madera) and 404 (all 7 remaining counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
5. Operator shall not exceed a NOx emission rate of 42 ppmvd @ 15% O2, excluding thermal stabilization and reduced load periods. [40 CFR 60.332(a)(1) & 60.332(a)(2)] Federally Enforceable Through Title V Permit
6. Operator shall be required to conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081; Rule 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), Rule 110 (Madera), and Rule 108 (Kings)] Federally Enforceable Through Title V Permit
7. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM methods D 1072, D 3031, D 4084, D 3246, D 6228 or grab sample analysis by double GC for H2S and mercaptans. [Rules 1081 and 40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
8. If the turbine 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 60.334(b)(2)] Federally Enforceable Through Title V Permit
9. HHV and LHV of the fuel shall be determined using ASTM D 3588, ASTM 1826, or ASTM 1945. [40 CFR 60.335(b) and District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
10. Nitrogen oxides (NOx) concentrations shall be determined using EPA Method 7E or 20, carbon monoxide (CO) concentrations shall be determined using EPA Method 10 or 10B, and oxygen (O2) concentrations shall be determined using EPA Method 3, 3A, or 20. [40 CFR 60.335(b) and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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11. The operator shall provide source test information annually regarding the exhaust gas NO_x, CO and O₂ concentrations corrected to 15% O₂ (dry). [40 CFR 60.332(a), (b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
12. Unit shall demonstrate compliance annually with NO_x 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. [40 CFR 60.335(b) and District Rule 4703, 6.3.2] Federally Enforceable Through Title V Permit
13. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
14. The 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, 9.5.2] Federally Enforceable Through Title V Permit
15. 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
16. 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
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20. Permittee shall install, operate and maintain in calibration a predictive emissions monitoring system which continuously measures and records the water-to-fuel ratio and which correlates the water-to-fuel ratio with the NO_x concentration in the exhaust by using the method described in 40 CFR 60.335(c). [District Rule 4703 and 40 CFR 60.334] Federally Enforceable Through Title V Permit
21. Permittee shall submit to the APCO the information correlating the control system operating parameters to the associated measured NO_x output. [District Rule 4703, 6.2.5] Federally Enforceable Through Title V Permit
22. Permittee shall install, operate and maintain in calibration a system which continuously measures and records elapsed time of turbine operation. [40 CFR 60.334 and District Rule 4703, 6.2.1] Federally Enforceable Through Title V Permit
23. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(c)(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.

24. Permittee shall submit an excess NSPS emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form to the APCO semiannually, except when more frequent reporting is specifically required by an applicable subpart. All reports shall be postmarked by the 30th day of each calendar half (or quarter, as appropriate). [40 CFR 60.7(c)] Federally Enforceable Through Title V Permit
25. Any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with the NOx emissions limit required by NSPS shall be reported to the APCO. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, turbine gas load and nitrogen content of the fuel during the period of excess emissions. [40 CFR 60.334(c)] Federally Enforceable Through Title V Permit
26. Gas combusted shall be exclusively PUC regulated natural gas or natural gas documented to be of comparable sulfur quality. [District NSR Rule] Federally Enforceable Through Title V Permit
27. Gas turbine engine water injection rate shall be maintained such that water to fuel ratio is no less than that amount determined necessary to insure emission limitation compliance. [District NSR Rule] Federally Enforceable Through Title V Permit
28. Permittee shall keep accurate records of fuel source and consumption (daily), fuel gas sulfur and nitrogen contents (quarterly) and higher heating value of the fuel (annually), for a period of five years, and shall make such records available for District inspection upon request. [District Rules 2520, 9.4.2 and NSR] Federally Enforceable Through Title V Permit
29. Permittee shall continuously monitor and record the water/fuel ratio to the turbine. [District NSR Rule] Federally Enforceable Through Title V Permit
30. NOx emissions may be measured by use of water/fuel ratio and District approved correlation equation. [District NSR Rule] Federally Enforceable Through Title V Permit
31. If water injection system is inoperative, gas turbine engine shall be shut down. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Except during periods of thermal stabilization or reduced load, CO emissions shall not exceed the following: with only the gas turbine engine firing, 86 ppmv at 15 % O2 and , with the gas turbine engine and duct burner both firing, 44 ppmv at 15% O2. [District NSR Rule] Federally Enforceable Through Title V Permit
33. Thermal Stabilization period shall be defined as the startup or shutdown time necessary to bring the heat recovery steam generator to proper temperature, not exceeding two hours. [District Rule 4703] Federally Enforceable Through Title V Permit
34. Startup and shutdown of gas turbine engine, as defined in 40 CFR Subpart A 60.2, shall not exceed time periods of two hours and two hours, respectively, per occurrence. [District Rule 4703] Federally Enforceable Through Title V Permit
35. NOx emission rate shall not exceed 35 ppmv at 15% O2 on a 3 hour rolling average basis, except during periods of thermal stabilization or reduced loads. [District Rule 4703, 5.1.2 and 7.2.1] Federally Enforceable Through Title V Permit
36. Emission rates shall not exceed PM10: 0.013 lb/MMBtu, SOx (as SO2): 0.002 lb/MMBtu, NOx (as NO2): 0.139 lb/MMBtu and VOC: 0.027 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit

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