



JUN 13 2011

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-1141**  
**Project # 1111775**

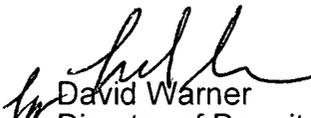
Dear Mr. Rios:

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 modify Permit(s) to Operate (PTOs) S-1141-555-10, '-556-9, and '-557-9 of the facility's current Title V operating permit. The project authorizes revision of approved PM10 test methods.

Enclosed is the engineering evaluation with the following attachments: proposed modified Title V PTO(s) S-1141-555-13, '-556-14, and '-557-12, 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. Leonard Scandura at (661) 392-5500.

Sincerely,



David Warner  
Director of Permit Services

Enclosures  
cc: Richard Edgehill, Permit Services

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

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
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JUN 13 2011

William Fall  
Chevron USA Inc  
PO Box 1392  
Bakersfield, CA 93302

**Re: Notice of Minor Title V Permit Modification  
District Facility # S-1141  
Project # 1111775**

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 modify Permit(s) to Operate S-1141-555-10, '-556-9, and '-557-9 of the current Title V operating permit. The project authorizes revision of approved PM10 test methods.

Enclosed is the engineering evaluation with the following attachments: proposed modified Title V PTO(s) S-1141-555-13, '-556-14, and '-557-12, application, and previous Title V permit. This project will be finalized after the 45-day EPA comment period.

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

Sincerely,

  
David Warner  
Director of Permit Services

Enclosures  
cc: Richard Edgehill, Permit Services

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# TITLE V APPLICATION REVIEW

Minor Modification  
Project #: S-1111775

Engineer: Richard Edgehill  
Date: May 25, 2010

Facility Number: S-1141  
Facility Name: Chevron USA Inc.  
Mailing Address: PO Box 1392  
Bakersfield, CA 93302

Contact Name: William Fall, Health, Environment, and Safety (HES)  
Manager and Martin Lundy  
Phone: (661) 654-7142 (WF), (661) 654-7142 (ML)

Responsible Official: William Fall  
Title: SJVBU HES Manager

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## I. PROPOSAL

Chevron USA Inc. is proposing a minor modification to revise PM10 test method conditions on PTOs S-1141-555-10, '-556-9, and '-557-11. Steam generators '-555, '-556, and '-557 are served by a wet scrubber. The current Title V Permits to Operate include PM10 test methods EPA Methods 5, 201A, and 202. Applicant has stated that EPA Method 201A cannot be used on "wet" scrubber stacks. EPA Method 202 can be used but would need to be revised and would require additional equipment and training of source testing contractors. Therefore, in this project applicant is requesting the option to also use CARB Method 5 which measures both front half (filterable PM10) and back half (condensable PM10) and is an accepted method by the District.

Please note that District policy FYI-111 Category 8 allows revision of approved testing methods with no Authority to Construct (ATC).

	ATC req'd ?	TV applicati on req'd ?	NSR mod ?	Description	Comments
8	No	Yes	No	revising approved test methods	Not a change in the method of operation.

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

## II. FACILITY LOCATION

The steam generators are located within CUSA's Heavy Oil Western stationary source at the Midway Sunset Field at NW17, T32S, R23E in Kern County.

## III. EQUIPMENT DESCRIPTION

S-1141-555-13: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #7953) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER, FGR AND EXHAUST GAS SOX SCRUBBER AND BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

S-1141-556-14: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #653) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH AN O2 ANALYZER/CONTROLLER, FGR (WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), ELECTRONIC CONTROLS, EXHAUST GAS SOX SCRUBBER, AND BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

S-1141-557-12: 62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED C.E. NATCO STEAM GENERATOR (NATIONAL BOARD #9333) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA LOW-NOX BURNER, O2 ANALYZER/CONTROLLER, FGR SYSTEM (WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), ELECTRONIC CONTROLS, EXHAUST GAS SOX SCRUBBER AND BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

## 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

The following revisions will be made to current Title V PTOs S-1141-555-10 (Condition #22), '-556-9 (Condition #30), and '-557-9 (Condition #29) with new words bold underlined:

### Current Condition

The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5, 201A, and 202. [District Rules 1081, 4305, and 4306] Y

### Proposed Condition

The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5, 201A, and or 202, or CARB Method 5, or any combination of these PM10 methods. [District Rules 1081, 4305, and 4306] Y

## 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 Permits
- B. Application
- C. Previous Title V Operating Permits

## Attachment A

### Proposed Modified Title V Operating Permits

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-557-12

EXPIRATION DATE: 02/28/2006

SECTION: NW17 TOWNSHIP: 32S RANGE: 23E

## EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED C.E. NATCO STEAM GENERATOR (NATIONAL BOARD #9333) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA LOW-NOX BURNER, O2 ANALYZER/CONTROLLER, FGR SYSTEM (WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), ELECTRONIC CONTROLS, EXHAUST GAS SOX SCRUBBER AND BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

## 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. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit
3. Exhaust from unit shall be directed to SOx scrubber authorized herein except when unit is combusting only PUC quality natural gas with a sulfur content not exceeding 1.0 gr S/100scf. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Scrubber control efficiency shall be maintained at least 95% by weight sulfur compounds or greater, or SO2 concentration at the stack gas outlet that shall not exceed 30 ppmvd, as measured at the actual stack gas O2 level. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Scrubber recirculation liquid pH shall be maintained only by the addition of caustic unless prior approval for an alternative pH maintenance method is received from the District. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Daily average pH of scrubber liquor (calculated from hourly averages) shall be maintained between 6 and 8, and shall be continuously monitored. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The minimum scrubber recirculation liquid to gas ratio (recirculation rate) required to maintain compliance with the SO2 limit shall be established during an initial 60 day shakedown period. During the initial 60 day shakedown period, SO2 emissions shall not exceed any of the following: 0.126 lb SO2/MMBtu and 189.0 lb SO2/day. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Upon conclusion of the shakedown period, permittee shall maintain the scrubber recirculation rate at the minimum rate determined during the shakedown period. If the recirculation rate falls below the minimum rate, the permittee shall commence repairs or perform a source test to determine compliance with the SO2 emissions limit required by this permit. Compliance with the minimum recirculation rate requirement (gpm/1000 acf) shall be determined by averaging the recirculation rate readings (calculated from hourly averages) during operation during the calendar day. [District NSR Rule]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

9. SO<sub>2</sub> scrubber exhaust shall be vented to operational Brinks mist eliminator prior to being exhausted to atmosphere when total H<sub>2</sub>S loading to any one of the steam generators exceeds 1.24 lb/min for an aggregate of three or more minutes in any one hour period. H<sub>2</sub>S concentration of the TEOR gas shall be determined and entered into the generator fuel throughput processor weekly using gas detection tubes to determine H<sub>2</sub>S concentration. The H<sub>2</sub>S loading shall be calculated using the generator actual fuel volumetric flow rate and H<sub>2</sub>S concentration of the TEOR and fuel gas. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
10. Scrubber mist eliminator shall be properly cleaned and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
12. {524} When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
15. {530} Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit
17. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects [District NSR Rule] Federally Enforceable Through Title V Permit
19. Annual combined emissions of PM<sub>10</sub> from units '-555, '-556, and '-557 shall not exceed 115,687 lb/yr. [District Rule 2201] 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. Permittee shall demonstrate compliance with the annual PM10 combined emission limit for units '-555, '-556, and '-557 by calculation using the amount of fuel combusted, and either the results from the latest source test or the permitted emission factor if there is no PM10 source test data. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Emission rates shall not exceed any of the following: PM10: 109.5 lb/day, SOx: 94.5 lb/day, NOx (as NO2): 54.0 lb/day and 9855 lb/year, VOC: 9.0 lb/day, CO: 56.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM10: 0.073 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 50 ppmv @ 3% O2 or 0.0375 lb/MMBtu. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
23. Except during periods of startup, shutdown and shakedown, the emission rate for SOx (as SO2) shall not exceed 0.063 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
25. 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. 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 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
26. Compliance with NOx, CO and PM10 emissions limits (lb/MM Btu or ppmv) shall be demonstrated by source testing, at startup and at least once every twelve (12) months thereafter. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
27. If required, compliance with the scrubber control efficiency requirement shall be demonstrated within 60 days of startup and at least once every twelve (12) months thereafter. [District Rule 2201]
28. Whenever the unit is switched to scrubbed operation, compliance source testing for SOx shall be conducted within 60 days of initial scrubbing date unless source testing has occurred within the previous 12 months. [District NSR Rule] Federally Enforceable Through Title V Permit
29. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5, 201A, and/or 202, or CARB Method 5, or any combination of these PM10 methods. [District Rules 1081, 4305, and 4306] Federally Enforceable Through Title V Permit
30. 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
31. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H2S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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33. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
34. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
35. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
36. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
37. {518} All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
38. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
39. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
40. 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
41. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] 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.

42. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
43. All units in a group for which representative units are source tested for NO<sub>x</sub> and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
44. All units in a group for which representative units are source tested to for NO<sub>x</sub> and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
45. The number of representative units source tested for NO<sub>x</sub> and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
46. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
47. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
48. Permittee shall maintain with the permit a current listing of all TEOR and TVC gas systems providing vapors to this steam generator and shall make such listing readily available for District inspection upon request [District NSR Rule] Federally Enforceable Through Title V Permit
49. Permittee shall maintain daily records of volume of fuel gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
50. Copies of all gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
51. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
52. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
53. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
54. Permittee shall maintain records of H<sub>2</sub>S loading (lb H<sub>2</sub>S/min) and dates and duration of Brinks Mist Eliminator operation and shall make such records readily available for District. [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.

55. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

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

DRAFT

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-555-13

EXPIRATION DATE: 02/28/2006

SECTION: NW17 TOWNSHIP: 32S RANGE: 23E

## EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #7953) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER, FGR AND EXHAUST GAS SOX SCRUBBER AND BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

## PERMIT UNIT REQUIREMENTS

1. Exhaust from unit shall be directed to SOx scrubber authorized herein except when unit is combusting only PUC quality natural gas with a sulfur content not exceeding 1.0 gr S/100scf. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Scrubber control efficiency shall be maintained at least 95% by weight sulfur compounds or greater, or SO2 concentration at the stack gas outlet that shall not exceed 30 ppmvd, as measured at the actual stack gas O2 level. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Scrubber recirculation liquid pH shall be maintained only by the addition of caustic unless prior approval for an alternative pH maintenance method is received from the District. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Daily average pH of scrubber liquor (calculated from hourly averages) shall be maintained between 6 and 8, and shall be continuously monitored. [District NSR Rule] Federally Enforceable Through Title V Permit
5. The minimum scrubber recirculation liquid to gas ratio (recirculation rate) required to maintain compliance with the SO2 limit shall be established during an initial 60 day shakedown period. During the initial 60 day shakedown period, SO2 emissions shall not exceed any of the following: 0.126 lb SO2/MMBtu and 189.0 lb SO2/day. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Upon conclusion of the shakedown period, permittee shall maintain the scrubber recirculation rate at the minimum rate determined during the shakedown period. If the recirculation rate falls below the minimum rate, the permittee shall commence repairs or perform a source test to determine compliance with the SO2 emissions limit required by this permit. Compliance with the minimum recirculation rate requirement (gpm/1000 acf) shall be determined by averaging the recirculation rate readings (calculated from hourly averages) during operation during the calendar day. [District NSR Rule]
7. SO2 scrubber exhaust shall be vented to operational Brinks mist eliminator prior to being exhausted to atmosphere when total H2S loading to any one of the steam generators exceeds 1.24 lb/min for an aggregate of three or more minutes in any one hour period. H2S concentration of the TEOR gas shall be determined and entered into the generator fuel throughput processor weekly using gas detection tubes to determine H2S concentration. The H2S loading shall be calculated using the generator actual fuel volumetric flow rate and H2S concentration of the TEOR and fuel gas. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
8. Scrubber mist eliminator shall be properly cleaned and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and District Rule 1081] 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.

10. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
12. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
13. Annual combined emissions of PM10 from units '-555, '-556, and '-557 shall not exceed 115,687 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Permittee shall demonstrate compliance with the annual PM10 combined emission limit for units '-555, '-556, and '-557 by calculation using the amount of fuel combusted, and either the results from the latest source test or the permitted emission factor if there is no PM10 source test data. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emission rates shall not exceed any of the following: PM10: 109.5 lb/day, SOx: 94.5 lb/day, NOx (as NO2): 54.0 lb/day and 9855 lb/year, VOC: 9.0 lb/day, CO: 41.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM10: 0.073 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 37 ppmv @ 3% O2 or 0.0273 lb/MMBtu. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
17. Except during periods of startup, shutdown and shakedown, the emission rate for SOx (as SO2) shall not exceed 0.063 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
19. Compliance with NOx, CO and PM10 emissions limits (lb/MM Btu or ppmv) shall be demonstrated by source testing, at startup and at least once every twelve (12) months thereafter. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
20. If required, compliance with the scrubber control efficiency requirement shall be demonstrated within 60 days of startup and at least once every twelve (12) months thereafter. [District Rule 2201]
21. Whenever the unit is switched to scrubbed operation, compliance source testing for SOx shall be conducted within 60 days of initial scrubbing date unless source testing has occurred within the previous 12 months. [District NSR Rule] Federally Enforceable Through Title V Permit
22. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5, 201A, and/or 202, or CARB Method 5, or any combination of these PM10 methods. [District Rules 1081, 4305, and 4306] Federally Enforceable Through Title V Permit
23. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
24. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] 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. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
28. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
29. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects. [District NSR Rule] Federally Enforceable Through Title V Permit
32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
33. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
34. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] 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.

35. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
37. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081, and Kern County Rule 108.1] Federally Enforceable Through Title V Permit
39. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
41. {521} Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
42. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.3.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
43. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
44. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] 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.

46. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
47. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period [Kern County Rule 407]. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
48. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
49. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
50. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
51. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
52. Permittee shall maintain records of H2S loading (lb H2S/min) and dates and duration of Brinks Mist Eliminator operation and shall make such records readily available for District. [District Rule 2201] Federally Enforceable Through Title V Permit
53. All records shall be maintained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] 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-1141-556-14

EXPIRATION DATE: 02/28/2006

SECTION: NW17 TOWNSHIP: 32S RANGE: 23E

## EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #653) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH AN O2 ANALYZER/CONTROLLER, FGR (WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), ELECTRONIC CONTROLS, EXHAUST GAS SOX SCRUBBER, AND BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

## 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. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rule 407 (Kern)] Federally Enforceable Through Title V Permit
3. Exhaust from unit shall be directed to SOx scrubber authorized herein except when unit is combusting only PUC quality natural gas with a sulfur content not exceeding 1.0 gr S/100scf. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Scrubber control efficiency shall be maintained at least 95% by weight sulfur compounds or greater, or SO2 concentration at the stack gas outlet that shall not exceed 30 ppmvd, as measured at the actual stack gas O2 level. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Scrubber recirculation liquid pH shall be maintained only by the addition of caustic unless prior approval for an alternative pH maintenance method is received from the District. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Daily average pH of scrubber liquor (calculated from hourly averages) shall be maintained between 6 and 8, and shall be continuously monitored. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The minimum scrubber recirculation liquid to gas ratio (recirculation rate) required to maintain compliance with the SO2 limit shall be established during an initial 60 day shakedown period. During the initial 60 day shakedown period, SO2 emissions shall not exceed any of the following: 0.126 lb SO2/MMBtu and 189.0 lb SO2/day. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Upon conclusion of the shakedown period, permittee shall maintain the scrubber recirculation rate at the minimum rate determined during the shakedown period. If the recirculation rate falls below the minimum rate, the permittee shall commence repairs or perform a source test to determine compliance with the SO2 emissions limit required by this permit. Compliance with the minimum recirculation rate requirement (gpm/1000 acf) shall be determined by averaging the recirculation rate readings (calculated from hourly averages) during operation during the calendar day. [District NSR Rule]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

9. SO<sub>2</sub> scrubber exhaust shall be vented to operational Brinks mist eliminator prior to being exhausted to atmosphere when total H<sub>2</sub>S loading to any one of the steam generators exceeds 1.24 lb/min for an aggregate of three or more minutes in any one hour period. H<sub>2</sub>S concentration of the TEOR gas shall be determined and entered into the generator fuel throughput processor weekly using gas detection tubes to determine H<sub>2</sub>S concentration. The H<sub>2</sub>S loading shall be calculated using the generator actual fuel volumetric flow rate and H<sub>2</sub>S concentration of the TEOR and fuel gas. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
10. Scrubber mist eliminator shall be properly cleaned and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
12. {524} When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
15. {530} Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District NSR Rule] Federally Enforceable Through Title V Permit
17. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects [District NSR Rule] Federally Enforceable Through Title V Permit
19. Annual combined emissions of PM<sub>10</sub> from units '-555, '-556, and '-557 shall not exceed 115,687 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emission rates shall not exceed any of the following: PM<sub>10</sub>: 109.5 lb/day, SO<sub>x</sub>: 94.5 lb/day, NO<sub>x</sub> (as NO<sub>2</sub>): 54.0 lb/day and 9855 lb/year, VOC: 9.0 lb/day, CO: 56.3 lb/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.

21. Permittee shall demonstrate compliance with the annual PM10 combined emission limit for units '-555, '-556, and '-557 by calculation using the amount of fuel combusted, and either the results from the latest source test or the permitted emission factor if there is no PM10 source test data. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM10: 0.073 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 50 ppmv @ 3% O2 or 0.0375 lb/MMBtu. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
23. Except during periods of startup, shutdown and shakedown, the emission rate for SOx (as SO2) shall not exceed 0.063 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
25. 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. 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 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
26. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NOx/day, 9,965 lb-NOx/yr, 56.3 lb-CO/day. [District NSR Rule] Federally Enforceable Through Title V Permit
27. Compliance with NOx, CO and PM10 emissions limits (lb/MM Btu or ppmv) shall be demonstrated by source testing, at startup and at least once every twelve (12) months thereafter. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
28. If required, compliance with the scrubber control efficiency requirement shall be demonstrated within 60 days of startup and at least once every twelve (12) months thereafter. [District Rule 2201]
29. Whenever the unit is switched to scrubbed operation, compliance source testing for SOx shall be conducted within 60 days of initial scrubbing date unless source testing has occurred within the previous 12 months. [District NSR Rule] Federally Enforceable Through Title V Permit
30. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5, 201A, and/or 202, or CARB Method 5, or any combination of these PM10 methods. [District Rules 1081, 4305, and 4306] Federally Enforceable Through Title V Permit
31. 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
32. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H2S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] 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.

34. If the steam generator 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. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
36. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
37. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
39. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rule 108.1 (Kern)] Federally Enforceable Through Title V Permit
40. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
41. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
42. 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
43. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] 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.

44. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
45. All units in a group for which representative units are source tested for NO<sub>x</sub> and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
46. All units in a group for which representative units are source tested to for NO<sub>x</sub> and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
47. The number of representative units source tested for NO<sub>x</sub> and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
48. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
49. Copies of all gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
50. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
51. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NO<sub>x</sub> testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
52. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
53. Permittee shall maintain records of H<sub>2</sub>S loading (lb H<sub>2</sub>S/min) and dates and duration of Brinks Mist Eliminator operation and shall make such records readily available for District. [District Rule 2201] Federally Enforceable Through Title V Permit
54. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

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

DRAFT

**Attachment B**  
**Application**

5-1141-555-13, 1-556-14, 1-557-12

# San Joaquin Valley Air Pollution Control District

www.valleyair.org

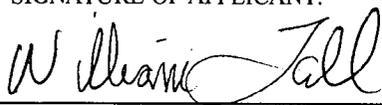
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MAY - 9 2011

SJVAPCD  
Southern Region

## Permit Application For:

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

1. PERMIT TO BE ISSUED TO: <b>CHEVRON U.S.A. INC.</b>	
2. MAILING ADDRESS:  STREET/P.O. BOX: <b>PO BOX 1392</b>  CITY: <b>BAKERSFIELD</b> STATE: <b>CA</b> 9-DIGIT ZIP CODE: <b>93302</b>	
3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED:  STREET: <b>Heavy Oil Western Source</b> CITY: _____  <b>NW</b> ¼ SECTION <b>17</b> TOWNSHIP <b>32S</b> RANGE <b>32E</b>	INSTALLATION DATE:
4. GENERAL NATURE OF BUSINESS: <b>CRUDE OIL AND GAS PRODUCTION</b>	
5. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE (include Permit #'s if known, and use additional sheets if necessary)  <b>Revise PM10 Test Methods PTO S-1141-555-10, '-556-9, '557-9 ATC S-1141-555-11, '-555-12, '-556-12, '-556-13, '-557-10, '-557-11 See Attached</b>	
6. TYPE OR PRINT NAME OF APPLICANT: <b>William R. Fall</b>	TITLE OF APPLICANT: <b>HES Manager</b>
7. SIGNATURE OF APPLICANT: 	DATE: <b>5/5/11</b>
	PHONE: (661) 654-7142 FAX: (661) 654-7606 EMAIL: landilr@chevron.com

### For APCD Use Only:

DATE STAMP	FILING FEE RECEIVED: \$ _____ CHECK#: _____
	DATE PAID: _____
	PROJECT NO: <b>S-1111775</b> FACILITY ID: <b>S-1141</b>

*TV Minn. Mac*

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Southern Region

San Joaquin Valley  
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION  ADMINISTRATIVE  
 MINOR PERMIT MODIFICATION  AMENDMENT

COMPANY NAME: <b>CHEVRON U.S.A. INC.</b>	FACILITY ID: <b>S-1141</b>
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: <b>CHEVRON U.S.A. INC.</b>	
3. Agent to the Owner: <b>N/A</b>	

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

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

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

William Fall  
Signature of Responsible Official

5/5/11  
Date

**William Fall**

Name of Responsible Official (please print)

**SJVBU HES Manager**

Title of Responsible Official (please print)

S-1141-555-10, '-556-9, '557-9  
ATC S-1141-555-11, '-555-12, '-556-12, '-556-13, '-557-10, '-557-11  
Revise PM10 Test Methods



**William R. Fall**  
Health, Environment and  
Safety Manager

**San Joaquin Valley SBU**  
Chevron North America  
Exploration and Production  
P. O. Box 1392  
Bakersfield, CA 93302  
Tel 661 654 7038  
Fax 661 654 7004

May 3, 2011

Mr. Leonard Scandura,  
Manager Permit Services  
San Joaquin Valley APCD  
34946 Flyover Court  
Bakersfield, California 93308

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Southern Region

**RE: Title V Minor Modification—S-1141-555, '556 and '-557**

Dear Mr. Scandura:

Chevron's application for minor modification of Title V permits is attached for your review and approval. Chevron is requesting a revision of the PM10 test method. The proposed method is consistent with Rule 1081 Section 5.0 and is federally enforceable. See attach current and proposed methods.

Our Compliance Certification is also attached. Please bill us for the review fees, as allowed.

Thank you for your assistance. Please telephone Martin Lundy at (661) 654-7142, or Lance Ericksen, our HES Business Partner, at phone number (661) 654-7145 if there are questions.

Sincerely,

A handwritten signature in black ink that reads "William R. Fall". The signature is written in a cursive, flowing style.

William R. Fall  
Health, Environment and Safety Manager

LE  
Attachments

CC: Richard Karrs

Title V Minor Modification  
Revise PM10 Method  
May 3, 2022

Permit	Condition Number
S-1141-555-10	22
S-1141-556-9	30
S-1141-557-9	29

ATC	Condition Number
S-1141-555-11	31
S-1141-555-12	30
S-1141-556-12	35
S-1141-556-13	31
S-1141-557-10	34
S-1141-557-11	31

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Southern Region

#### Current

The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5, 201A, and 202. [District Rules 1081, 4305, and 4306] Federally Enforceable Through Title V Permit

#### Revised

The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5 (front half), 201A, and/or 202, CARB Method 5, or any combination of these PM10 methods. [District Rules 1081, 4305, and 4306] Federally Enforceable Through Title V Permit

Attachment C  
Previous Title V Operating Permits

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-555-10

EXPIRATION DATE: 02/28/2006

SECTION: NW17 TOWNSHIP: 32S RANGE: 23E

## EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #7953) WITH NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER, O2 CONTROLLER, FGR AND EXHAUST GAS SOX SCRUBBER AND BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

## PERMIT UNIT REQUIREMENTS

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1. Exhaust from unit shall be directed to SOx scrubber authorized herein except when unit is combusting only PUC quality natural gas with a sulfur content not exceeding 1.0 gr S/100scf. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Scrubber control efficiency shall be maintained at least 95% by weight sulfur compounds or greater, or SO2 concentration at the stack gas outlet that shall not exceed 30 ppmvd, as measured at the actual stack gas O2 level. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Scrubber recirculation liquid pH shall be maintained only by the addition of caustic unless prior approval for an alternative pH maintenance method is received from the District. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Daily average pH of scrubber liquor (calculated from hourly averages) shall be maintained between 6 and 8, and shall be continuously monitored. [District NSR Rule] Federally Enforceable Through Title V Permit
5. The minimum scrubber recirculation liquid to gas ratio (recirculation rate) required to maintain compliance with the SO2 limit shall be established during an initial 60 day shakedown period. During the initial 60 day shakedown period, SO2 emissions shall not exceed any of the following: 0.126 lb SO2/MMBtu and 189.0 lb SO2/day. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Upon conclusion of the shakedown period, permittee shall maintain the scrubber recirculation rate at the minimum rate determined during the shakedown period. If the recirculation rate falls below the minimum rate, the permittee shall commence repairs or perform a source test to determine compliance with the SO2 emissions limit required by this permit. Compliance with the minimum recirculation rate requirement (gpm/1000 acf) shall be determined by averaging the recirculation rate readings (calculated from hourly averages) during operation during the calendar day. [District NSR Rule]
7. SO2 scrubber exhaust shall be vented to operational Brinks mist eliminator prior to being exhausted to atmosphere when total H2S loading to any one of the steam generators exceeds 1.24 lb/min for an aggregate of three or more minutes in any one hour period. H2S concentration of the TEOR gas shall be determined and entered into the generator fuel throughput processor weekly using gas detection tubes to determine H2S concentration. The H2S loading shall be calculated using the generator actual fuel volumetric flow rate and H2S concentration of the TEOR and fuel gas. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
8. Scrubber mist eliminator shall be properly cleaned and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Exhaust gas stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District NSR Rule and District Rule 1081] 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.

10. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4306] Federally Enforceable Through Title V Permit
12. Permittee shall maintain records of duration of each start-up and shutdown, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
13. Annual combined emissions of PM10 from units '-555, '-556, and '-557 shall not exceed 115,687 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Permittee shall demonstrate compliance with the annual PM10 combined emission limit for units '-555, '-556, and '-557 by calculation using the amount of fuel combusted, and either the results from the latest source test or the permitted emission factor if there is no PM10 source test data. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emission rates shall not exceed any of the following: PM10: 109.5 lb/day, SOx: 94.5 lb/day, NOx (as NO2): 54.0 lb/day and 9855 lb/year, VOC: 9.0 lb/day, CO: 41.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM10: 0.073 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 37 ppmv @ 3% O2 or 0.0273 lb/MMBtu. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
17. Except during periods of startup, shutdown and shakedown, the emission rate for SOx (as SO2) shall not exceed 0.063 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
19. Compliance with NOx, CO and PM10 emissions limits (lb/MM Btu or ppmv) shall be demonstrated by source testing, at startup and at least once every twelve (12) months thereafter. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
20. If required, compliance with the scrubber control efficiency requirement shall be demonstrated within 60 days of startup and at least once every twelve (12) months thereafter. [District Rule 2201]
21. Whenever the unit is switched to scrubbed operation, compliance source testing for SOx shall be conducted within 60 days of initial scrubbing date unless source testing has occurred within the previous 12 months. [District NSR Rule] Federally Enforceable Through Title V Permit
22. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5, 201A, and 202. [District Rules 1081, 4305, and 4306] Federally Enforceable Through Title V Permit
23. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
24. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] 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. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
28. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
29. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects. [District NSR Rule] Federally Enforceable Through Title V Permit
32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
33. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
34. The following conditions must be met for representative unit(s) to be used to test for NO<sub>x</sub> limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] 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.

35. All units in a group for which representative units are source for NOx emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are source tested for NOx emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type (e.g. from natural gas to oil) then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2 and 4306] Federally Enforceable Through Title V Permit
37. The number of representative units source tested for NOx emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081, and Kern County Rule 108.1] Federally Enforceable Through Title V Permit
39. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
41. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
42. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 2520, 9.3.2 and 4301, 5.2.1] Federally Enforceable Through Title V Permit
43. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
44. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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46. If fuel analysis is used to demonstrate compliance with the conditions of this permit, the fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
47. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period [Kern County Rule 407]. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
48. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
49. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
50. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
51. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
52. Permittee shall maintain records of H2S loading (lb H2S/min) and dates and duration of Brinks Mist Eliminator operation and shall make such records readily available for District. [District Rule 2201] Federally Enforceable Through Title V Permit
53. All records shall be maintained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] 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-1141-556-9

EXPIRATION DATE: 02/28/2006

SECTION: NW17 TOWNSHIP: 32S RANGE: 23E

## EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED SMITH MOON STEEL STEAM GENERATOR (NATIONAL BOARD #653) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA-LOW NOX BURNER WITH AN O2 ANALYZER/CONTROLLER, FGR (WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), ELECTRONIC CONTROLS, EXHAUST GAS SOX SCRUBBER, AND BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

## PERMIT UNIT REQUIREMENTS

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1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rule 407 (Kern)] Federally Enforceable Through Title V Permit
3. Exhaust from unit shall be directed to SOx scrubber authorized herein except when unit is combusting only PUC quality natural gas with a sulfur content not exceeding 1.0 gr S/100scf. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Scrubber control efficiency shall be maintained at least 95% by weight sulfur compounds or greater, or SO2 concentration at the stack gas outlet that shall not exceed 30 ppmvd, as measured at the actual stack gas O2 level. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Scrubber recirculation liquid pH shall be maintained only by the addition of caustic unless prior approval for an alternative pH maintenance method is received from the District. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Daily average pH of scrubber liquor (calculated from hourly averages) shall be maintained between 6 and 8, and shall be continuously monitored. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The minimum scrubber recirculation liquid to gas ratio (recirculation rate) required to maintain compliance with the SO2 limit shall be established during an initial 60 day shakedown period. During the initial 60 day shakedown period, SO2 emissions shall not exceed any of the following: 0.126 lb SO2/MMBtu and 189.0 lb SO2/day. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Upon conclusion of the shakedown period, permittee shall maintain the scrubber recirculation rate at the minimum rate determined during the shakedown period. If the recirculation rate falls below the minimum rate, the permittee shall commence repairs or perform a source test to determine compliance with the SO2 emissions limit required by this permit. Compliance with the minimum recirculation rate requirement (gpm/1000 acf) shall be determined by averaging the recirculation rate readings (calculated from hourly averages) during operation during the calendar day. [District NSR Rule]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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9. SO<sub>2</sub> scrubber exhaust shall be vented to operational Brinks mist eliminator prior to being exhausted to atmosphere when total H<sub>2</sub>S loading to any one of the steam generators exceeds 1.24 lb/min for an aggregate of three or more minutes in any one hour period. H<sub>2</sub>S concentration of the TEOR gas shall be determined and entered into the generator fuel throughput processor weekly using gas detection tubes to determine H<sub>2</sub>S concentration. The H<sub>2</sub>S loading shall be calculated using the generator actual fuel volumetric flow rate and H<sub>2</sub>S concentration of the TEOR and fuel gas. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
10. Scrubber mist eliminator shall be properly cleaned and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
12. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculate emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
15. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District NSR Rule] Federally Enforceable Through Title V Permit
17. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects [District NSR Rule] Federally Enforceable Through Title V Permit
19. Annual combined emissions of PM<sub>10</sub> from units '-555, '-556, and '-557 shall not exceed 115,687 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emission rates shall not exceed any of the following: PM<sub>10</sub>: 109.5 lb/day, SO<sub>x</sub>: 94.5 lb/day, NO<sub>x</sub> (as NO<sub>2</sub>): 54.0 lb/day and 9855 lb/year, VOC: 9.0 lb/day, CO: 56.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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21. Permittee shall demonstrate compliance with the annual PM10 combined emission limit for units '-555, '-556, and '-557 by calculation using the amount of fuel combusted, and either the results from the latest source test or the permitted emission factor if there is no PM10 source test data. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM10: 0.073 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 50 ppmv @ 3% O2 or 0.0375 lb/MMBtu. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
23. Except during periods of startup, shutdown and shakedown, the emission rate for SOx (as SO2) shall not exceed 0.063 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
25. 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. 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 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
26. Maximum emissions from the steam generator, including start-up and shutdown, shall not exceed any of the following limits: 54.0 lb-NOx/day, 9,965 lb-NOx/yr, 56.3 lb-CO/day. [District NSR Rule] Federally Enforceable Through Title V Permit
27. Compliance with NOx, CO and PM10 emissions limits (lb/MM Btu or ppmv) shall be demonstrated by source testing, at startup and at least once every twelve (12) months thereafter. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
28. If required, compliance with the scrubber control efficiency requirement shall be demonstrated within 60 days of startup and at least once every twelve (12) months thereafter. [District Rule 2201]
29. Whenever the unit is switched to scrubbed operation, compliance source testing for SOx shall be conducted within 60 days of initial scrubbing date unless source testing has occurred within the previous 12 months. [District NSR Rule] Federally Enforceable Through Title V Permit
30. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5, 201A, and 202. [District Rules 1081, 4305, and 4306] Federally Enforceable Through Title V Permit
31. 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
32. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H2S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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34. If the steam generator 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. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
36. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
37. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
38. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
39. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rule 108.1 (Kern)] Federally Enforceable Through Title V Permit
40. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
41. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
42. 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
43. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] 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.

44. The following conditions must be met for representative unit(s) to be used to test for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
45. All units in a group for which representative units are source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
46. All units in a group for which representative units are source tested to for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
47. The number of representative units source tested for NOx and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
48. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
49. Copies of all gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
50. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
51. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
52. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
53. Permittee shall maintain records of H2S loading (lb H2S/min) and dates and duration of Brinks Mist Eliminator operation and shall make such records readily available for District. [District Rule 2201] Federally Enforceable Through Title V Permit
54. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

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# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1141-557-9

EXPIRATION DATE: 02/28/2006

SECTION: NW17 TOWNSHIP: 32S RANGE: 23E

## EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL/TEOR/TVC GAS-FIRED C.E. NATCO STEAM GENERATOR (NATIONAL BOARD #9333) WITH A NORTH AMERICAN MAGNA-FLAME GLE ULTRA LOW-NOX BURNER, O2 ANALYZER/CONTROLLER, FGR SYSTEM (WITH VARIABLE SPEED INTAKE AIR BLOWER, ORIFICE PLATE(S), ELECTRONIC CONTROLS, EXHAUST GAS SOX SCRUBBER AND BRINKS MIST ELIMINATOR SHARED WITH S-1141-555, -556 AND -557

## PERMIT UNIT REQUIREMENTS

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1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit
3. Exhaust from unit shall be directed to SOx scrubber authorized herein except when unit is combusting only PUC quality natural gas with a sulfur content not exceeding 1.0 gr S/100scf. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Scrubber control efficiency shall be maintained at least 95% by weight sulfur compounds or greater, or SO2 concentration at the stack gas outlet that shall not exceed 30 ppmvd, as measured at the actual stack gas O2 level. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Scrubber recirculation liquid pH shall be maintained only by the addition of caustic unless prior approval for an alternative pH maintenance method is received from the District. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Daily average pH of scrubber liquor (calculated from hourly averages) shall be maintained between 6 and 8, and shall be continuously monitored. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The minimum scrubber recirculation liquid to gas ratio (recirculation rate) required to maintain compliance with the SO2 limit shall be established during an initial 60 day shakedown period. During the initial 60 day shakedown period, SO2 emissions shall not exceed any of the following: 0.126 lb SO2/MMBtu and 189.0 lb SO2/day. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Upon conclusion of the shakedown period, permittee shall maintain the scrubber recirculation rate at the minimum rate determined during the shakedown period. If the recirculation rate falls below the minimum rate, the permittee shall commence repairs or perform a source test to determine compliance with the SO2 emissions limit required by this permit. Compliance with the minimum recirculation rate requirement (gpm/1000 acf) shall be determined by averaging the recirculation rate readings (calculated from hourly averages) during operation during the calendar day. [District NSR Rule]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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9. SO<sub>2</sub> scrubber exhaust shall be vented to operational Brinks mist eliminator prior to being exhausted to atmosphere when total H<sub>2</sub>S loading to any one of the steam generators exceeds 1.24 lb/min for an aggregate of three or more minutes in any one hour period. H<sub>2</sub>S concentration of the TEOR gas shall be determined and entered into the generator fuel throughput processor weekly using gas detection tubes to determine H<sub>2</sub>S concentration. The H<sub>2</sub>S loading shall be calculated using the generator actual fuel volumetric flow rate and H<sub>2</sub>S concentration of the TEOR and fuel gas. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
10. Scrubber mist eliminator shall be properly cleaned and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at locations(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
12. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
13. When complying with SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8 or ARB Method 1-100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
14. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by: ASTM D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2 and 4305, 6.2.1] Federally Enforceable Through Title V Permit
15. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Flue gas recirculation system may be designed such that ambient air may be drawn into flue gas recirculation piping. [District Rule 2201] Federally Enforceable Through Title V Permit
17. When combustion air orifice and flue gas recirculation orifice have been used to demonstrate compliance they shall not be changed without a District-witnessed compliance demonstration. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Permittee shall pave and maintain with asphalt no less than 0.45 miles of roadway. The 0.45 miles of roadways constructed are in addition to new roadways associated with other steam injection and oil production well projects [District NSR Rule] Federally Enforceable Through Title V Permit
19. Annual combined emissions of PM<sub>10</sub> from units '-555, '-556, and '-557 shall not exceed 115,687 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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20. Permittee shall demonstrate compliance with the annual PM10 combined emission limit for units '-555, '-556, and '-557 by calculation using the amount of fuel combusted, and either the results from the latest source test or the permitted emission factor if there is no PM10 source test data. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Emission rates shall not exceed any of the following: PM10: 109.5 lb/day, SOx: 94.5 lb/day, NOx (as NO2): 54.0 lb/day and 9855 lb/year, VOC: 9.0 lb/day, CO: 56.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM10: 0.073 lb/MMBtu, NOx (as NO2): 0.018 lb/MMBtu or 15 ppmv @ 3% O2, VOC: 0.006 lb/MMBtu or CO: 50 ppmv @ 3% O2 or 0.0375 lb/MMBtu. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
23. Except during periods of startup, shutdown and shakedown, the emission rate for SOx (as SO2) shall not exceed 0.063 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 5.5.6 and 4306, 5.3] Federally Enforceable Through Title V Permit
25. 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. 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 4306, 3.25 and 3.22] Federally Enforceable Through Title V Permit
26. Compliance with NOx, CO and PM10 emissions limits (lb/MM Btu or ppmv) shall be demonstrated by source testing, at startup and at least once every twelve (12) months thereafter. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
27. If required, compliance with the scrubber control efficiency requirement shall be demonstrated within 60 days of startup and at least once every twelve (12) months thereafter. [District Rule 2201]
28. Whenever the unit is switched to scrubbed operation, compliance source testing for SOx shall be conducted within 60 days of initial scrubbing date unless source testing has occurred within the previous 12 months. [District NSR Rule] Federally Enforceable Through Title V Permit
29. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas velocities - EPA Method 2, stack gas moisture content - EPA Method 4, SOx (lb/MMBtu) - ARB Method 100 and EPA Method 19, EPA Method 6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans, PM10 (lb/scf) - EPA Methods 5, 201A, and 202. [District Rules 1081, 4305, and 4306] Federally Enforceable Through Title V Permit
30. 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
31. If the steam generator is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. If the steam generator is not fired on PUC-regulated natural gas, then the sulfur content of the fuel gas being fired in the steam generator shall be determined using ASTM D 1072, D 3031, D 4084, D 3246, double GC for H2S and mercaptans, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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33. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
34. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
35. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
36. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
37. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081 and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
38. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 5.5.2 and 4306, 5.5.2] Federally Enforceable Through Title V Permit
39. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
40. 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
41. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO<sub>x</sub> and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO<sub>x</sub> or CO emissions limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
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42. The following conditions must be met for representative unit(s) to be used to test for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
43. All units in a group for which representative units are source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). Records shall be maintained for each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
44. All units in a group for which representative units are source tested to for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches for any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
45. The number of representative units source tested for NOx and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
46. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 6.1 and 4306, 6.1] Federally Enforceable Through Title V Permit
47. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and 4406] Federally Enforceable Through Title V Permit
48. Permittee shall maintain with the permit a current listing of all TEOR and TVC gas systems providing vapors to this steam generator and shall make such listing readily available for District inspection upon request [District NSR Rule] Federally Enforceable Through Title V Permit
49. Permittee shall maintain daily records of volume of fuel gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
50. Copies of all gas purchase contracts, supplier certifications, and test results to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any non-certified fuel. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
51. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR/TVC gas incinerated in this unit. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
52. Permittee shall measure and record the natural gas sulfur content and BTU content at the time of NOx testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
53. Permittee shall maintain daily records of volume of natural gas burned, TEOR and TVC gas incinerated, and permit number(s) of systems providing gas for incineration. [District NSR Rule] Federally Enforceable Through Title V Permit
54. Permittee shall maintain records of H2S loading (lb H2S/min) and dates and duration of Brinks Mist Eliminator operation and shall make such records readily available for District. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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55. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 6.1, and 4306, 6.1] Federally Enforceable Through Title V Permit

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