



JUL 08 2013

Mr. Brent Winn
Aera Energy, LLC
PO Box 11164
Bakersfield, CA

Re: Notice of Minor Title V Permit Modification
District Facility # S-1547
Project # S-1132495

Dear Mr. Winn:

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 S-1547-802-14 and '-808-12 into the Title V operating permit. The Authority to Construct (ATC) permits authorized the steam generators to reduce their maximum NOx emissions to 9 ppm which is the Rule 4320 allowable limit for units firing on less than 50%, by volume, PUC quality gas

Enclosed is the engineering evaluation with the following attachments: proposed modified Title V permit, recently issued S-1547-802-14 and '-808-12 , emission increases, application, and previous Title V permit. This project will be subject to a 45-day EPA commenting period prior to the District taking final action.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

Enclosures

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

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

TITLE V APPLICATION REVIEW

Minor Modification
Project #: S-1547, 1132495

Engineer: Steve Davidson
Date: July 3, 2013

Facility Number: S-1547
Facility Name: Area Energy, LLC
Mailing Address: PO Box 11164
Bakersfield, CA 93389-1164

RwK
7-8-13

Contact Name: Brent Winn
Phone: (661) 665-4363

Responsible Official: E.J Gonzales
Title: Process Supervisor

I. PROPOSAL

Area Energy, LLC is proposing a Title V minor permit modification to incorporate Authorities to Construct (ATC) #S-1547-802-14 and '-808-12 into Aera Energy's Title V permit. The Authority to Construct (ATC) permits authorized the steam generators to reduce their maximum NOx emissions to 9 ppm which is the Rule 4320 allowable limit for units firing on less than 50%, by volume, PUC quality gas. Conditions will be placed on the permit to ensure the units make the requirements of this category.

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

II. FACILITY LOCATION

The equipment is located in the Belridge Oilfield of Aera's Western Kern County fields' heavy oil production stationary source, facility S-1547.

PTO#	Field	Section	Township	Range
S-1547-802-23	Belridge	NW11	29S	21E
S-1547-808-19	Belridge	NW11	29S	21E

III. EQUIPMENT DESCRIPTION

S-1547-802-23: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (11-1G, BELRIDGE) WITH FLUE GAS RECIRCULATION AND COEN QLN-ULN 3.2 LOW-NOX BURNER

S-1547-808-19: 62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR, WITH COEN QLN-ULN BURNER, FLUE GAS RECIRCULATION (#11-1H) (BELRIDGE)

IV. SCOPE OF EPA AND PUBLIC REVIEW

This change to the Title V permits 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 Authority to Construct (ATC) permits authorized the steam generators to reduce their maximum NOx emissions to 9 ppm which is the Rule 4320 allowable limit for units firing on less than 50%, by volume, PUC quality gas. Conditions will be placed on the permit to ensure the units make the requirements of this category.

Condition # on PTO S-1547-802-22	Condition # on Propose PTO S-1547-802-23	Condition is New, Modified, or Removed	Reason for Change from Current PTO
13	12	Modified	NOx emissions limit lowered to 9 ppm
-	13	New	Maximum NOx emissions limit of 54.0 lb/day and 5782 lb/year added to the permit.
-	20, 21, 22, 23	New	Conditions allowing District approved representative source testing added to the permit.
21	25	Modified	Condition identifying source testing methods updated to list currently approved test methods.
0	28	New	Standard 5 year recordkeeping condition added to the permit.

Condition # on Current PTO S-1547-808-18	Condition # on Propose PTO S-1547-808-19	Condition is New, Modified, or Removed	Reason for Change from Current PTO
7	7	Modified	NOx Limit lowered to 9 ppm
9	9	Modified	Maximum NOx emissions lowered to 6023 lb/year.
16	16	Modified	Source test reference to "natural gas combustion" removed for clarity. Unit should be fired on the "waste gas" it combusts
19	19	Modified	Test methods updated.

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.

Because these permit revisions meet all the above criteria, this is a Minor Modification.

In accordance with Rule 2520, the application meets the procedural requirements of section 11.4 by including;

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

VIII. ATTACHMENTS

- A. Proposed Modified Title V Operating Permit
- B. Authority to Construct
- C. Emissions Increases
- D. Application
- E. Previous Title V Operating Permit

ATTACHMENT A

Proposed Modified Title V Operating Permit #
S-1547-802-23 & '-808-19

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-802-23

EXPIRATION DATE: 05/31/2016

SECTION: NW11 **TOWNSHIP:** 29S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (11-1G, BELRIDGE) WITH FLUE GAS RECIRCULATION AND COEN QLN-ULN 3.2 LOW-NOX BURNER

PERMIT UNIT REQUIREMENTS

1. The total gas fired in this unit, on a monthly volume basis, shall be less than 50% PUC quality natural gas (as defined in Rule 4320), by volume. [District Rule 4320, 5.2] Federally Enforceable Through Title V Permit
2. The permittee shall maintain monthly records of the volume of PUC quality natural gas (as defined in Rule 4320) and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320, 5.2] Federally Enforceable Through Title V Permit
3. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the test methods (or other approved methods listed in this permit) H₂S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320, 5.7 and 6.2] Federally Enforceable Through Title V Permit
4. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
5. 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 has been demonstrated for 8 consecutive weeks for a fuel source, then the 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
6. The operator shall demonstrate compliance with this unit's sulfur compound exhaust concentration limit(s) using one of the following: test the sulfur content of each fuel source, or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 4301, 5.2 and Rule 4801, 3.1] Federally Enforceable Through Title V Permit
7. {565} Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of 40 CFR 60, Subpart Dc (except 60.44c(g) and (h) and 60.48c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
8. Steam generator shall be equipped with an operational fuel gas volumetric flow meter. [District NSR Rule] Federally Enforceable Through Title V Permit
9. When TEOR gas is connected to this unit, steam generator shall be equipped with an operational volumetric TEOR gas flow meter. [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.

10. Permittee shall notify the District, in writing, at least 15 days prior to burning TEOR gas and when discontinuing the burning of TEOR gas. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Annual heat input to steam generator shall not exceed 525.6 billion BTU hhv. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Emission rates shall not exceed any of the following: PM-10: 0.005 lb/MMBtu, NO_x (as NO₂): 0.011 lb/MMBtu or 9 ppmv @ 3% O₂, SO_x (as SO₂): 0.002 lb/MMBtu, VOC: 0.003 lb/MMBtu or CO: 1.9 ppmv @ 3% O₂. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Emission rates shall not exceed any of the following: NO_x (as NO₂): 54.0 lb/day or 5782 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Permittee shall maintain records of higher heating value and daily quantity of natural gas and vapor recovery gas burned in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Duration of startup and shutdown (as defined in Rule 4320) shall not exceed 2 hours each per occurrence. Refractory curing period is defined as a maintenance-based reduced-load period of time during which a unit is brought from a shutdown status to staged rates of firing for the sole purpose of curing new refractory lining of the unit, and shall not exceed 30 hours per occurrence. The operator shall maintain records of the duration of start-up, shutdown, and refractory curing periods. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
16. For each steam generator site downstream of H₂S scavenger chemical injection points, permittee shall monitor sulfur content of the gas prior to incineration in affected steam generators on a daily basis utilizing Draeger tubes calibrated for existing sulfur species or other District-approved fuel sulfur detection method(s) or device(s). If compliance with fuel sulfur content limit(s) for the affected steam generators is demonstrated for 5 consecutive days, then the monitoring frequency shall be weekly. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
18. 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, (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months, (no more than 30 days before or after the required 36 months source test date). 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
19. 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. Unless otherwise 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 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement). [District Rules 4305, 6.3.2] Federally Enforceable Through Title V Permit

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

21. The following conditions must be met for representative unit(s) to be used to test for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.4.2 and 4305,6.3.2] Federally Enforceable Through Title V Permit
22. All units in a group for which representative units are source for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
23. All units in a group for which representative units are source tested to for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
24. 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. 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 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, SOx (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - ASTM D1072, D4468, D3246, D4084 or double GC for H2S and mercaptans performed in laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 6.1; 4305, 6.2; 4306, 6.2 and 4320, 6.2] Federally Enforceable Through Title V Permit
26. Emissions from this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (12/16/93), of three 30-minute test runs for NOx and CO. [District Rules 2520, 9.4.2 and 4305, 6.3] Federally Enforceable Through Title V Permit
27. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts 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
28. {595} Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
29. Formerly S-1511-172

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-808-19

EXPIRATION DATE: 05/31/2016

SECTION: NW11 **TOWNSHIP:** 29S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR, WITH COEN QLN-ULN BURNER, FLUE GAS RECIRCULATION (#11-1H) (BELBRIDGE)

PERMIT UNIT REQUIREMENTS

1. The total gas fired in this unit, on a monthly volume basis, shall be less than 50% PUC quality natural gas (as defined in Rule 4320), by volume. [District Rule 4320, 5.2] Federally Enforceable Through Title V Permit
2. The permittee shall maintain monthly records of the volume of PUC quality natural gas (as defined in Rule 4320) and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320, 5.2] Federally Enforceable Through Title V Permit
3. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the test methods (or other approved methods listed in this permit) H₂S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, or ASTM D6228; and methane content: ASTM D1945. [District Rule 4305, 6.2; 4306, 6.2 and 4320, 6.2] Federally Enforceable Through Title V Permit
4. Steam generator shall be equipped with operational fuel gas volumetric flow meter . [District NSR Rule] Federally Enforceable Through Title V Permit
5. When TEOR gas is connected to this unit, steam generator shall be equipped with an operational volumetric TEOR gas flow meter. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Permittee shall notify the District, in writing, at least 15 days prior to burning TEOR gas and when discontinuing the burning of TEOR gas. [District NSR Rule] Federally Enforceable Through Title V Permit
7. Emission rates, except during startup, shutdown, and refractory curing shall not exceed any of the following: PM₁₀ - 0.005 lb/MMBtu; SO_x (as SO₂) - 0.002 lb/MMBtu; VOC - 0.003 lb/MMBtu; NO_x (as NO₂) - 0.011 lb/MMBtu or 9 ppmv @ 3% O₂; or CO - 0.030 lb/MMBtu or 40.0 ppmv @ 3% O₂. [District NSR Rule and District Rules 4201, 4301, 4305, 4306, 4405, 4406, 4801 and Kern County Rules 424 and 425] Federally Enforceable Through Title V Permit
8. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406, 4801 and Kern County Rules 424 and 425] Federally Enforceable Through Title V Permit
9. Emission rates shall not exceed any of the following: PM₁₀ - 7.5 lb/day; SO_x (as SO₂) - 3.0 lb/day; VOC - 4.5 lb/day; NO_x (as NO₂) - 51.0 lb/day or 6023 lb/year; or CO - 45.0 lb/day. [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.

10. Duration of startup and shutdown (as defined in Rule 4320) shall not exceed 2 hours each per occurrence. Refractory curing period is defined as a maintenance-based reduced-load period of time during which a unit is brought from a shutdown status to staged rates of firing for the sole purpose of curing new refractory lining of the unit, and shall not exceed 30 hours per occurrence. The operator shall maintain records of the duration of start-up, shutdown, and refractory curing periods. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
11. 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. Unless otherwise 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 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
12. 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
13. 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
14. 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
15. 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
16. Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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, 6.3, 4306, 6.3 and 4320] Federally Enforceable Through Title V Permit
17. 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. 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

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

18. 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
19. 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 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 6.1; 4305, 6.2; 4306, 6.2 and 4320, 6.2] Federally Enforceable Through Title V Permit
20. 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
21. For each steam generator site downstream of H₂S scavenger chemical injection points, permittee shall monitor sulfur content of the gas prior to incineration in affected steam generators on a daily basis utilizing Draeger tubes calibrated for existing sulfur species or other District-approved fuel sulfur detection method(s) or device(s). If compliance with fuel sulfur content limit(s) for the affected steam generators is demonstrated for 5 consecutive days, then the monitoring frequency shall be weekly. [District NSR Rule] Federally Enforceable Through Title V Permit
22. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. {557} 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 has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
24. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
25. The operator shall demonstrate compliance with this unit's sulfur compound exhaust concentration limit(s) using one of the following: fire the unit only on PUC or FERC regulated natural gas, test the sulfur content of each fuel source, or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.4.2, 4301, 5.2.1 and Rule 4801, 3.1] Federally Enforceable Through Title V Permit
26. {565} Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of 40 CFR 60, Subpart Dc (except 60.44c(g) and (h) and 60.48c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
27. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record all dates on which this unit is fired on any noncertified fuel and record the specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
28. Permittee shall maintain records of higher heating value and daily quantity of natural gas and vapor recovery gas burned in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
29. All records shall be maintained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2520, 9.4.2, 4305, and 4306] Federally Enforceable Through Title V Permit
30. Note: Formerly S-1511-189

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

ATTACHMENT B

Authority to Construct #
S-1547-802-14 & '-808-12



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-802-14

ISSUANCE DATE: 05/28/2009

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NW11 **TOWNSHIP:** 29S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (11-1G, BELRIDGE) WITH FLUE GAS RECIRCULATION AND COEN QLN-ULN 3.2 LOW-NOX BURNER: REPLACE EXISTING BURNER WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ACT GIDEON ULTRA LOW NOX BURNER, OR EQUIVALENT; OR TUNE EXISTING BURNER; AND LOWER NOX LIMIT TO 9 PPM @ 3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2520] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District of the compliance method chosen (replacement burner or tuning) and if applicable, the approved burner to be installed prior to implementation of this ATC. [District Rule 2201]
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the authorized equipment [District Rule 2010]

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-1547-802-14, May 28 2009 12:35PM -- DAVIOSOS Joint Inspection NOT Required

5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters [District Rule 2010]
6. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts 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
7. Operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
8. Nitrogen oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. If compliance with the NO_x emission limit is demonstrated through the fuel nitrogen content testing and compliance has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be bi-annually. If a bi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 4301, 5.2.2 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. Particulate matter emissions shall not exceed 0.1 grain/dscf, 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
10. Emissions from gaseous fired units shall not exceed 200 lb sulfur compounds/hour, calculated as SO₂. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rules 4301, 5.2.1, and 2520, 9.4.2] Federally Enforceable Through Title V Permit
11. 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 has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
13. The operator shall demonstrate compliance with this unit's sulfur compound exhaust concentration limit(s) using one of the following: fire the unit only on PUC or FERC regulated natural gas, test the sulfur content of each fuel source, or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.4.2, 4301, 5.2.1 and Rule 4801, 3.1] Federally Enforceable Through Title V Permit
14. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of 40 CFR 60, Subpart Dc (except 60.44c(g) and (h) and 60.48c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
15. Steam generator shall be equipped with an operational fuel gas volumetric flow meter. [District NSR Rule] Federally Enforceable Through Title V Permit
16. When TEOR gas is connected to this unit, steam generator shall be equipped with an operational volumetric TEOR gas flow meter. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Permittee shall notify the District, in writing, at least 15 days prior to burning TEOR gas and when discontinuing the burning of TEOR gas. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Annual heat input to steam generator shall not exceed 525.6 billion BTU hhv. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. Emission rates shall not exceed any of the following: PM-10: 0.005 lb/MMBtu, NOx (as NO₂): 0.011 lb/MMBtu or 9 ppmv @ 3% O₂, SOx (as SO₂): 0.002 lb/MMBtu, VOC: 0.003 lb/MMBtu or CO: 1.9 ppmv @ 3% O₂. [District NSR Rule] Federally Enforceable Through Title V Permit
20. Emission rates shall not exceed any of the following: NOx (as NO₂): 54.0 lb/day or 5782 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Permittee shall maintain records of higher heating value and daily quantity of natural gas and vapor recovery gas burned in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Duration of startup and shutdown (as defined in Rule 4320) shall not exceed 2 hours each per occurrence. Refractory curing period is defined as a maintenance-based reduced-load period of time during which a unit is brought from a shutdown status to staged rates of firing for the sole purpose of curing new refractory lining of the unit, and shall not exceed 30 hours per occurrence. The operator shall maintain records of the duration of start-up, shutdown, and refractory curing periods. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission shall not exceed 15 ppmvd NOX @ 3% O₂ or 0.018 lb-NOX/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation for at least 5 years. [District Rule 4320] Federally Enforceable Through Title V Permit
24. For each steam generator site downstream of H₂S scavenger chemical injection points, permittee shall monitor sulfur content of the gas prior to incineration in affected steam generators on a daily basis utilizing Draeger tubes calibrated for existing sulfur species or other District-approved fuel sulfur detection method(s) or device(s). If compliance with fuel sulfur content limit(s) for the affected steam generators is demonstrated for 5 consecutive days, then the monitoring frequency shall be weekly. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
26. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months, (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months, (no more than 30 days before or after the required 36 months source test date). 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
27. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial operation under this ATC. [District Rules 2201, 4305, 4306 and 4320] 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. Unless otherwise 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 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement). [District Rules 4305, 6.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. The following conditions must be met for representative unit(s) to be used to test for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.4.2 and 4305,6.3.2] Federally Enforceable Through Title V Permit
31. All units in a group for which representative units are source for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). These tune-up procedures shall be completed according to District Rule 4304 (Adopted October 19, 1995) and tune-up test results shall show comparable results for each unit in the group. Records shall be maintained for the each unit of the group including all preventative and corrective maintenance work done. [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
32. All units in a group for which representative units are source tested to for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. [District Rules 2520, 9.4.2 and 4305, 6.3.2] Federally Enforceable Through Title V Permit
33. 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. 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: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, SOx (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D3246 or double GC for H2S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. Emissions from this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (12/16/93), of three 30-minute test runs for NOx and CO. [District Rules 2520, 9.4.2 and 4305, 6.3] Federally Enforceable Through Title V Permit
36. Formerly S-1511-172



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-808-12

ISSUANCE DATE: 05/28/2009

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NW11 **TOWNSHIP:** 29S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS- FIRED STEAM GENERATOR WITH A COEN, MODEL ULN, LOW NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM AND NON-CONDENSIBLE PIPING FROM VAPOR CONTROL SYSTEM (#11-1H) (BELRIDGE): REPLACE EXISTING BURNER WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ACT GIDEON ULTRA LOW NOX BURNER, OR EQUIVALENT; OR TUNE EXISTING BURNER; AND LOWER NOX LIMIT TO 9 PPM @ 3% O2 FOR RULE 4320 COMPLIANCE

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2520] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District of the compliance method chosen (replacement burner or tuning) and if applicable, the approved burner to be installed prior to implementation of this ATC. [District Rule 2201]
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the authorized equipment [District Rule 2010]

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-1547-808-12 May 28 2009 12:35PM - DAVIDSOS Joint Inspection NOT Required

5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters [District Rule 2010]
6. Steam generator shall be equipped with operational fuel gas volumetric flow meter . [District NSR Rule] Federally Enforceable Through Title V Permit
7. When TEOR gas is connected to this unit, steam generator shall be equipped with an operational volumetric TEOR gas flow meter. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Permittee shall notify the District, in writing, at least 15 days prior to burning TEOR gas and when discontinuing the burning of TEOR gas. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Emission rates, except during startup, shutdown, and refractory curing shall not exceed any of the following: PM10 - 0.005 lb/MMBtu; SOx (as SO2) - 0.002 lb/MMBtu; VOC - 0.003 lb/MMBtu; NOx (as NO2) - 0.011 lb/MMBtu or 9 ppmv @ 3% O2; or CO - 0.030 lb/MMBtu or 40.0 ppmv @ 3% O2. [District NSR Rule and District Rules 4201, 4301, 4305, 4306, 4405, 4406, 4801 and Kern County Rules 424 and 425] Federally Enforceable Through Title V Permit
10. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO2; sulfur - 200 pounds of SO2 per hour, or 2000 ppmv as SO2, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO2 - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406, 4801 and Kern County Rules 424 and 425] Federally Enforceable Through Title V Permit
11. Emission rates shall not exceed any of the following: PM10 - 7.5 lb/day; SOx (as SO2) - 3.0 lb/day; VOC - 4.5 lb/day; NOx (as NO2) - 51.0 lb/day or 6023 lb/year; or CO - 45.0 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Duration of startup and shutdown (as defined in Rule 4320) shall not exceed 2 hours each per occurrence. Refractory curing period is defined as a maintenance-based reduced-load period of time during which a unit is brought from a shutdown status to staged rates of firing for the sole purpose of curing new refractory lining of the unit, and shall not exceed 30 hours per occurrence. The operator shall maintain records of the duration of start-up, shutdown, and refractory curing periods. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
13. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NOx emission shall not exceed 15 ppmvd NOX @ 3% O2 or 0.018 lb-NOX/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4320 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation for at least 5 years. [District Rule 4320] Federally Enforceable Through Title V Permit
14. 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. Unless otherwise 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 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. 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

CONDITIONS CONTINUE ON NEXT PAGE

16. 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
17. 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
18. 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
19. Source testing to measure NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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, 6.3, 4306, 6.3 and 4320] Federally Enforceable Through Title V Permit
20. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted within 60 days of initial operation under this ATC. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. 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. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
22. The 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
23. 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 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, SO_x (lb/MMBtu) - ARB Method 100 or EPA Method 6, 6C or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D3246 or double GC for H₂S and mercaptans performed in a laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. 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
25. For each steam generator site downstream of H₂S scavenger chemical injection points, permittee shall monitor sulfur content of the gas prior to incineration in affected steam generators on a daily basis utilizing Draeger tubes calibrated for existing sulfur species or other District-approved fuel sulfur detection method(s) or device(s). If compliance with fuel sulfur content limit(s) for the affected steam generators is demonstrated for 5 consecutive days, then the monitoring frequency shall be weekly. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

26. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
27. 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 has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
28. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
29. The operator shall demonstrate compliance with this unit's sulfur compound exhaust concentration limit(s) using one of the following: fire the unit only on PUC or FERC regulated natural gas, test the sulfur content of each fuel source, or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.4.2, 4301, 5.2.1 and Rule 4801, 3.1] Federally Enforceable Through Title V Permit
30. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of 40 CFR 60, Subpart Dc (except 60.44c(g) and (h) and 60.48c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
31. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record all dates on which this unit is fired on any noncertified fuel and record the specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
32. Permittee shall maintain records of higher heating value and daily quantity of natural gas and vapor recovery gas burned in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
33. All records shall be maintained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2520, 9.4.2, 4305, and 4306] Federally Enforceable Through Title V Permit
34. Note: Formerly S-1511-189

ATTACHMENT C

Emissions Increases

	SSIPE (lb/yr)				
	NOx	VOC	CO	SOx	PM10
S-1547-802	-1577	0	0	0	0
S-1547-808	-1474	0	0	0	0
Total	0	0	0	0	0

ATTACHMENT D

Application

JUN 05 2013



San Joaquin Valley APCD
1990 East Gettysburg Avenue
Fresno, CA 93726-0244

RECEIVED
JUN 05 2013
SJVAPCD
Southern Region

ATTN: Manager, Permit Services

**RE: Title V PTO Application
Steam Generator(s) Meeting 9 ppm NOx Limit for Rule 4320 Compliance**

Attached are completed "Application for Title V Modification" and "Title V Compliance Certification" forms to incorporate into the Title V permit the following ATC(s):

S-1547-802-14
S-1547-808-12

The subject ATC(s) identify several burner options for Low-NOx retrofits, or tune-up of the existing burner for Rule 4320 compliance. The ATC(s) require that the District be notified which options have been selected upon implementation of the ATC. For the subject unit(s), the existing burner was tuned up to meet the required 9 ppm NOx limit.

Should you have any questions concerning this application or require additional information, do not hesitate to contact me at (661) 665-4363.

Sincerely,

A handwritten signature in black ink, appearing to read "Brent Winn". The signature is fluid and cursive, written over a white background.

Brent Winn
Environmental Engineer – Belridge
Attachment(s)

San Joaquin Valley Air Pollution Control District

APPLICATION FOR TITLE V MODIFICATION:

RECEIVED
JUN 05 2013
SJVAPCD
Southern Region

- ADMINISTRATIVE AMENDMENT
- MINOR MODIFICATION
- SIGNIFICANT MODIFICATION

1. PERMIT TO BE ISSUED TO: AERA ENERGY LLC	
2. MAILING ADDRESS: STREET/P.O. BOX: CITY: P.O. BOX 11164 STATE: CA 9-DIGIT ZIP CODE: 93389-1164	
3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: STREET: Belridge Oilfield, Heavy Oil Western Source (S-1547) CITY: _____ _____/4 SECTION _____ TOWNSHIP _____ RANGE _____	INSTALLATION DATE:
4. GENERAL NATURE OF BUSINESS:	
5. EQUIPMENT FOR WHICH APPLICATION IS MADE (Include Permit Nos.): Convert the following ATC(s) to PTO with operating conditions incorporated into the Title V permit: S-1547-802-14, '808-12	
(Use additional sheets if necessary)	
6. DO YOU REQUEST A CERTIFICATE OF CONFORMITY WITH THIS ACTION? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
7. IS THIS APPLICATION SUBMITTED AS A RESULT OF A NOV/NTC? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO NOV/NTC No.: _____	
8. SIGNATURE OF APPLICANT/CONTACT PERSON: 	TYPE OR PRINT TITLE OF APPLICANT: Environmental Engineer
9. TYPE OR PRINT NAME OF APPLICANT/CONTACT: Brent Winn	DATE: 6/5/13
10. FAX NUMBER: (661) 665-7437	TELEPHONE NUMBER: (661) 665-4363

FOR APCD USE ONLY:

DATE STAMP	FILING FEE RECEIVED: \$ _____ / DATE PAID: _____ PROJECT NO.: S-1132495 FACILITY REGION & ID: S*1547
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San Joaquin Valley Unified Air Pollution Control District

TITLE V COMPLIANCE CERTIFICATION FORM

9 ppm NOx Tune-up for Rule 4320	
Permit No.	Steam Gen No.
S-1547- 802-14	11-16
S-1547- 808-12	11-14
S-1547-	

I. TYPE OF PERMIT ACTION (Check appropriate box)

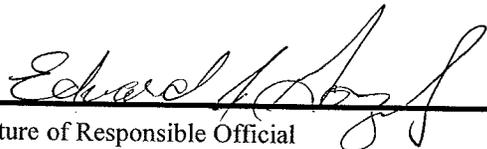
- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE
 MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME: Aera Energy LLC	FACILITY ID: S-1547
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: Aera Energy LLC	
3. Agent to the Owner: N/A	

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

- Based on information and belief formed after reasonable inquiry, the emission units identified in this application will continue to comply with the applicable federal requirement(s) which the emission units are in compliance.
- Based on information and belief formed after reasonable inquiry, the emission units 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

6-5-12

 Date

E.J Gonzales

 Name of Responsible Official (please print)

Process Supervisor

 Title of Responsible Official (please print)



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-802-14

ISSUANCE DATE: 05/28/2009

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NW11 TOWNSHIP: 29S RANGE: 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (11-1G, BELRIDGE) WITH FLUE GAS RECIRCULATION AND COEN QLN-ULN 3.2 LOW-NOX BURNER: REPLACE EXISTING BURNER WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ACT GIDEON ULTRA LOW NOX BURNER, OR EQUIVALENT; OR TUNE EXISTING BURNER; AND LOWER NOX LIMIT TO 9 PPM @ 3% O2 FOR RULE 4320 COMPLIANCE (RENEWED TWO TIMES - 5/20/13 JAG)

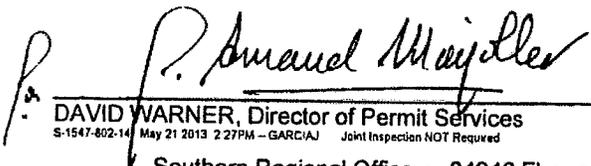
CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2520] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District of the compliance method chosen (replacement burner or tuning) and if applicable, the approved burner to be installed prior to implementation of this ATC. [District Rule 2201]
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the authorized equipment [District Rule 2010]

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-1547-802-14 May 21 2013 2:27PM - GARCIAJ Joint Inspection NOT Required



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-808-12

ISSUANCE DATE: 05/28/2009

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NW11 TOWNSHIP: 29S RANGE: 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS- FIRED STEAM GENERATOR WITH A COEN, MODEL ULN, LOW NOX BURNER, A FLUE GAS RECIRCULATION SYSTEM AND NON-CONDENSIBLE PIPING FROM VAPOR CONTROL SYSTEM (#11-1H) (BELRIDGE): REPLACE EXISTING BURNER WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ACT GIDEON ULTRA LOW NOX BURNER, OR EQUIVALENT; OR TUNE EXISTING BURNER; AND LOWER NOX LIMIT TO 9 PPM @ 3% O2 FOR RULE 4320 COMPLIANCE (RENEWED TWO TIMES - 5/20/13 JAG)

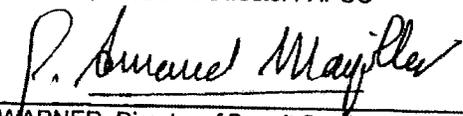
CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2520] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall notify the District of the compliance method chosen (replacement burner or tuning) and if applicable, the approved burner to be installed prior to implementation of this ATC. [District Rule 2201]
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the authorized equipment [District Rule 2010]

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-1547-808-12 May 21 2013 2:27PM - GARC/AJ Joint Inspection NOT Required

ATTACHMENT E

Previous Title V Operating Permit
S-1547-802-22 & '-808-18

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-802-22

EXPIRATION DATE: 05/31/2016

SECTION: NW11 **TOWNSHIP:** 29S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STEAM GENERATOR (11-1G, BELRIDGE) WITH FLUE GAS RECIRCULATION AND COEN QLN-ULN 3.2 LOW-NOX BURNER

PERMIT UNIT REQUIREMENTS

1. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts 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
2. 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 has been demonstrated for 8 consecutive weeks for a fuel source, then the 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
3. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 6.2 and 4306, 6.2] Federally Enforceable Through Title V Permit
4. The operator shall demonstrate compliance with this unit's sulfur compound exhaust concentration limit(s) using one of the following: test the sulfur content of each fuel source, or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 4301, 5.2 and Rule 4801, 3.1] Federally Enforceable Through Title V Permit
5. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of 40 CFR 60, Subpart Dc (except 60.44c(g) and (h) and 60.48c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
6. Steam generator shall be equipped with an operational fuel gas volumetric flow meter. [District Rule 2201] Federally Enforceable Through Title V Permit
7. When TEOR gas is connected to this unit, steam generator shall be equipped with an operational volumetric TEOR gas flow meter. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Permittee shall notify the District, in writing, at least 15 days prior to burning TEOR gas and when discontinuing the burning of TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Annual heat input to steam generator shall not exceed 525.6 billion BTU hhv. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The total gas fired in this unit, on a monthly volume basis, shall be less than 50% PUC quality natural gas (as defined in Rule 4320), by volume. [District Rule 4320, 5.2] 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.

11. The permittee shall maintain monthly records of the volume of PUC quality natural gas (as defined in Rule 4320) and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320, 5.2] Federally Enforceable Through Title V Permit
12. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the test methods (or other approved methods listed in this permit) H₂S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320, 5.7 and 6.2] Federally Enforceable Through Title V Permit
13. Emission rates shall not exceed any of the following: PM-10: 0.005 lb/MMBtu, NO_x (as NO₂): 0.014 lb/MMBtu or 12 ppmv @ 3% O₂, SO_x (as SO₂): 0.002 lb/MMBtu, VOC: 0.003 lb/MMBtu or CO: 1.9 ppmv @ 3% O₂. [District Rules 2201, 4305, 5.1; 4306, 5.1 and 4320, 5.2] Federally Enforceable Through Title V Permit
14. Permittee shall maintain records of higher heating value and daily quantity of natural gas and vapor recovery gas burned in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Duration of startup and shutdown (as defined in Rule 4320) shall not exceed 2 hours each per occurrence. Refractory curing period is defined as a maintenance-based reduced-load period of time during which a unit is brought from a shutdown status to staged rates of firing for the sole purpose of curing new refractory lining of the unit, and shall not exceed 30 hours per occurrence. The operator shall maintain records of the duration of start-up, shutdown, and refractory curing periods. [District Rules 4305, 5.5; 4306, 5.3 and 4320, 5.6] Federally Enforceable Through Title V Permit
16. For each steam generator site downstream of H₂S scavenger chemical injection points, permittee shall monitor sulfur content of the gas prior to incineration in affected steam generators on a daily basis utilizing Draeger tubes calibrated for existing sulfur species or other District-approved fuel sulfur detection method(s) or device(s). If compliance with fuel sulfur content limit(s) for the affected steam generators is demonstrated for 5 consecutive days, then the monitoring frequency shall be weekly. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
18. 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, (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months, (no more than 30 days before or after the required 36 months source test date). 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, 6.3; 4306, 6.3 and 4320, 6.3] Federally Enforceable Through Title V Permit
19. 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. Unless otherwise 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 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 5.5; 4306, 5.5 and 4320, 5.7] Federally Enforceable Through Title V Permit
20. 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. 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

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

21. 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 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 6.1; 4305, 6.2; 4306, 6.2 and 4320, 6.2] Federally Enforceable Through Title V Permit
22. Emissions from this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (12/16/93), of three 30-minute test runs for NO_x and CO. [District Rules 4305, 5.5; 4306, 5.5 and 4320, 5.5] Federally Enforceable Through Title V Permit
23. Formerly S-1511-172

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-808-18

EXPIRATION DATE: 05/31/2016

SECTION: NW11 **TOWNSHIP:** 29S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS FIRED STEAM GENERATOR, WITH COEN QLN-ULN BURNER, FLUE GAS RECIRCULATION (#11-1H) (BELBRIDGE)

PERMIT UNIT REQUIREMENTS

1. Steam generator shall be equipped with operational fuel gas volumetric flow meter . [District Rule 2201] Federally Enforceable Through Title V Permit
2. When TEOR gas is connected to this unit, steam generator shall be equipped with an operational volumetric TEOR gas flow meter. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Permittee shall notify the District, in writing, at least 15 days prior to burning TEOR gas and when discontinuing the burning of TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The total gas fired in this unit, on a monthly volume basis, shall be less than 50% PUC quality natural gas (as defined in Rule 4320), by volume. [District Rule 4320, 5.2] Federally Enforceable Through Title V Permit
5. The permittee shall maintain monthly records of the volume of PUC quality natural gas (as defined in Rule 4320) and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320, 5.2] Federally Enforceable Through Title V Permit
6. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the test methods (or other approved methods listed in this permit) H₂S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, or ASTM D6228; and methane content: ASTM D1945. [District Rule 4305, 6.2; 4306, 6.2 and 4320, 6.2] Federally Enforceable Through Title V Permit
7. Emission rates, except during startup, shutdown, and refractory curing shall not exceed any of the following: PM₁₀ - 0.005 lb/MMBtu; SO_x (as SO₂) - 0.002 lb/MMBtu; VOC - 0.003 lb/MMBtu; NO_x (as NO₂) - 0.014 lb/MMBtu or 12 ppmv @ 3% O₂; or CO - 0.030 lb/MMBtu or 40.0 ppmv @ 3% O₂. [District Rule 2201 and District Rules 2201; 4305, 5.1; 4306, 5.1 and 4320, 5.2] Federally Enforceable Through Title V Permit
8. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4301, 5.2; 4405, 5.2; 4406, 4.2 and 4801, 3.1] Federally Enforceable Through Title V Permit
9. Emission rates shall not exceed any of the following: PM₁₀ - 7.5 lb/day; SO_x (as SO₂) - 3.0 lb/day; VOC - 4.5 lb/day; NO_x (as NO₂) - 51.0 lb/day or 7665 lb/year; or CO - 45.0 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.

10. Duration of startup and shutdown (as defined in Rule 4320) shall not exceed 2 hours each per occurrence. Refractory curing period is defined as a maintenance-based reduced-load period of time during which a unit is brought from a shutdown status to staged rates of firing for the sole purpose of curing new refractory lining of the unit, and shall not exceed 30 hours per occurrence. The operator shall maintain records of the duration of start-up, shutdown, and refractory curing periods. [District Rules 4305, 5.5; 4306, 5.3 and 4320, 5.6] Federally Enforceable Through Title V Permit
11. 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, 5.4; 4306, 5.4 and 4320, 5.7] Federally Enforceable Through Title V Permit
12. 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, 5.4; 4306, 5.4 and 4320, 5.7] Federally Enforceable Through Title V Permit
13. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.5; 4306, 5.5 and 4320, 5.8] Federally Enforceable Through Title V Permit
14. 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, 5.4; 4306, 5.4 and 4320, 5.7] Federally Enforceable Through Title V Permit
15. 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. Unless otherwise 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 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 5.5; 4306, 5.5 and 4320, 5.8] Federally Enforceable Through Title V Permit
16. 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 (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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, 6.3; 4306, 6.3 and 4320, 6.3] Federally Enforceable Through Title V Permit
17. 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. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

18. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5; 4306, 5.5 and 4320, 5.8] Federally Enforceable Through Title V Permit
19. 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 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5; 4306, 5.5 and 4320, 5.8] Federally Enforceable Through Title V Permit
21. For each steam generator site downstream of H₂S scavenger chemical injection points, permittee shall monitor sulfur content of the gas prior to incineration in affected steam generators on a daily basis utilizing Draeger tubes calibrated for existing sulfur species or other District-approved fuel sulfur detection method(s) or device(s). If compliance with fuel sulfur content limit(s) for the affected steam generators is demonstrated for 5 consecutive days, then the monitoring frequency shall be weekly. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Compliance with fuel sulfur limit(s) can be demonstrated either by monitoring sulfur content at location(s) after all fuel sources are combined prior to incineration, or by monitoring the sulfur content and volume of each fuel source and performing mass balance calculations. Records of monitoring locations, detected sulfur concentrations, and mass balance calculations, if necessary, shall be maintained and kept onsite and made readily available for District inspection upon request. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
23. 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 has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
24. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2; 4306, 6.2 and 4320, 6.1] Federally Enforceable Through Title V Permit
25. The operator shall demonstrate compliance with this unit's sulfur compound exhaust concentration limit(s) using one of the following: fire the unit only on PUC or FERC regulated natural gas, test the sulfur content of each fuel source, or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [District Rules 2520, 9.4.2, 4301, 5.2.1 and Rule 4801, 3.1] Federally Enforceable Through Title V Permit
26. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of 40 CFR 60, Subpart Dc (except 60.44c(g) and (h) and 60.48c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
27. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record all dates on which this unit is fired on any noncertified fuel and record the specific type of noncertified fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
28. Permittee shall maintain records of higher heating value and daily quantity of natural gas and vapor recovery gas burned in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
29. All records shall be maintained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4.0; 4305, 6.1; 4306 and 4320, 6.1] Federally Enforceable Through Title V Permit
30. Note: Formerly S-1511-189

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