



MAR 26 2012

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-1246
Project # 1104091 and 1104092

Dear Mr. Rios:

Enclosed for you to review is an application for minor Title V permit modification for the facility identified above. Berry Petroleum Company is proposing a Title V minor permit modification to incorporate the recently issued Authorities to Construct (ATCs) S-1246-19-29, '-19-30, '-252-16, '-252-17, '-253-16, '-253-17, '-254-16, '-254-17, '-269-15, and '-269-16 into the Title V operating permit. The ATCs authorize installation of an ultra low NOx burner (lower ATC modification number) and lowering the NOx emissions limit from 15 ppmv @ 3% O2 to 9 ppmv @3% O2 (higher ATC modification number).

Enclosed is the engineering evaluation with the following attachments: proposed modified Title V permit, recently issued Authorities to Construct (ATCs) S-1246-19-29, '-19-30, '-252-16, '-252-17, '-253-16, '-253-17, '-254-16, '-254-17, '-269-15, and '-269-16 ,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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

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



MAR 26 2012

John Ludwick
Berry Petroleum Company
5201 Truxtun Ave., Suite 300
Bakersfield, CA 93309

**Re: Notice of Minor Title V Permit Modification
District Facility # S-1246
Project # 1104091 and 1104092**

Dear Mr. Ludwick:

Enclosed is the District's analysis of your application for minor Title V permit modification for the facility identified above. You proposed a Title V minor permit modification to incorporate recently issued Authorities to Construct (ATCs) S-1246-19-29, '-19-30, '-252-16, '-252-17, '-253-16, '-253-17, '-254-16, '-254-17, '-269-15, and '-269-16 into the Title V operating permit. The ATCs authorize installation of an ultra low NOx burner (lower ATC modification number) and lowering the NOx emissions limit from 15 ppmv @ 3% O2 to 9 ppmv @3% O2 (higher ATC modification number).

Enclosed is the engineering evaluation with the following attachments: proposed modified Title V permit, recently issued Authorities to Construct (ATCs) S-1246-19-29, '-19-30, '-252-16, '-252-17, '-253-16, '-253-17, '-254-16, '-254-17, '-269-15, and '-269-16, application, and previous Title V permit. This project will be subject to a 45-day EPA commenting period prior to the District taking final action.

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

Sincerely,



David Warner
Director of Permit Services

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TITLE V APPLICATION REVIEW

Minor Modification
Project #: S-1104091 and S-1104092

Engineer: Richard Edgehill
Date: March 15, 2012

Facility Number: S-1246
Facility Name: Berry Petroleum Company
Mailing Address: 5201 Truxtun Ave., Suite 300
Bakersfield, CA 93309

Contact Name: John Ludwick
Phone: (661) 616-3807
Title: Regulatory Compliance Specialist
Lead Engineer: Allan Phillips *ASUR AOE*
Responsible Official: Robert Boston

MAR 21 2012

I. PROPOSAL

Berry Petroleum Company (Berry) is proposing a Title V minor permit modification to incorporate the recently issued Authorities to Construct (ATC) Authorities to Construct (ATC) S-1246-19-29, '-19-30, '-252-16, '-252-17, '-253-16, '-253-17, '-254-16, '-254-17, '-269-15, and '-269-16 into their Title V operating permit.

The ATCs authorize installation of an ultra low NOx burner (lower ATC modification number) and lowering the NOx emissions limit from 15 ppmv @ 3% O2 to 9 ppmv @3% O2 (higher ATC modification number).

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

II. FACILITY LOCATION

| Permit Unit | Section | Township | Range |
|-------------|---------|----------|-------|
| S-1246-19 | NE28 | 12N | 24W |
| S-1246-252 | SW31 | 32S | 24E |
| S-1246-253 | SE31 | 32S | 24E |
| S-1246-254 | SE31 | 32S | 24E |
| S-1246-269 | SE36 | 12N | 24W |

III. EQUIPMENT DESCRIPTION

PTO S-1246-19-32: 62.5 MMBTU/HR C.E. NATCO NATURAL/TEOR GAS-FIRED STEAM GENERATOR WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NO_x BURNER, AND O₂ CONTROLLER

PTO S-1246-252-19: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #MSJ-414) WITH NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NO_x BURNER, FGR, AND OXYGEN ANALYZER/CONTROLLER

PTO S-1246-253-18: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #MSJ-415) WITH NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NO_x BURNER, FGR, AND OXYGEN ANALYZER/CONTROLLER

PTO S-1246-254-18: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #MSJ-416) WITH NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NO_x BURNER, FGR, AND OXYGEN ANALYZER/CONTROLLER

PTO S-1246-269-17: 62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NO_x BURNER, FGR AND O₂ CONTROLLER

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 current PTO equipment descriptions were revised to include the new ultra low NOx burner and the conditions were revised to replace the NOx emissions limit of 0.018 lb/MMBtu or 15 ppmv @ 3% O2 with 0.011 lb/MMBtu or 9 ppmv @ 3% O2. The following conditions listed on the current PTOs were revised to include the lower NOx emissions limit:

PTO S-1246-19-28: Conditions #23 and #24

PTO S-1246-252-15: Condition #12

PTO S-1246-253-15: Condition # 12

PTO S-1246-254-15: Condition # 12

PTO S-1246-269-14: Condition #13

No other changes were made to the current PTOs.

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. Current and Proposed Title V Operating Permits
- B. Authorities to Construct
- C. Application

Attachment A

Current and Proposed Title V Operating Permits

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1246-19-32

EXPIRATION DATE: 03/31/2016

SECTION: NE28 **TOWNSHIP:** 12N **RANGE:** 24W

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR C.E. NATCO NATURAL/TEOR GAS-FIRED STEAM GENERATOR WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER, AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Unit is approved for operation at the following locations: NE/4 Section 28, T12N, R24W and SE/4 Section 36, T12N, R24W. [District Rule 4102]
2. 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
3. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
4. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
5. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
6. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
7. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
8. 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
9. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
11. 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, 4306, and 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. 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
13. 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
14. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 1081, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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, 4306, and 4320] Federally Enforceable Through Title V Permit
17. If either the NO_x or CO concentrations corrected to 3% O₂, 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, 4306, and 4320] Federally Enforceable Through Title V Permit
18. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
19. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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, 4306, and 4320] Federally Enforceable Through Title V Permit
20. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
21. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Except during startup and shutdown, the emission rate for firing on natural gas shall not exceed any of the following: PM₁₀ - 0.005 lb/MMBtu, NO_x (as NO₂) - 0.011 lb/MMBtu or 9 ppmvd NO_x @ 3% O₂, VOC - 0.003 lb/MMBtu, or CO - 0.033 lb/MMBtu (46.6 ppmv @ 3% O₂). [District Rules 2201, 4305, 4306, 4320 and 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.

24. Except during startup and shutdown, the emission rate for incineration of waste gas from TEOR S-1246-268 shall not exceed any of the following: PM10 - 0.0075 lb/MMBtu, NOx (as NO2) - 0.011 lb/MMBtu or 9 ppmvd NOx @ 3% O2, VOC - 0.003 lb/MMBtu, or CO - 0.033 lb/MMBtu. [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
25. Daily SOx emissions shall not exceed 15 lbs/day. [District Rules 2201 and 4301] Federally Enforceable Through Title V Permit
26. Daily emissions shall not exceed any of the following: PM10 - 9.5 lb/day, NOx (as NO2) - 54.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
27. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
29. 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, 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
30. 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 D1072, D3246, D4084, D4468, D6667, or double GC for H2S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
31. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
32. Permittee shall measure and record the daily quantities of natural gas and waste gas burned in this generator. [District Rule 2201] Federally Enforceable Through Title V Permit
33. Permittee shall demonstrate compliance with the daily sulfur compound emissions limit by calculation using the quantities of natural gas and waste gas burned and the total sulfur content of these fuels, as most recently determined. Permittee shall keep an accurate daily record of the calculated sulfur compound emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Daily heat input from waste gas from TEOR operations shall not exceed 790 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Daily heat input shall be determined as follows: [fuel HHV (MMBtu/MMscf)] x [daily fuel throughput (MMscf/day)]. [District Rule 2201] Federally Enforceable Through Title V Permit
36. The fuel higher heating value (HHV) of the non-certified gas shall be determined at least once every calendar year. [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.

37. 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. [District Rule 2520, 9.4.2 and District Rule 2201] Federally Enforceable Through Title V Permit
38. 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, 4306, and 4320] 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-1246-252-19

EXPIRATION DATE: 03/31/2016

SECTION: SW31 **TOWNSHIP:** 32S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #MSJ-414) WITH NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER, FGR, AND OXYGEN ANALYZER/CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
2. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
3. Only three of the following incineration devices shall be operated at any given time: S-1246-252, -253, -254, and flare listed in -268. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Sulfur content of gas burned shall not exceed 1.0 gr/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Sufficient reference gas shall be available to allow for calibration of oxygen analyzer unit at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
6. In case of failure of oxygen analyzer/controller, inlet air damper shall automatically return to "neutral" position. [District NSR Rule] Federally Enforceable Through Title V Permit
7. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Sulfur Compound emission shall not exceed 30.0 lb/day of SO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Permittee shall keep accurate daily records of fuel gas H₂S concentration and daily fuel usage (scfd) and such records shall be made readily available to District staff upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
10. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, NO_x (as NO₂): 0.011 lb/MMBtu or 9 ppmvd NO_x @ 3% O₂, VOC: 0.003 lb/MMBtu; or CO: 46.6 ppmv @ 3% O₂. [District Rules 2201, 4305, 4306, and 4320] 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.

13. Daily emissions shall not exceed any of the following: PM10 - 7.5 lb/day, NOx (as NO2) - 54.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
14. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. 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, 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
17. 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 D1072, D3246, D4084, D4468, D6667, or double GC for H2S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4320; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
19. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] 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.

25. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (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, and fuel gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rules 1081, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If either the NO_x or CO concentrations corrected to 3% O₂, 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 performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
33. 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
34. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 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.

35. The following conditions must be met for representative units to be used to test for NOx and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are annually source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. 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 such that in three 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
39. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVAPCD Rule 4201 (Amended December 17, 1992), Rule 4801 (amended December 17, 1992), and Rule 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the out dated Kern County Rules: 108.1, 404, and 407.2. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
42. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] 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-1246-253-18

EXPIRATION DATE: 03/31/2016

SECTION: SE31 **TOWNSHIP:** 32S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #MSJ-415) WITH NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER, FGR, AND OXYGEN ANALYZER/CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
2. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
3. Only three of the following incineration devices shall be operated at any given time: S-1246-252, -253, -254, and flare listed in -268. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Sulfur content of gas burned shall not exceed 1.0 gr/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Sufficient reference gas shall be available to allow for calibration of oxygen analyzer unit at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
6. In case of failure of oxygen analyzer/controller, inlet air damper shall automatically return to "neutral" position. [District NSR Rule] Federally Enforceable Through Title V Permit
7. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Sulfur Compound emission shall not exceed 30.0 lb/day of SO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Permittee shall keep accurate daily records of fuel gas H₂S concentration and daily fuel usage (scfd) and such records shall be made readily available to District staff upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
10. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, NO_x (as NO₂): 0.011 lb/MMBtu or 9 ppmvd NO_x @ 3% O₂, VOC: 0.003 lb/MMBtu; or CO: 46.6 ppmv @ 3% O₂. [District Rules 2201, 4305, 4306, and 4320] 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.

13. Daily emissions shall not exceed any of the following: PM10 - 7.5 lb/day, NOx (as NO2) - 54.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
14. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. 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, 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
17. 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 D1072, D3246, D4084, D4468, D6667, or double GC for H2S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4320; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
19. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] 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.

25. 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, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 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, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If either the NOx or CO concentrations corrected to 3% O2, 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 performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
31. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
33. 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
34. 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, 9.3.2] 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.

35. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NOx and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. The following conditions must be met for representative units to be used to test for NOx and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are annually source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. 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 such that in three 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
40. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVAPCD Rule 4201 (Amended December 17, 1992), Rule 4801 (amended December 17, 1992), and Rule 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the out dated Kern County Rules: 108.1, 404, and 407.2. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
43. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] 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-1246-254-18

EXPIRATION DATE: 03/31/2016

SECTION: SE31 **TOWNSHIP:** 32S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STRUTHERS STEAM GENERATOR (UNIT #MSJ-416) WITH NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER, FGR, AND OXYGEN ANALYZER/CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
2. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
3. Only three of the following incineration devices shall be operated at any given time: S-1246-252, -253, -254, and flare listed in -268. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Sulfur content of gas burned shall not exceed 1.0 gr/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Sufficient reference gas shall be available to allow for calibration of oxygen analyzer unit at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
6. In case of failure of oxygen analyzer/controller, inlet air damper shall automatically return to "neutral" position. [District NSR Rule] Federally Enforceable Through Title V Permit
7. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Sulfur Compound emission shall not exceed 30.0 lb/day of SO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Permittee shall keep accurate daily records of fuel gas H₂S concentration and daily fuel usage (scfd) and such records shall be made readily available to District staff upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
10. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, NO_x (as NO₂): 0.011 lb/MMBtu or 9 ppmvd NO_x @ 3% O₂, VOC: 0.003 lb/MMBtu; or CO: 46.6 ppmv @ 3% O₂. [District Rules 2201, 4305, 4306, and 4320] 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.

13. Daily emissions shall not exceed any of the following: PM10 - 7.5 lb/day, NOx (as NO2) - 54.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
14. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. 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, 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
17. 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 D1072, D3246, D4084, D4468, D6667, or double GC for H2S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4320; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
19. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] 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.

25. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (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, and fuel gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rules 1081, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If either the NO_x or CO concentrations corrected to 3% O₂, 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 performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
33. 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
34. 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, 9.3.2] 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.

35. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NOx and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. The following conditions must be met for representative units to be used to test for NOx and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are annually source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. 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 such that in three 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
40. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVAPCD Rule 4201 (Amended December 17, 1992), Rule 4801 (amended December 17, 1992), and Rule 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the out dated Kern County Rules: 108.1, 404, and 407.2. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
43. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] 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-1246-269-17

EXPIRATION DATE: 03/31/2016

SECTION: SE36 **TOWNSHIP:** 12N **RANGE:** 24W

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER, FGR AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
2. This generator is permitted to operate at the following locations: SE 1/4 Section 36 of Township 12N, Range 24W and SE 1/4 Section 36 of Township 32S, Range 23E. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Only sulfur-scrubbed gas from the Ethel-D casing vent vapor collection system (S-1246-290)(TEOR gas) and/or natural gas shall be used as a fuel. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter and TEOR gas volume flowmeter. [District NSR Rule and District Rules 4305, 5.4 and 4306, 5.4, and 4320] Federally Enforceable Through Title V Permit
6. 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
7. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
8. Operator shall ensure that all required source testing conforms to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
9. Operator shall maintain copies of fuel invoices and supplier certifications. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. Steam generator firebox convection section and all flue gas ductwork shall be maintained with no detectable leaks. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Sufficient calibration gas for O₂ analyzer shall be available at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Emission rates shall not exceed any of the following: 0.0067 lb SO_x/MMBtu (as SO₂), 0.005 lb PM₁₀/MMBtu, or 0.003 lb VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: 0.011 lb NO_x/MMBtu (as NO₂) or 9 ppmv NO_x @ 3% O₂, or 46.6 ppmv CO @ 3% O₂. [District NSR Rule and Rules 4305, 4306, 5.1, and 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

Facility Name: BERRY PETROLEUM COMPANY

Location: HEAVY OIL WESTERN STATIONARY SOURCE, KERN COUNTY, CA

S-1246-269-17 : Mar 21 2012 1:34PM -- EDGEHILR

14. Daily emissions shall not exceed any of the following: PM10 - 7.5 lb/day, NOx (as NO2) - 36.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit
15. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. 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 Rules 2201 and 4406] Federally Enforceable Through Title V Permit
17. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. 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, 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
19. 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 D1072, D3246, D4084, D4468, D6667, or double GC for H2S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
20. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4320; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
21. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
22. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. 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
25. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR gas incinerated in this unit. [District NSR Rule] 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.

26. 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 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
27. 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 was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
29. Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 2520, 9.3.2, 4305, 4306, 6.3.1, and 4320] Federally Enforceable Through Title V Permit
30. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO_x and CO source testing requirement. [District Rules 2520, 9.4.2, 4305, 4306, 4320, and 4351] Federally Enforceable Through Title V Permit
31. Compliance demonstration (source testing) shall be conducted by independent testing laboratory and shall be witnessed, or authorized by District. Sample collection shall be done by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
32. 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
33. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. 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
35. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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, 4306, and 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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38. If either the NO_x or CO concentrations corrected to 3% O₂, 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, 4306, and 4320] Federally Enforceable Through Title V Permit
39. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
40. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
42. The following conditions must be met for representative units to be used to test for NO_x and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
43. All units in a group for which representative units are annually source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
44. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
45. The number of representative units source tested for NO_x 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 such that in three years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
46. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
47. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (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, SO_x (lb/MMBtu) - ARB Method 100 and EPA Method 19. [District Rules 1081, 4305, 4306, 6.2, and 4320] Federally Enforceable Through Title V Permit
48. Records of the daily amount of natural gas and TEOR gas combusted shall be maintained and shall be made readily available for District inspection upon request. [District NSR Rule] 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.

49. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 1081 (Amended December 16, 1993), 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
50. {1670} This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
51. {1678} This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351(Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1246-19-28

EXPIRATION DATE: 03/31/2016

SECTION: NE28 **TOWNSHIP:** 12N **RANGE:** 24W

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR C.E. NATCO NATURAL/TEOR GAS-FIRED STEAM GENERATOR (UNIT #MSJ-407) WITH FLUE GAS RECIRCULATION, NORTH AMERICAN LO-NOX BURNER, O2 CONTROLLER, AND PCL DIFFUSER PLATE

PERMIT UNIT REQUIREMENTS

1. Unit is approved for operation at the following locations: NE/4 Section 28, T12N, R24W and SE/4 Section 36, T12N, R24W. [District Rule 4102]
2. 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
3. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
4. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
5. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
6. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
7. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305 and 4306] Federally Enforceable Through Title V Permit
8. 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
9. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. 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
11. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. 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
13. 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
14. 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
15. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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
17. If either the NO_x or CO concentrations corrected to 3% O₂, 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
18. 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
19. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306] Federally Enforceable Through Title V Permit
20. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
21. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
22. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
23. Except during startup and shutdown, the emission rate for firing on natural gas shall not exceed any of the following: PM₁₀ - 0.005 lb/MMBtu, NO_x (as NO₂) - 0.018 lb/MMBtu or 15 ppmvd NO_x @ 3% O₂, VOC - 0.003 lb/MMBtu, or CO - 0.033 lb/MMBtu (46.6 ppmv @ 3% O₂). [District Rules 2201, 4305, 4306 and 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.

24. Except during startup and shutdown, the emission rate for incineration of waste gas from TEOR S-1246-268 shall not exceed any of the following: PM10 - 0.0075 lb/MMBtu, NOx (as NO2) - 0.018 lb/MMBtu or 15 ppmvd NOx @ 3% O2, VOC - 0.003 lb/MMBtu, or CO - 0.033 lb/MMBtu. [District Rules 2201, 4305, 4306 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
25. Daily SOx emissions shall not exceed 15 lbs/day. [District Rules 2201 and 4301] Federally Enforceable Through Title V Permit
26. Daily emissions shall not exceed any of the following: PM10 - 9.5 lb/day, NOx (as NO2) - 54.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
27. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
29. 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, 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
30. 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 D1072, D3246, D4084, D4468, D6667, or double GC for H2S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
31. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
32. Permittee shall measure and record the daily quantities of natural gas and waste gas burned in this generator. [District Rule 2201] Federally Enforceable Through Title V Permit
33. Permittee shall demonstrate compliance with the daily sulfur compound emissions limit by calculation using the quantities of natural gas and waste gas burned and the total sulfur content of these fuels, as most recently determined. Permittee shall keep an accurate daily record of the calculated sulfur compound emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Daily heat input from waste gas from TEOR operations shall not exceed 790 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Daily heat input shall be determined as follows: [fuel HHV (MMBtu/MMscf)] x [daily fuel throughput (MMscf/day)]. [District Rule 2201] Federally Enforceable Through Title V Permit
36. The fuel higher heating value (HHV) of the non-certified gas shall be determined at least once every calendar year. [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.

37. 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. [District Rule 2520, 9.4.2 and District Rule 2201] Federally Enforceable Through Title V Permit
38. 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 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-1246-252-15

EXPIRATION DATE: 03/31/2016

SECTION: SW31 **TOWNSHIP:** 32S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#67) WITH NORTH AMERICAN, MODEL 6131-G, BURNER ASSEMBLY, FGR, AND OXYGEN ANALYZER/CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
2. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
3. Only three of the following incineration devices shall be operated at any given time: S-1246-252, -253, -254, and flare listed in -268. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Sulfur content of gas burned shall not exceed 1.0 gr/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Sufficient reference gas shall be available to allow for calibration of oxygen analyzer unit at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
6. In case of failure of oxygen analyzer/controller, inlet air damper shall automatically return to "neutral" position. [District NSR Rule] Federally Enforceable Through Title V Permit
7. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Sulfur Compound emission shall not exceed 30.0 lb/day of SO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Permittee shall keep accurate daily records of fuel gas H₂S concentration and daily fuel usage (scfd) and such records shall be made readily available to District staff upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
10. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
12. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, NO_x (as NO₂): 0.018 lb/MMBtu or 15 ppmvd NO_x @ 3% O₂, VOC: 0.003 lb/MMBtu; or CO: 46.6 ppmv @ 3% O₂. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
13. Daily emissions shall not exceed any of the following: PM₁₀ - 7.5 lb/day, NO_x (as NO₂) - 54.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 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.

Facility Name: BERRY PETROLEUM COMPANY

Location: HEAVY OIL WESTERN STATIONARY SOURCE, KERN COUNTY, CA

S-1246-252-15 - Mar 15 2012 3:01PM - EDGEHILR

14. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. 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, 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
17. 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 D1072, D3246, D4084, D4468, D6667, or double GC for H2S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
19. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305 and 4306] Federally Enforceable Through Title V Permit
20. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
21. 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
22. 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
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. 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
25. 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, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305 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.

26. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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
29. If either the NO_x or CO concentrations corrected to 3% O₂, 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 performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
30. 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
31. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306] Federally Enforceable Through Title V Permit
32. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
33. 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
34. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. The following conditions must be met for representative units to be used to test for NO_x and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. All units in a group for which representative units are annually source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [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.

37. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. 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 such that in three 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
39. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVAPCD Rule 4201 (Amended December 17, 1992), Rule 4801 (amended December 17, 1992), and Rule 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the out dated Kern County Rules: 108.1, 404, and 407.2. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
42. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] 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-1246-253-15

EXPIRATION DATE: 03/31/2016

SECTION: SE31 **TOWNSHIP:** 32S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS-FIRED STRUTHERS STEAM GENERATOR (#68) WITH NORTH AMERICAN, MODEL 6131-G, BURNER ASSEMBLY, FGR, AND OXYGEN ANALYZER/CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
2. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
3. Only three of the following incineration devices shall be operated at any given time: S-1246-252, -253, -254, and flare listed in -268. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Sulfur content of gas burned shall not exceed 1.0 gr/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Sufficient reference gas shall be available to allow for calibration of oxygen analyzer unit at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
6. In case of failure of oxygen analyzer/controller, inlet air damper shall automatically return to "neutral" position. [District NSR Rule] Federally Enforceable Through Title V Permit
7. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Sulfur Compound emission shall not exceed 30.0 lb/day of SO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Permittee shall keep accurate daily records of fuel gas H₂S concentration and daily fuel usage (scfd) and such records shall be made readily available to District staff upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
10. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
12. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, NO_x (as NO₂): 0.018 lb/MMBtu or 15 ppmvd NO_x @ 3% O₂, VOC: 0.003 lb/MMBtu; or CO: 46.6 ppmv @ 3% O₂. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
13. Daily emissions shall not exceed any of the following: PM₁₀ - 7.5 lb/day, NO_x (as NO₂) - 54.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 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.

14. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. 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, 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
17. 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 D1072, D3246, D4084, D4468, D6667, or double GC for H2S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
19. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305 and 4306] Federally Enforceable Through Title V Permit
20. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
21. 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
22. 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
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. 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
25. 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, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305 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.

26. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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
29. If either the NO_x or CO concentrations corrected to 3% O₂, 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 performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
30. 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
31. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306] Federally Enforceable Through Title V Permit
32. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
33. 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
34. 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, 9.3.2] Federally Enforceable Through Title V Permit
35. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 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.

36. The following conditions must be met for representative units to be used to test for NOx and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are annually source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. 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 such that in three 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
40. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVAPCD Rule 4201 (Amended December 17, 1992), Rule 4801 (amended December 17, 1992), and Rule 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the out dated Kern County Rules: 108.1, 404, and 407.2. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
43. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] 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-1246-254-15

EXPIRATION DATE: 03/31/2016

SECTION: SE31 **TOWNSHIP:** 32S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#69) WITH NORTH AMERICAN, MODEL 6131-G, BURNER ASSEMBLY, FGR, AND OXYGEN ANALYZER/CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
2. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
3. Only three of the following incineration devices shall be operated at any given time: S-1246-252, -253, -254, and flare listed in -268. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Sulfur content of gas burned shall not exceed 1.0 gr/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Sufficient reference gas shall be available to allow for calibration of oxygen analyzer unit at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
6. In case of failure of oxygen analyzer/controller, inlet air damper shall automatically return to "neutral" position. [District NSR Rule] Federally Enforceable Through Title V Permit
7. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Sulfur Compound emission shall not exceed 30.0 lb/day of SO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Permittee shall keep accurate daily records of fuel gas H₂S concentration and daily fuel usage (scfd) and such records shall be made readily available to District staff upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
10. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
11. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
12. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, NO_x (as NO₂): 0.018 lb/MMBtu or 15 ppmvd NO_x @ 3% O₂, VOC: 0.003 lb/MMBtu; or CO: 46.6 ppmv @ 3% O₂. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
13. Daily emissions shall not exceed any of the following: PM₁₀ - 7.5 lb/day, NO_x (as NO₂) - 54.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 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.

14. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
15. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. 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, 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
17. 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 D1072, D3246, D4084, D4468, D6667, or double GC for H2S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
19. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305 and 4306] Federally Enforceable Through Title V Permit
20. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
21. 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
22. 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
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. 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
25. 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, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305 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.

26. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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
29. If either the NO_x or CO concentrations corrected to 3% O₂, 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 performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
30. 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
31. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306] Federally Enforceable Through Title V Permit
32. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
33. 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
34. 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, 9.3.2] Federally Enforceable Through Title V Permit
35. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 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.

36. The following conditions must be met for representative units to be used to test for NOx and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. All units in a group for which representative units are annually source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. 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 such that in three 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
40. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVAPCD Rule 4201 (Amended December 17, 1992), Rule 4801 (amended December 17, 1992), and Rule 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
42. Compliance with permit conditions in the Title V permit shall be deemed compliance with the out dated Kern County Rules: 108.1, 404, and 407.2. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
43. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] 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-1246-269-14

EXPIRATION DATE: 03/31/2016

SECTION: SE36 **TOWNSHIP:** 12N **RANGE:** 24W

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH FGR, PCL LOW-NOX DIFFUSER PLATE AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
2. This generator is permitted to operate at the following locations: SE 1/4 Section 36 of Township 12N, Range 24W and SE 1/4 Section 36 of Township 32S, Range 23E. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Only sulfur-scrubbed gas from the Ethel-D casing vent vapor collection system (S-1246-290)(TEOR gas) and/or natural gas shall be used as a fuel. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter and TEOR gas volume flowmeter. [District NSR Rule and District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
6. 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
7. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
8. Operator shall ensure that all required source testing conforms to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
9. Operator shall maintain copies of fuel invoices and supplier certifications. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. Steam generator firebox convection section and all flue gas ductwork shall be maintained with no detectable leaks. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Sufficient calibration gas for O₂ analyzer shall be available at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Emission rates shall not exceed any of the following: 0.0067 lb SO_x/MMBtu (as SO₂), 0.005 lb PM₁₀/MMBtu, or 0.003 lb VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: 0.018 lb NO_x/MMBtu (as NO₂) or 15 ppmv NO_x @ 3% O₂, or 46.6 ppmv CO @ 3% O₂. [District NSR Rule and Rules 4305 and 4306, 5.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

14. Daily emissions shall not exceed any of the following: PM10 - 7.5 lb/day, NOx (as NO2) - 36.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit
15. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. 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 District Rule 4406] Federally Enforceable Through Title V Permit
17. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. 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, 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
19. 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 D1072, D3246, D4084, D4468, D6667, or double GC for H2S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
20. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
21. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
22. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306, 5.3.1] Federally Enforceable Through Title V Permit
23. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306, 5.3.2] Federally Enforceable Through Title V Permit
24. 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
25. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR gas incinerated in this unit. [District NSR Rule] 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.

26. 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 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
27. 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 was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. 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, 5.5.2] Federally Enforceable Through Title V Permit
29. Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 2520, 9.3.2, 4305 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
30. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO_x and CO source testing requirement. [District Rules 2520, 9.4.2, 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
31. Compliance demonstration (source testing) shall be conducted by independent testing laboratory and shall be witnessed, or authorized by District. Sample collection shall be done by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
32. 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
33. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
34. 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
35. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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, 5.4.2] 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.

38. If either the NO_x or CO concentrations corrected to 3% O₂, 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, 5.4.2] Federally Enforceable Through Title V Permit
39. 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, 5.5.4] Federally Enforceable Through Title V Permit
40. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306, 5.4.2] Federally Enforceable Through Title V Permit
41. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
42. The following conditions must be met for representative units to be used to test for NO_x and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
43. All units in a group for which representative units are annually source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
44. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
45. The number of representative units source tested for NO_x 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 such that in three years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
46. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
47. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (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, SO_x (lb/MMBtu) - ARB Method 100 and EPA Method 19. [District Rules 1081, 4305 and 4306, 6.2] Federally Enforceable Through Title V Permit
48. Records of the daily amount of natural gas and TEOR gas combusted shall be maintained and shall be made readily available for District inspection upon request. [District NSR Rule] 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.

49. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 1081 (Amended December 16, 1993), 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
50. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
51. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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

Attachment B
Authorities to Construct

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1246-19-29

ISSUANCE DATE: 04/06/2010

LEGAL OWNER OR OPERATOR: BERRY PETROLEUM COMPANY
MAILING ADDRESS: ATTN: EH&S MANAGER
5201 TRUXTUN AVENUE SUITE 100
BAKERSFIELD, CA 93309-0422

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NE28 **TOWNSHIP:** 12N **RANGE:** 24W

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR C.E. NATCO NATURAL/TEOR GAS-FIRED STEAM GENERATOR WITH FLUE GAS RECIRCULATION, NORTH AMERICAN LO-NOX BURNER, AND O2 CONTROLLER:INSTALL NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER OR EQUIVALENT

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

6. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Unit is approved for operation at the following locations: NE/4 Section 28, T12N, R24W and SE/4 Section 36, T12N, R24W. [District Rule 4102]
8. 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
9. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
11. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
12. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
13. Source testing to measure NO_x and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305 and 4306] Federally Enforceable Through Title V Permit
15. 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
16. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
17. 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
18. 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
19. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. 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
21. 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
22. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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
24. If either the NO_x or CO concentrations corrected to 3% O₂, 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
25. 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
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306] Federally Enforceable Through Title V Permit
27. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
28. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
29. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
30. Except during startup and shutdown, the emission rate for firing on natural gas shall not exceed any of the following: PM₁₀ - 0.005 lb/MMBtu, NO_x (as NO₂) - 0.018 lb/MMBtu or 15 ppmvd NO_x @ 3% O₂, VOC - 0.003 lb/MMBtu, or CO - 0.033 lb/MMBtu (46.6 ppmv @ 3% O₂). [District Rules 2201, 4305, 4306 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
31. Except during startup and shutdown, the emission rate for incineration of waste gas from TEOR S-1246-268 shall not exceed any of the following: PM₁₀ - 0.0075 lb/MMBtu, NO_x (as NO₂) - 0.018 lb/MMBtu or 15 ppmvd NO_x @ 3% O₂, VOC - 0.003 lb/MMBtu, or CO - 0.033 lb/MMBtu. [District Rules 2201, 4305, 4306 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. After January 1, 2012 NO_x emissions shall not exceed 9 ppmvd NO_x @ 3% O₂. [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. Daily SO_x emissions shall not exceed 15 lbs/day. [District Rules 2201 and 4301] Federally Enforceable Through Title V Permit
34. Daily emissions shall not exceed any of the following: PM₁₀ - 9.5 lb/day, NO_x (as NO₂) - 54.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

35. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. When complying with SO_x 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, 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
38. If the unit is fired on noncertified gaseous fuel and compliance with SO_x 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 D1072, D3246, D4084, D4468, D6667, or double GC for H₂S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
39. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
40. Permittee shall measure and record the daily quantities of natural gas and waste gas burned in this generator. [District Rule 2201] Federally Enforceable Through Title V Permit
41. Permittee shall demonstrate compliance with the daily sulfur compound emissions limit by calculation using the quantities of natural gas and waste gas burned and the total sulfur content of these fuels, as most recently determined. Permittee shall keep an accurate daily record of the calculated sulfur compound emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
42. Daily heat input from waste gas from TEOR operations shall not exceed 790 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
43. Daily heat input shall be determined as follows: [fuel HHV (MMBtu/MMscf)] x [daily fuel throughput (MMscf/day)]. [District Rule 2201] Federally Enforceable Through Title V Permit
44. The fuel higher heating value (HHV) of the non-certified gas shall be determined at least once every calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
45. 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. [District Rule 2520, 9.4.2 and District Rule 2201] Federally Enforceable Through Title V Permit
46. 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 and 4306] Federally Enforceable Through Title V Permit
47. ATC shall be implemented concurrently with or subsequent to ATC S-1246-19-26. [District Rule 2201] Federally Enforceable Through Title V Permit

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1246-19-30

ISSUANCE DATE: 04/06/2010

LEGAL OWNER OR OPERATOR: BERRY PETROLEUM COMPANY
MAILING ADDRESS: ATTN: EH&S MANAGER
5201 TRUXTUN AVENUE SUITE 100
BAKERSFIELD, CA 93309-0422

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NE28 **TOWNSHIP:** 12N **RANGE:** 24W

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR C.E. NATCO NATURAL/TEOR GAS-FIRED STEAM GENERATOR WITH FLUE GAS RECIRCULATION, NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER, AND O2 CONTROLLER: LOWER NOX EMISSIONS TO 9 PPMV @3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Unit is approved for operation at the following locations: NE/4 Section 28, T12N, R24W and SE/4 Section 36, T12N, R24W. [District Rule 4102]
4. 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
5. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr, calculated as NO2. [District Rules 4301, 5.2.2, 5.3, and 5.5 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

7. The requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
8. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
9. Source testing to measure NO_x and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
10. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305 and 4306]
11. 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
12. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. 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
14. 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
15. 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
16. 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
17. 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
18. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
19. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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
20. If either the NO_x or CO concentrations corrected to 3% O₂, 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

CONDITIONS CONTINUE ON NEXT PAGE

21. 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
22. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306] Federally Enforceable Through Title V Permit
23. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
24. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
25. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
26. Except during startup and shutdown, the emission rate for firing on natural gas shall not exceed any of the following: PM₁₀ - 0.005 lb/MMBtu, NO_x (as NO₂) - 0.011 lb/MMBtu or 9 ppmvd NO_x @ 3% O₂, VOC - 0.003 lb/MMBtu, or CO - 0.033 lb/MMBtu (46.6 ppmv @ 3% O₂). [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
27. Except during startup and shutdown, the emission rate for incineration of waste gas from TEOR S-1246-268 shall not exceed any of the following: PM₁₀ - 0.0075 lb/MMBtu, NO_x (as NO₂) - 0.011 lb/MMBtu or 9 ppmvd NO_x @ 3% O₂, VOC - 0.003 lb/MMBtu, or CO - 0.033 lb/MMBtu. [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. Daily SO_x emissions shall not exceed 15 lbs/day. [District Rules 2201 and 4301] Federally Enforceable Through Title V Permit
29. Emission rates during startup and shutdown shall not exceed: NO_x - 15 ppmv @ 3% O₂ or 0.018 lb/MMBtu; CO 400 ppmv @ 3% O₂ or 0.296 lb/MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
30. After January 1, 2014 NO_x emissions shall not exceed 5 ppmvd NO_x @ 3% O₂. [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
31. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. When complying with SO_x 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, 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
34. If the unit is fired on noncertified gaseous fuel and compliance with SO_x 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 D1072, D3246, D4084, D4468, D6667, or double GC for H₂S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
36. Permittee shall measure and record the daily quantities of natural gas and waste gas burned in this generator. [District Rule 2201] Federally Enforceable Through Title V Permit
37. Permittee shall demonstrate compliance with the daily sulfur compound emissions limit by calculation using the quantities of natural gas and waste gas burned and the total sulfur content of these fuels, as most recently determined. Permittee shall keep an accurate daily record of the calculated sulfur compound emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
38. Daily heat input from waste gas from TEOR operations shall not exceed 790 MMBtu/day. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Daily heat input shall be determined as follows: [fuel HHV (MMBtu/MMscf)] x [daily fuel throughput (MMscf/day)]. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The fuel higher heating value (HHV) of the non-certified gas shall be determined at least once every calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
41. 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. [District Rule 2520, 9.4.2 and District Rule 2201] Federally Enforceable Through Title V Permit
42. 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 and 4306] Federally Enforceable Through Title V Permit
43. ATC shall be implemented concurrently with or subsequent to ATC S-1246-19-29. [District Rule 2201] Federally Enforceable Through Title V Permit

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1246-252-16

ISSUANCE DATE: 04/06/2010

LEGAL OWNER OR OPERATOR: BERRY PETROLEUM COMPANY
MAILING ADDRESS: ATTN: EH&S MANAGER
5201 TRUXTUN AVENUE SUITE 100
BAKERSFIELD, CA 93309-0422

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SW31 **TOWNSHIP:** 32S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#67) WITH NORTH AMERICAN, MODEL 6131-G, BURNER ASSEMBLY, FGR, AND OXYGEN ANALYZER/CONTROLLER:INSTALL NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER OR EQUIVALENT, REVISE NATURAL GAS SULFUR LIMIT TO 1.0 GR S/100 SCF

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

6. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
9. Only three of the following incineration devices shall be operated at any given time: S-1246-252, -253, -254, and flare listed in -258. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Only fuel gas, vapors from tank battery vapor control system S-1246-258 and waste gas from TEOR system S-1246-268 may be incinerated in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Natural gas fuel sulfur content shall not exceed 1.0 gr S/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Sufficient reference gas shall be available to allow for calibration of oxygen analyzer unit at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
13. In case of failure of oxygen analyzer/controller, inlet air damper shall automatically return to "neutral" position. [District NSR Rule] Federally Enforceable Through Title V Permit
14. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
15. Sulfur Compound emission shall not exceed 30.0 lb/day of SO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permittee shall keep accurate daily records of fuel gas H₂S concentration and daily fuel usage (scfd) and such records shall be made readily available to District staff upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
17. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
18. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
19. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, NO_x (as NO₂): 0.018 lb/MMBtu or 15 ppmvd NO_x @ 3% O₂, VOC: 0.003 lb/MMBtu; or CO: 46.6 ppmv @ 3% O₂. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
20. Daily emissions shall not exceed any of the following: PM₁₀ - 7.5 lb/day, NO_x (as NO₂) - 54.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
21. After January 1, 2012 NO_x emissions shall not exceed 9 ppmvd NO_x @ 3% O₂. [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. When complying with SO_x 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, 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
25. If the unit is fired on noncertified gaseous fuel and compliance with SO_x 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 D1072, D3246, D4084, D4468, D6667, or double GC for H₂S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
26. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305 and 4306] Federally Enforceable Through Title V Permit
29. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO_x and CO source testing requirement. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
30. 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
31. 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
32. 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
33. 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
34. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (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, and fuel gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
35. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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
38. If either the NO_x or CO concentrations corrected to 3% O₂, 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 performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
39. 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
40. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306] Federally Enforceable Through Title V Permit
41. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
42. 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
43. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. The following conditions must be met for representative units to be used to test for NO_x and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. All units in a group for which representative units are annually source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
46. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
47. The number of representative units source tested for NO_x 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 such that in three 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

CONDITIONS CONTINUE ON NEXT PAGE

48. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
49. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVAPCD Rule 4201 (Amended December 17, 1992), Rule 4801 (amended December 17, 1992), and Rule 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
50. Compliance with permit conditions in the Title V permit shall be deemed compliance with the out dated Kern County Rules: 108.1, 404, and 407.2. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
51. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. ATC shall be implemented concurrently with or subsequent to ATC S-1246-252-12. [District Rule 2201] Federally Enforceable Through Title V Permit

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1246-252-17

ISSUANCE DATE: 04/06/2010

LEGAL OWNER OR OPERATOR: BERRY PETROLEUM COMPANY
MAILING ADDRESS: ATTN: EH&S MANAGER
5201 TRUXTUN AVENUE SUITE 100
BAKERSFIELD, CA 93309-0422

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SW31 **TOWNSHIP:** 32S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#67) WITH NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER, FGR, AND OXYGEN ANALYZER/CONTROLLER: LOWER NOX EMISSIONS TO 9 PPMV @3% O2 FOR RULE 4320 COMPLIANCE, REVISE NATURAL GAS SULFUR LIMIT TO 1.0 GR S/100 SCF

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
4. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
5. Only three of the following incineration devices shall be operated at any given time: S-1246-252, -253, -254, and flare listed in -258. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Only fuel gas, vapors from tank battery vapor control system S-1246-258 and waste gas from TEOR system S-1246-268 may be incinerated in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

7. Natural gas fuel sulfur content shall not exceed 1.0 gr S/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Sufficient reference gas shall be available to allow for calibration of oxygen analyzer unit at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
9. In case of failure of oxygen analyzer/controller, inlet air damper shall automatically return to "neutral" position. [District NSR Rule] Federally Enforceable Through Title V Permit
10. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Sulfur Compound emission shall not exceed 30.0 lb/day of SO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Permittee shall keep accurate daily records of fuel gas H₂S concentration and daily fuel usage (scfd) and such records shall be made readily available to District staff upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
13. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
14. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
15. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, NO_x (as NO₂): 0.011 lb/MMBtu or 9 ppmvd NO_x @ 3% O₂, VOC: 0.003 lb/MMBtu; or CO: 46.6 ppmv @ 3% O₂. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Emission rates during startup and shutdown shall not exceed: NO_x - 15 ppmv @ 3% O₂ or 0.018 lb/MMBtu; CO 400 ppmv @ 3% O₂ or 0.296 lb/MMBtu. [District Rules 101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
17. After January 1, 2014 NO_x emissions shall not exceed 5 ppmvd NO_x @ 3% O₂. [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
19. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
20. When complying with SO_x 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, 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
21. If the unit is fired on noncertified gaseous fuel and compliance with SO_x 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 D1072, D3246, D4084, D4468, D6667, or double GC for H₂S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rules 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
23. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
24. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305 and 4306] Federally Enforceable Through Title V Permit
25. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
26. 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
27. 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
28. 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
29. 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
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, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
31. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
32. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
33. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 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
34. If either the NOx or CO concentrations corrected to 3% O2, 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 performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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 and 4306] Federally Enforceable Through Title V Permit
36. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306] Federally Enforceable Through Title V Permit
37. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
38. 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
39. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
40. The following conditions must be met for representative units to be used to test for NO_x and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. All units in a group for which representative units are annually source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. The number of representative units source tested for NO_x 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 such that in three 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
44. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVAPCD Rule 4201 (Amended December 17, 1992), Rule 4801 (amended December 17, 1992), and Rule 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the out dated Kern County Rules: 108.1, 404, and 407.2. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
47. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

48. ATC shall be implemented concurrently with or subsequent to ATC S-1246-252-16. [District Rule 2201] Federally Enforceable Through Title V Permit

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1246-253-16

ISSUANCE DATE: 04/06/2010

LEGAL OWNER OR OPERATOR: BERRY PETROLEUM COMPANY
MAILING ADDRESS: ATTN: EH&S MANAGER
5201 TRUXTUN AVENUE SUITE 100
BAKERSFIELD, CA 93309-0422

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SE31 **TOWNSHIP:** 32S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#68) WITH NORTH AMERICAN, MODEL 6131-G, BURNER ASSEMBLY, FGR, AND OXYGEN ANALYZER/CONTROLLER:INSTALL NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER OR EQUIVALENT, REVISE NATURAL GAS SULFUR LIMIT TO 1.0 GR S/100 SCF

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services
S-1246-253-16 : Mar 15 2012 2:56PM -- EDGEHLR : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

6. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
9. Only three of the following incineration devices shall be operated at any given time: S-1246-252, -253, -254, and flare listed in -258. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Only fuel gas, vapors from tank battery vapor control system S-1246-258 and waste gas from TEOR system S-1246-268 may be incinerated in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Natural gas fuel sulfur content shall not exceed 1.0 gr S/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Sufficient reference gas shall be available to allow for calibration of oxygen analyzer unit at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
13. In case of failure of oxygen analyzer/controller, inlet air damper shall automatically return to "neutral" position. [District NSR Rule] Federally Enforceable Through Title V Permit
14. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
15. Sulfur Compound emission shall not exceed 30.0 lb/day of SO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permittee shall keep accurate daily records of fuel gas H₂S concentration and daily fuel usage (scfd) and such records shall be made readily available to District staff upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
17. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
18. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
19. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, NO_x (as NO₂): 0.018 lb/MMBtu or 15 ppmvd NO_x @ 3% O₂, VOC: 0.003 lb/MMBtu; or CO: 46.6 ppmv @ 3% O₂. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
20. Daily emissions shall not exceed any of the following: PM₁₀ - 7.5 lb/day, NO_x (as NO₂) - 54.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
21. After January 1, 2012 NO_x emissions shall not exceed 9 ppmvd NO_x @ 3% O₂. [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. When complying with SO_x 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, 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
25. If the unit is fired on noncertified gaseous fuel and compliance with SO_x 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 D1072, D3246, D4084, D4468, D6667, or double GC for H₂S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
26. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305 and 4306] Federally Enforceable Through Title V Permit
29. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO_x and CO source testing requirement. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
30. 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
31. 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
32. 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
33. 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
34. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (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, and fuel gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
35. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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
38. If either the NO_x or CO concentrations corrected to 3% O₂, 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 performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
39. 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
40. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306] Federally Enforceable Through Title V Permit
41. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
42. 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
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, 9.3.2] Federally Enforceable Through Title V Permit
44. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. The following conditions must be met for representative units to be used to test for NO_x and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
46. All units in a group for which representative units are annually source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

47. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
48. 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 such that in three 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
49. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
50. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVAPCD Rule 4201 (Amended December 17, 1992), Rule 4801 (amended December 17, 1992), and Rule 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
51. Compliance with permit conditions in the Title V permit shall be deemed compliance with the out dated Kern County Rules: 108.1, 404, and 407.2. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
53. ATC shall be implemented concurrently with or subsequent to ATC S-1246-253-12. [District Rule 2201] Federally Enforceable Through Title V Permit

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1246-253-17

ISSUANCE DATE: 04/06/2010

LEGAL OWNER OR OPERATOR: BERRY PETROLEUM COMPANY
MAILING ADDRESS: ATTN: EH&S MANAGER
5201 TRUXTUN AVENUE SUITE 100
BAKERSFIELD, CA 93309-0422

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SE31 **TOWNSHIP:** 32S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#68) WITH NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER, FGR, AND OXYGEN ANALYZER/CONTROLLER: LOWER NOX EMISSIONS TO 9 PPMV @3% O2 FOR RULE 4320 COMPLIANCE, REVISE NATURAL GAS SULFUR LIMIT TO 1.0 GR S/100 SCF

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
4. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
5. Only three of the following incineration devices shall be operated at any given time: S-1246-252, -253, -254, and flare listed in -258. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Only fuel gas, vapors from tank battery vapor control system S-1246-258 and waste gas from TEOR system S-1246-268 may be incinerated in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services
S-1246-253-17 : Mar 15 2012 2:57PM - EDGEHILR : Joint Inspection NOT Required

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7. Natural gas fuel sulfur content shall not exceed 1.0 gr S/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Sufficient reference gas shall be available to allow for calibration of oxygen analyzer unit at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
9. In case of failure of oxygen analyzer/controller, inlet air damper shall automatically return to "neutral" position. [District NSR Rule] Federally Enforceable Through Title V Permit
10. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Sulfur Compound emission shall not exceed 30.0 lb/day of SO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Permittee shall keep accurate daily records of fuel gas H₂S concentration and daily fuel usage (scfd) and such records shall be made readily available to District staff upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
13. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
14. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
15. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, NO_x (as NO₂): 0.011 lb/MMBtu or 9 ppmvd NO_x @ 3% O₂, VOC: 0.003 lb/MMBtu; or CO: 46.6 ppmv @ 3% O₂. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Emission rates during startup and shutdown shall not exceed: NO_x - 15 ppmv @ 3% O₂ or 0.018 lb/MMBtu; CO 400 ppmv @ 3% O₂ or 0.296 lb/MMBtu. [District Rules 101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
17. After January 1, 2014 NO_x emissions shall not exceed 5 ppmvd NO_x @ 3% O₂. [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
19. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
20. When complying with SO_x 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, 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
21. If the unit is fired on noncertified gaseous fuel and compliance with SO_x 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 D1072, D3246, D4084, D4468, D6667, or double GC for H₂S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
23. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
24. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305 and 4306] Federally Enforceable Through Title V Permit
25. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
26. 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
27. 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
28. 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
29. 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
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, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
31. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
32. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
33. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 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
34. If either the NOx or CO concentrations corrected to 3% O2, 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 performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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 and 4306] Federally Enforceable Through Title V Permit
36. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306] Federally Enforceable Through Title V Permit
37. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
38. 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
39. 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, 9.3.2] Federally Enforceable Through Title V Permit
40. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. The following conditions must be met for representative units to be used to test for NO_x and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. All units in a group for which representative units are annually source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. The number of representative units source tested for NO_x 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 such that in three 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
45. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVAPCD Rule 4201 (Amended December 17, 1992), Rule 4801 (amended December 17, 1992), and Rule 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the out dated Kern County Rules: 108.1, 404, and 407.2. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
48. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. ATC shall be implemented concurrently with or subsequent to ATC S-1246-253-16. [District Rule 2201] Federally Enforceable Through Title V Permit

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1246-254-16

ISSUANCE DATE: 04/06/2010

LEGAL OWNER OR OPERATOR: BERRY PETROLEUM COMPANY
MAILING ADDRESS: ATTN: EH&S MANAGER
5201 TRUXTUN AVENUE SUITE 100
BAKERSFIELD, CA 93309-0422

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SE31 **TOWNSHIP:** 32S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#69) WITH NORTH AMERICAN, MODEL 6131-G, BURNER ASSEMBLY, FGR, AND OXYGEN ANALYZER/CONTROLLER:INSTALL NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER OR EQUIVALENT, REVISE NATURAL GAS SULFUR LIMIT TO 1.0 GR S/100 SCF

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1246-254-16 : Mar 15 2012 2:57PM -- EDGEHILR : Joint Inspection NOT Required

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6. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
9. Only three of the following incineration devices shall be operated at any given time: S-1246-252, -253, -254, and flare listed in -258. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Only fuel gas, vapors from tank battery vapor control system S-1246-258 and waste gas from TEOR system S-1246-268 may be incinerated in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Natural gas fuel sulfur content shall not exceed 1.0 gr S/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Sufficient reference gas shall be available to allow for calibration of oxygen analyzer unit at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
13. In case of failure of oxygen analyzer/controller, inlet air damper shall automatically return to "neutral" position. [District NSR Rule] Federally Enforceable Through Title V Permit
14. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
15. Sulfur Compound emission shall not exceed 30.0 lb/day of SO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permittee shall keep accurate daily records of fuel gas H₂S concentration and daily fuel usage (scfd) and such records shall be made readily available to District staff upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
17. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
18. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
19. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, NO_x (as NO₂): 0.018 lb/MMBtu or 15 ppmvd NO_x @ 3% O₂, VOC: 0.003 lb/MMBtu; or CO: 46.6 ppmv @ 3% O₂. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
20. Daily emissions shall not exceed any of the following: PM₁₀ - 7.5 lb/day, NO_x (as NO₂) - 54.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
21. After January 1, 2012 NO_x emissions shall not exceed 9 ppmvd NO_x @ 3% O₂. [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. When complying with SO_x 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, 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
25. If the unit is fired on noncertified gaseous fuel and compliance with SO_x 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 D1072, D3246, D4084, D4468, D6667, or double GC for H₂S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
26. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
27. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
28. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305 and 4306] Federally Enforceable Through Title V Permit
29. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO_x and CO source testing requirement. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
30. 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
31. 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
32. 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
33. 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
34. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (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, and fuel gas sulfur content - ASTM D3246 or double GC for H₂S and mercaptans. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
35. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

37. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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
38. If either the NO_x or CO concentrations corrected to 3% O₂, 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 performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
39. 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
40. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306] Federally Enforceable Through Title V Permit
41. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
42. 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
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, 9.3.2] Federally Enforceable Through Title V Permit
44. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
45. The following conditions must be met for representative units to be used to test for NO_x and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
46. All units in a group for which representative units are annually source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

47. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
48. 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 such that in three 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
49. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
50. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVAPCD Rule 4201 (Amended December 17, 1992), Rule 4801 (amended December 17, 1992), and Rule 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
51. Compliance with permit conditions in the Title V permit shall be deemed compliance with the out dated Kern County Rules: 108.1, 404, and 407.2. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
53. ATC shall be implemented concurrently with or subsequent to ATC S-1246-254-12. [District Rule 2201] Federally Enforceable Through Title V Permit

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1246-254-17

ISSUANCE DATE: 04/06/2010

LEGAL OWNER OR OPERATOR: BERRY PETROLEUM COMPANY
MAILING ADDRESS: ATTN: EH&S MANAGER
5201 TRUXTUN AVENUE SUITE 100
BAKERSFIELD, CA 93309-0422

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SE31 **TOWNSHIP:** 32S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR STRUTHERS NATURAL GAS/VAPOR RECOVERY GAS-FIRED STEAM GENERATOR (#69) WITH NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER, FGR, AND OXYGEN ANALYZER/CONTROLLER: LOWER NOX EMISSIONS TO 9 PPMV @3% O2 FOR RULE 4320 COMPLIANCE, REVISE NATURAL GAS SULFUR LIMIT TO 1.0 GR S/100 SCF

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
4. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401] Federally Enforceable Through Title V Permit
5. Only three of the following incineration devices shall be operated at any given time: S-1246-252, -253, -254, and flare listed in -258. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Only fuel gas, vapors from tank battery vapor control system S-1246-258 and waste gas from TEOR system S-1246-268 may be incinerated in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

7. Natural gas fuel sulfur content shall not exceed 1.0 gr S/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Sufficient reference gas shall be available to allow for calibration of oxygen analyzer unit at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
9. In case of failure of oxygen analyzer/controller, inlet air damper shall automatically return to "neutral" position. [District NSR Rule] Federally Enforceable Through Title V Permit
10. If steam generator is inoperative, non-condensable vapors shall not vent to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Sulfur Compound emission shall not exceed 30.0 lb/day of SO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Permittee shall keep accurate daily records of fuel gas H₂S concentration and daily fuel usage (scfd) and such records shall be made readily available to District staff upon request. [District Rule 1070] Federally Enforceable Through Title V Permit
13. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
14. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
15. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: PM₁₀: 0.005 lb/MMBtu, NO_x (as NO₂): 0.011 lb/MMBtu or 9 ppmvd NO_x @ 3% O₂, VOC: 0.003 lb/MMBtu; or CO: 46.6 ppmv @ 3% O₂. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
16. Emission rates during startup and shutdown shall not exceed: NO_x - 15 ppmv @ 3% O₂ or 0.018 lb/MMBtu; CO 400 ppmv @ 3% O₂ or 0.296 lb/MMBtu. [District Rules 2201, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
17. After January 1, 2014 NO_x emissions shall not exceed 5 ppmvd NO_x @ 3% O₂. [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
19. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
20. When complying with SO_x 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, 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
21. If the unit is fired on noncertified gaseous fuel and compliance with SO_x 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 D1072, D3246, D4084, D4468, D6667, or double GC for H₂S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
23. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
24. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 4305 and 4306] Federally Enforceable Through Title V Permit
25. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
26. 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
27. 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
28. 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
29. 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
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, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305 and 4306] Federally Enforceable Through Title V Permit
31. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
32. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
33. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 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
34. If either the NOx or CO concentrations corrected to 3% O2, 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 performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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 and 4306] Federally Enforceable Through Title V Permit
36. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306] Federally Enforceable Through Title V Permit
37. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
38. 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
39. 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, 9.3.2] Federally Enforceable Through Title V Permit
40. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
41. The following conditions must be met for representative units to be used to test for NO_x and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
42. All units in a group for which representative units are annually source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
43. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. The number of representative units source tested for NO_x 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 such that in three 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
45. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVAPCD Rule 4201 (Amended December 17, 1992), Rule 4801 (amended December 17, 1992), and Rule 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the out dated Kern County Rules: 108.1, 404, and 407.2. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
48. This unit commenced construction, modification, or reconstruction prior to June 19, 1984. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) and 40 CFR 60.40c do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. ATC shall be implemented concurrently with or subsequent to ATC S-1246-254-16. [District Rule 2201] Federally Enforceable Through Title V Permit

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1246-269-15

ISSUANCE DATE: 04/06/2010

LEGAL OWNER OR OPERATOR: BERRY PETROLEUM COMPANY
MAILING ADDRESS: ATTN: EH&S MANAGER
5201 TRUXTUN AVENUE SUITE 100
BAKERSFIELD, CA 93309-0422

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SE36 **TOWNSHIP:** 12N **RANGE:** 24W

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH FGR, PCL LOW-NOX DIFFUSER PLATE AND O2 CONTROLLER: INSTALL NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER OR EQUIVALENT

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
3. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
5. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

6. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
7. This generator is permitted to operate at the following locations: SE 1/4 Section 36 of Township 12N, Range 24W and SE 1/4 Section 36 of Township 32S, Range 23E. [District NSR Rule] Federally Enforceable Through Title V Permit
8. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Only sulfur-scrubbed gas from the Ethel-D casing vent vapor collection system (S-1246-290)(TEOR gas) and/or natural gas shall be used as a fuel. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter and TEOR gas volume flowmeter. [District NSR Rule and District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit
11. 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
12. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
13. Operator shall ensure that all required source testing conforms to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
14. Operator shall maintain copies of fuel invoices and supplier certifications. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
15. Steam generator firebox convection section and all flue gas ductwork shall be maintained with no detectable leaks. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Sufficient calibration gas for O₂ analyzer shall be available at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Emission rates shall not exceed any of the following: 0.0067 lb SO_x/MMBtu (as SO₂), 0.005 lb PM₁₀/MMBtu, or 0.003 lb VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: 0.018 lb NO_x/MMBtu (as NO₂) or 15 ppmv NO_x @ 3% O₂, or 46.6 ppmv CO @ 3% O₂. [District NSR Rule and Rules 4305 and 4306, 5.1] Federally Enforceable Through Title V Permit
19. Daily emissions shall not exceed any of the following: PM₁₀ - 7.5 lb/day, NO_x (as NO₂) - 36.0 lb/day, VOC - 4.5 lb/day, CO - 49.5 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit
20. After January 1, 2012 NO_x emissions shall not exceed 9 ppmvd NO_x @ 3% O₂. [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
21. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
24. When complying with SO_x 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, 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
25. If the unit is fired on noncertified gaseous fuel and compliance with SO_x 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 D1072, D3246, D4084, D4468, D6667, or double GC for H₂S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
26. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
27. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
28. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306, 5.3.1] Federally Enforceable Through Title V Permit
29. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306, 5.3.2] Federally Enforceable Through Title V Permit
30. 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
31. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR gas incinerated in this unit. [District NSR Rule] Federally Enforceable Through Title V Permit
32. 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 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
33. 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 was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. 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, 5.5.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

35. Source testing to measure NO_x and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 2520, 9.3.2, 4305 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
37. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO_x and CO source testing requirement. [District Rules 2520, 9.4.2, 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
38. Compliance demonstration (source testing) shall be conducted by independent testing laboratory and shall be witnessed, or authorized by District. Sample collection shall be done by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
39. 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
40. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
41. 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
42. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
43. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
44. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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, 5.4.2] Federally Enforceable Through Title V Permit
45. If either the NO_x or CO concentrations corrected to 3% O₂, 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, 5.4.2] Federally Enforceable Through Title V Permit
46. 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, 5.5.4] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

47. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306, 5.4.2] Federally Enforceable Through Title V Permit
48. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
49. The following conditions must be met for representative units to be used to test for NO_x and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
50. All units in a group for which representative units are annually source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
51. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
52. The number of representative units source tested for NO_x 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 such that in three years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
53. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
54. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (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, SO_x (lb/MMBtu) - ARB Method 100 and EPA Method 19. [District Rules 1081, 4305 and 4306, 6.2] Federally Enforceable Through Title V Permit
55. Records of the daily amount of natural gas and TEOR gas combusted shall be maintained and shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
56. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 1081 (Amended December 16, 1993), 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
57. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
58. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1246-269-16

ISSUANCE DATE: 04/06/2010

LEGAL OWNER OR OPERATOR: BERRY PETROLEUM COMPANY
MAILING ADDRESS: ATTN: EH&S MANAGER
5201 TRUXTUN AVENUE SUITE 100
BAKERSFIELD, CA 93309-0422

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: SE36 **TOWNSHIP:** 12N **RANGE:** 24W

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MAGNA FLAME LE ULTRA LOW NOX BURNER AND O2 CONTROLLER: LOWER NOX EMISSIONS TO 9 PPMV @3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
3. This generator is permitted to operate at the following locations: SE 1/4 Section 36 of Township 12N, Range 24W and SE 1/4 Section 36 of Township 32S, Range 23E. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Only sulfur-scrubbed gas from the Ethel-D casing vent vapor collection system (S-1246-290)(TEOR gas) and/or natural gas shall be used as a fuel. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Steam generator shall be equipped with the following operational instrumentation: fuel gas volume flowmeter and TEOR gas volume flowmeter. [District NSR Rule and District Rules 4305, 5.4 and 4306, 5.4] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1246-269-16 : Mar 15 2012 2:57PM - EDGEHILR : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. 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
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. Operator shall ensure that all required source testing conforms to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
10. Operator shall maintain copies of fuel invoices and supplier certifications. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. Steam generator firebox convection section and all flue gas ductwork shall be maintained with no detectable leaks. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Sufficient calibration gas for O₂ analyzer shall be available at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Emission rates shall not exceed any of the following: 0.0067 lb SO_x/MMBtu (as SO₂), 0.005 lb PM₁₀/MMBtu, or 0.003 lb VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
14. Except during periods of startup and shutdown, emission rates shall not exceed any of the following: 0.011 lb NO_x/MMBtu (as NO₂) or 9 ppmv NO_x @ 3% O₂, or 46.6 ppmv CO @ 3% O₂. [District NSR Rule and Rules 4305, 4306, 5.1, and 4320] Federally Enforceable Through Title V Permit
15. Emission rates during startup and shutdown shall not exceed: NO_x - 15 ppmv @ 3% O₂ or 0.018 lb/MMBtu; CO 400 ppmv @ 3% O₂ or 0.296 lb/MMBtu. [District Rules 2201, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
16. After January 1, 2014 NO_x emissions shall not exceed 5 ppmvd NO_x @ 3% O₂. [District Rules 2201, 4305, 4306, 4320 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
17. 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. 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. [Kern County Rule 407, District Rule 4301, District Rule 4801, and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. Permittee shall measure and record the fuel gas sulfur content and BTU content at the time of NO_x testing, except for natural gas purchased from a PUC regulated utility. [District NSR Rule and District Rule 4406] Federally Enforceable Through Title V Permit
19. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each non-certified 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 quarterly. If a quarterly fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
20. When complying with SO_x 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, 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
21. If the unit is fired on noncertified gaseous fuel and compliance with SO_x 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 D1072, D3246, D4084, D4468, D6667, or double GC for H₂S and Mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. 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 D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2; 4305, 6.2.1; 4306, 6.2.1; 4351, 6.2.1, 2201] Federally Enforceable Through Title V Permit
23. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr. [District Rule 4301, 5.2.2] Federally Enforceable Through Title V Permit
24. The duration of each startup and shutdown period shall not exceed 2.0 hours. [District Rules 4305 and 4306, 5.3.1] Federally Enforceable Through Title V Permit
25. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rules 4305 and 4306, 5.3.2] Federally Enforceable Through Title V Permit
26. 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
27. Permittee shall measure and record, at least monthly, the sulfur content and BTU content of the TEOR gas incinerated in this unit. [District NSR Rule] Federally Enforceable Through Title V Permit
28. 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 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
29. 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 was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
30. 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, 5.5.2] Federally Enforceable Through Title V Permit
31. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. 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 2520, 9.3.2, 4305 and 4306, 6.3.1] Federally Enforceable Through Title V Permit
33. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rules 2520, 9.4.2, 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
34. Compliance demonstration (source testing) shall be conducted by independent testing laboratory and shall be witnessed, or authorized by District. Sample collection shall be done by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

35. 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
36. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
37. 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
38. The sample collection shall be conducted under conditions (fuel quality, firing rate, waste gas incineration, air fuel ratio, etc.) expected to result in emissions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
39. The operational conditions during compliance testing may be imposed as permit requirements. [District Rule 2080] Federally Enforceable Through Title V Permit
40. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ 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, 5.4.2] Federally Enforceable Through Title V Permit
41. If either the NO_x or CO concentrations corrected to 3% O₂, 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, 5.4.2] Federally Enforceable Through Title V Permit
42. 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, 5.5.4] Federally Enforceable Through Title V Permit
43. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x 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 and 4306, 5.4.2] Federally Enforceable Through Title V Permit
44. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (amended December 16, 1993), of 3 thirty-minute test runs for NO_x and CO. This mean shall be multiplied by the appropriate factor. [District Rules 1081 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
45. The following conditions must be met for representative units to be used to test for NO_x and CO emissions for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of permitted value and vary 25% or less from the average of all runs, 2) all units in the group are similar in terms of heat input, make and series, operational conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) the selection of the representative units is approved by the District prior to testing. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

46. All units in a group for which representative units are annually source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative units. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
47. An operating log shall be maintained for each unit of the group. The log shall include, on a monthly basis, the total hours of operation, type and quantity of fuel used, and preventative and corrective maintenance and modifications performed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
48. The number of representative units source tested for NO_x 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 such that in three years, all units in the entire group will have been tested at least once. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
49. Should any of the representative units exceed the required emission limits of this permit, each of the unit in the group shall conduct emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
50. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (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, SO_x (lb/MMBtu) - ARB Method 100 and EPA Method 19. [District Rules 1081, 4305 and 4306, 6.2] Federally Enforceable Through Title V Permit
51. Records of the daily amount of natural gas and TEOR gas combusted shall be maintained and shall be made readily available for District inspection upon request. [District NSR Rule] Federally Enforceable Through Title V Permit
52. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 1081 (Amended December 16, 1993), 4201 (Amended December 17, 1992), and 4301 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
53. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
54. This unit is located west of interstate 5 in Kern county. Therefore, the requirements of District Rule 4351 (Amended October 19, 1995) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
55. ATC shall be implemented concurrently with or subsequent to ATC S-1246-269-15. [District Rule 2201] Federally Enforceable Through Title V Permit

Attachment C Application

San Joaquin Valley Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

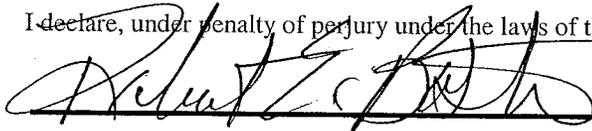
- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE
 MINOR PERMIT MODIFICATION AMENDMENT

| | |
|--|----------------------------|
| COMPANY NAME: Berry Petroleum Company (BPC) | FACILITY ID: S-1246 |
| 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: Berry Petroleum Company (BPC) | |
| 3. Agent to the Owner: Tim Crawford | |

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

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

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



Signature of Responsible Official

8/18/2010

Date

Robert Boston

Name of Responsible Official (please print)

Manager of EH&S

Title of Responsible Official (please print)