



JUL 31 2013

Mr. Brent Winn
Aera Energy, LLC
PO Box 11164
Bakersfield, CA 93389-1164

Re: Notice of Minor Title V Permit Modification
District Facility # S-1547
Project # S-1132772

Dear Mr. Winn:

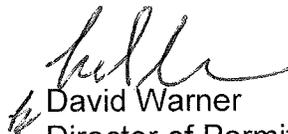
Enclosed is the District's analysis of your application for minor Title V permit modification for the facility identified above. You proposed a Title V minor permit modification to incorporate recently issued ATCs #S-1547-794-10, '-825-10, and '-830-10 into the Title V operating permit. The Authority 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 ATCs #S-1547-794-10, '-825-10, and '-830-10, 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, 1132772

Engineer: Steve Davidson

Date: July 29, 2013

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

Paul K
7-30-13

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-1547-794-10, '-825-10, and '-830-10 into Area Energy's Title V permit. These ATCs 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.

II. FACILITY LOCATION

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

PTO#	Field	Section	Township	Range
S-1547-794-15	Lost Hills	NW19	26S	21E
S-1547-825-15	Lost Hills	NW19	26S	21E
S-1547-830-15	Lost Hills	NW19	26S	21E

III. EQUIPMENT DESCRIPTION

S-1547-794-15: 62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN LOW NOX BURNER, FLUE GAS RECIRCULATION WITH PLC CONTROL, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE PIPING FROM VAPOR CONTROL SYSTEM S-1547-714 (401H) (LOST HILLS 2 LEASE)

S-1547-825-15: 62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN LOW NOX BURNER, FLUE GAS RECIRCULATION WITH PLC CONTROL, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE VAPOR PIPING FROM VAPOR CONTROL SYSTEM S-1547-714 (401L) (LOST HILLS 2 LEASE)

S-1547-830-15: 62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN BURNER, A FLUE GAS RECIRCULATION (FGR) SYSTEM, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE VAPOR PIPING FROM VAPOR CONTROL SYSTEM S-1547-714, (401K) (LOST HILLS 2 LEASE)

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-1547-794-16	Condition # on Propose PTO S-1547-794-15	Condition is New, Modified, or Removed	Reason for Change from Current PTO
19	16	Modified	NOx Limit lowered to 9 ppm
--	14	New	Condition limiting NOx emissions to 54.0 lb/day and 6023 lb/year added to the permit.
27	24	Modified	Source test frequency condition updated to current standard condition.

Condition # on PTO S-1547-825-16	Condition # on Propose PTO S-1547-825-15	Condition is New, Modified, or Removed	Reason for Change from Current PTO
19	16	Modified	NOx Limit lowered to 9 ppm
--	19	New	Condition limiting NOx emissions to 54.0 lb/day and 6023 lb/year added to the permit.
--	32, 33, 34, and 35	New	Representative source testing conditions placed on the permit,

Condition # on Current PTO S-1547-830-16	Condition # on Propose PTO S-1547-830-15	Condition is New, Modified, or Removed	Reason for Change from Current PTO
18	15	Modified	NOx Limit lowered to 9 ppm
-	19	New	Condition limiting NOx emissions to 54.0 lb/day and 6023 lb/year added to the permit.

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-1547-794-15, '-825-15, and '-830-15

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-794-15

EXPIRATION DATE: 05/31/2016

SECTION: NW19 TOWNSHIP: 26S RANGE: 21E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN LOW NOX BURNER, FLUE GAS RECIRCULATION WITH PLC CONTROL, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE PIPING FROM VAPOR CONTROL SYSTEM S-1547-714 (401H) (LOST HILLS 2 LEASE)

PERMIT UNIT REQUIREMENTS

1. {4562} Permittee shall submit written notification to the District upon designating the unit as dormant or active. [District Rule 2080]
2. When this unit is dormant, the fuel supply line shall be physically disconnected. [District Rule 4320] Federally Enforceable Through Title V Permit
3. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
4. Copies of all fuel invoices showing quantity and delivery points of supplier-certified gas delivered and copies of quality terms of supplier-certified 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
5. {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
6. 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
7. 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 2520, 9.4.2, 4301, 5.2.1 and Rule 4801, 3.1] Federally Enforceable Through Title V Permit
8. {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

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

9. 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]
10. Unit shall be equipped with natural gas and TEOR non-condensable gas volume flow meters and flue gas oxygen monitor/controller. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Only natural gas or a combination of natural gas and scrubbed non-condensable gas from sulfur scrubbing system(s) S-1547-714 and/or S-1547-1211 shall be used as fuel in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Maximum vapor recovery gas flow rate for this unit shall not exceed 610.8 Mcf/day. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Total mass flow rate of sulfur compounds from all fuel sources entering District approved steam generators connected to sulfur scrubbing systems of S-1547-714 and/or S-1547-1211 shall not exceed 103.4 lb/day as S. [District NSR Rule] Federally Enforceable Through Title V Permit
14. Emission rates shall not exceed any of the following: NO_x (as NO₂): 54.0 lb/day or 6023 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
15. When natural gas and TEOR gas fired, maximum PM₁₀ emissions shall not exceed the lb/hr limit calculated as follows: $PM_{10} = \{(7.2 \text{ lb/day}) + (17.1 \text{ lb/day}) \times (\text{fraction of total TEOR gas incinerated in this unit during testing})\} / (24 \text{ hr/day})$. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Emission rates, except during startup, shutdown, and refractory curing, shall not exceed any of the following: NO_x (as NO₂): 0.011 lb/MMBtu or 9 ppmv @ 3% O₂, , VOC: 0.003 lb/MMBtu, or CO: 50 ppmv @ 3% O₂. [District NSR Rule and District Rules 2520, 9.1, 4201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
17. Fuel sulfur content of all gas sources combined shall not exceed 5 gr-S/100 dscf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
18. The total fuel burned in this unit shall be less than 50% by volume PUC quality natural gas determined on a calendar month basis. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
19. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following 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. A separate H₂S test is not required if results of Total Sulfur test demonstrates compliance with applicable H₂S limits. [District Rule 4320] Federally Enforceable Through Title V Permit
20. Permittee shall maintain monthly records of the percentage by volume of PUC quality natural gas burned in the unit. [District Rule 4320] Federally Enforceable Through Title V Permit
21. Emission rates during 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, 5.0, 4405, 4406, and 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
22. Permittee shall perform District-witnessed or approved fuel gas sulfur analysis of non-TEOR gas combusted in the unit on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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23. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 5.4.2 and 4306, 5.4] Federally Enforceable Through Title V Permit
24. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4.2 and 4306, 5.4] Federally Enforceable Through Title V Permit
25. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4.2 and 4306, 5.4] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 5.4.2 and 4306, 5.4] Federally Enforceable Through Title V Permit
27. 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
28. 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
29. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
30. 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
31. Compliance demonstration (source testing) shall be by District witnessed, or authorized. Sample collection shall be by an ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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32. 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 hlv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
34. Permittee shall maintain records of daily quantity of natural gas/vapor recovery gas consumed and annual sulfur analyses of vapor recovery gas burned in this steam generator. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. Permittee shall perform daily sulfur mass balance calculations from records required on vapor control system S-1547-714 and sulfur scrubber '-1211, and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1070, District NSR Rule] Federally Enforceable Through Title V Permit
36. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District NSR Rule, District Rules 1070, 2520, 9.4.2; 4305, 6.1; and 4306, 6.1] Federally Enforceable Through Title V Permit
37. Formerly S-1511-155

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

DRAFT

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-825-15

EXPIRATION DATE: 05/31/2016

SECTION: NW19 **TOWNSHIP:** 26S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN LOW NOX BURNER, FLUE GAS RECIRCULATION WITH PLC CONTROL, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE VAPOR PIPING FROM VAPOR CONTROL SYSTEM S-1547-714 (401L) (LOST HILLS 2 LEASE)

PERMIT UNIT REQUIREMENTS

1. {4562} Permittee shall submit written notification to the District upon designating the unit as dormant or active. [District Rule 2080]
2. When this unit is dormant, the fuel supply line shall be physically disconnected. [District Rule 4320] Federally Enforceable Through Title V Permit
3. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
4. Copies of all fuel invoices showing quantity and delivery points of supplier-certified gas delivered and copies of quality terms of supplier-certified 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
5. {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
6. 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
7. 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 2520, 9.4.2, 4301, 5.2.1 and Rule 4801, 3.1] Federally Enforceable Through Title V Permit
8. {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

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

9. 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]
10. The total fuel burned in this unit shall be less than 50% by volume PUC quality natural gas determined on a calendar month basis. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
11. Unit shall be equipped with natural gas and TEOR non-condensable gas volume flow meters and flue gas oxygen monitor/controller. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Only natural gas or a combination of natural gas and scrubbed non-condensable gas from sulfur scrubbing system(s) S-1547-714 and/or S-1547-1211 shall be used as fuel in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Maximum vapor recovery gas flow rate for this unit shall not exceed 610.8 Mcf/day. [District NSR Rule] Federally Enforceable Through Title V Permit
14. Total mass flow rate of sulfur compounds from all fuel sources entering District approved steam generators connected to sulfur scrubbing systems of S-1547-714 and/or S-1547-1211 shall not exceed 103.4 lb/day as S. [District NSR Rule] Federally Enforceable Through Title V Permit
15. When natural gas and TEOR gas fired, maximum PM10 emissions shall not exceed the lb/hr limit calculated as follows: $PM10 = \{(7.2 \text{ lb/day}) + (17.1 \text{ lb/day}) \times (\text{fraction of total TEOR gas incinerated in this unit during testing})\} / (24 \text{ hr/day})$. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Emission rates, except during startup, shutdown, and refractory curing, shall not exceed any of the following: NO_x (as NO₂): 0.011 lb/MMBtu or 9 ppmv @ 3% O₂, VOC: 0.003 lb/MMBtu, or CO: 50 ppmv @ 3% O₂. [District NSR Rule and District Rules 2520, 9.1, 4201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
17. Fuel sulfur content of all gas sources combined shall not exceed 5 gr-S/100 dscf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
18. Emission rates during 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, 5.0, 4405, 4406, and 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
19. Emission rates shall not exceed any of the following: NO_x (as NO₂): 54.0 lb/day or 6023 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. 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, 5.4.2 and 4306, 5.4] 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. 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 (amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4.2 and 4306, 5.4] Federally Enforceable Through Title V Permit
22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4.2 and 4306, 5.4] Federally Enforceable Through Title V Permit
23. 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, 5.4.2 and 4306, 5.4] Federally Enforceable Through Title V Permit
24. 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
25. 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] Federally Enforceable Through Title V Permit
26. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
27. 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
28. Compliance demonstration (source testing) shall be by District witnessed, or authorized. Sample collection shall be by an ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit

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

29. 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
30. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following 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. A separate H₂S test is not required if results of Total Sulfur test demonstrates compliance with applicable H₂S limits. [District Rule 4320] Federally Enforceable Through Title V Permit
31. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
32. 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 and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
33. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
34. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
35. All units in a group for which representative units are source tested for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
36. Permittee shall maintain accurate records of annual sulfur analyses of and daily consumption of natural gas/TEOR waste gas, and such records shall be made readily available for District inspection upon request for a period of five years. [District NSR Rule, District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
37. Permittee shall maintain monthly records of the percentage by volume of PUC quality natural gas burned in the unit. [District Rule 4320] Federally Enforceable Through Title V Permit
38. Permittee shall perform daily sulfur mass balance calculations from records required on vapor control system S-1547-714 and sulfur scrubber '-1211, and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1070, District NSR Rule] Federally Enforceable Through Title V Permit
39. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District NSR Rule, District Rules 1070, 2520, 9.4.2; 4305, 6.1; and 4306, 6.1] Federally Enforceable Through Title V Permit
40. Formerly S-1511-235

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-830-15

EXPIRATION DATE: 05/31/2016

SECTION: NW19 **TOWNSHIP:** 26S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN BURNER, A FLUE GAS RECIRCULATION (FGR) SYSTEM, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE VAPOR PIPING FROM VAPOR CONTROL SYSTEM S-1547-714, (401K) (LOST HILLS 2 LEASE)

PERMIT UNIT REQUIREMENTS

1. {4562} Permittee shall submit written notification to the District upon designating the unit as dormant or active. [District Rule 2080]
2. When this unit is dormant, the fuel supply line shall be physically disconnected. [District Rule 4320] Federally Enforceable Through Title V Permit
3. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
4. Copies of all fuel invoices showing quantity and delivery points of supplier-certified gas delivered and copies of quality terms of supplier-certified 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
5. {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
6. 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
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. 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]
9. FGR shall be operated in the open position at all times unless source testing pursuant to District Rule 1081 demonstrates compliance without utilizing the flue gas recirculation. [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. Unit shall be equipped with natural gas and TEOR non-condensable gas volume flow meters and flue gas oxygen monitor/controller. [District NSR Rule] Federally Enforceable Through Title V Permit
11. The total fuel burned in this unit shall be less than 50% by volume PUC quality natural gas determined on a calendar month basis. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
12. Only natural gas or a combination of natural gas and scrubbed non-condensable gas from sulfur scrubbing system(s) S-1547-714 and/or S-1547-1211 shall be used as fuel in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Maximum vapor recovery gas flow rate for this unit shall not exceed 610.8 Mcf/day. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Total mass flow rate of sulfur compounds from all fuel sources entering District approved steam generators connected to sulfur scrubbing systems of S-1547-714 and/or S-1547-1211 shall not exceed 103.4 lb/day as S. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emission rates, except during startup, shutdown, and refractory curing, shall not exceed any of the following: VOC: 0.003 lb/MMBtu, NOx (as NO2): 0.011 lb/MMBtu or 9 ppmv @ 3% O2, or CO: 50 ppmv @ 3% O2. [District Rules 2201, 2520, 4301, 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
16. Fuel sulfur content of all gas sources combined shall not exceed 5 gr-S/100 dscf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
17. When natural gas and TEOR gas fired, maximum PM10 emissions shall not exceed the lb/hr limit calculated as follows: $PM10 = \{(7.2 \text{ lb/day}) + (17.1 \text{ lb/day}) \times (\text{fraction of total TEOR gas incinerated in this unit during testing})\} / (24 \text{ hr/day})$. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Emission rates during 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, and 4801] Federally Enforceable Through Title V Permit
19. Emission rates shall not exceed any of the following: NOx (as NO2): 54.0 lb/day or 6023 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Permittee shall perform District-witnessed, or approved fuel gas sulfur analysis of non-TEOR gas combusted in the unit on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 2520] Federally Enforceable Through Title V Permit
22. If the NOx and/or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

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

23. 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
24. 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
25. 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
26. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
27. 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 Rules 2520, 9.4.2, 4301, 5.2.1 and Rule 4801, 3.1] Federally Enforceable Through Title V Permit
28. 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
29. 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]
30. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following 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. A separate H₂S test is not required if results of Total Sulfur test demonstrates compliance with applicable H₂S limits. [District Rule 4320] Federally Enforceable Through Title V Permit
31. Permittee shall maintain accurate records of annual sulfur analyses of and daily consumption of natural gas/TEOR waste gas, and such records shall be made readily available for District inspection upon request for a period of five years. [District Rules 1070 and NSR] Federally Enforceable Through Title V Permit
32. Permittee shall perform daily sulfur mass balance calculations from records required on vapor control system S-1547-714 and sulfur scrubber '-1211, and such records shall be made readily available for District inspection upon request for a period of five years. [District Rules 1070 and 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.

33. 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
34. Permittee shall maintain monthly records of the percentage by volume of PUC quality natural gas burned in the unit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2201, 2520, 4305, and 4306] Federally Enforceable Through Title V Permit
36. Formerly S-1511-244

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

DRAFT

INSPECTION
ISSUANCE DATE: 06/25/2013
WORKSHEET

LEGAL OWNER OR OPERATOR: ALON BAKERSFIELD REFINING

MAILING ADDRESS: 6451 ROSEDALE HWY
BAKERSFIELD, CA 93308

LOCATION: 6451 ROSEDALE HWY (AREA 1 & 2)
BAKERSFIELD, CA 93308

SECTION: 28 **TOWNSHIP:** 29S **RANGE:** 27E

INSPECT PROGRAM PARTICIPANT: NO

EQUIPMENT DESCRIPTION:

MODIFICATION OF 415 HP DIESEL-FIRED "LOW-USE" I.C. ENGINE #86-C36-G POWERING AN AIR COMPRESSOR:
CONVERT FROM LOW-USE TO EMERGENCY STANDBY SERVICE

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 2201] 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. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rules 2201 and 4201] Federally Enforceable Through Title V Permit
4. Emission rates shall not exceed any of the following: NOx (as NO2): 600 ppmv @ 15% O2 or 20% reduction of uncontrolled NOx emissions, or CO: 2000 ppmv @ 15% O2. [District Rule 2520, 9.3.2 and 4701] Federally Enforceable Through Title V Permit
5. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 20 hours per calendar year. [District Rules 4701 and 4702, CCR §93115.6(b)(3), and 40 CFR 63.6640 (f)(ii)] Federally Enforceable Through Title V Permit
6. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
7. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702, 40 CFR 63.6625 (f), and 17 CCR 93115] Federally Enforceable Through Title V Permit
8. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, Kern County Rule 407, 40 CFR 63.6604, and 17 CCR 93115] Federally Enforceable Through Title V Permit
9. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702] Federally Enforceable Through Title V Permit
10. During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
11. An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702] Federally Enforceable Through Title V Permit

- INSPECTION WORKSHEET
12. This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702] Federally Enforceable Through Title V Permit
 13. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63.6625(h)] Federally Enforceable Through Title V Permit
 14. The engine's oil and filter shall be changed every 500 hours of operation or every 12 months, whichever comes first. [40 CFR 63.6603/63.6640] Federally Enforceable Through Title V Permit
 15. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
 16. The engine's air filter shall be inspected every 1,000 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63.6603/63.6640] Federally Enforceable Through Title V Permit
 17. The engine's hoses and belts shall be inspected every 500 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63.6603/63.6640] Federally Enforceable Through Title V Permit
 18. The permittee shall maintain monthly records of all performance tests, opacity and visible emissions observations and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63.6655(a)(3)/§63.10(b)(2)(viii) and §63.6655(a)(4)] Federally Enforceable Through Title V Permit
 19. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of action taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63.6655(a)(2) and (a)(5)] Federally Enforceable Through Title V Permit
 20. The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115] Federally Enforceable Through Title V Permit
 21. The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115] Federally Enforceable Through Title V Permit
 22. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 4702, 40 CFR 63.6660, and 17 CCR 93115] Federally Enforceable Through Title V Permit

ATTACHMENT B

Authority to Construct #
S-1547-794-10, '-825-10, and '-830-10



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-794-10

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: NW19 TOWNSHIP: 26S RANGE: 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF: 62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN LOW NOX BURNER, FLUE GAS RECIRCULATION WITH PLC CONTROL, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE PIPING FROM VAPOR CONTROL SYSTEM S-1547-714 (401H) (LOST HILLS 2 LEASE); 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)

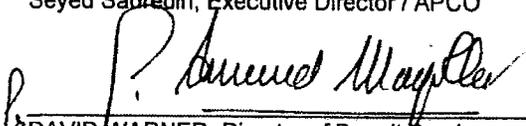
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CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO


DAVID WARNER, Director of Permit Services
S-1547-794-10 May 21 2013 2:28PM - GARCIA Joint Inspection NOT Required



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-825-10

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: NW19 **TOWNSHIP:** 26S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF: 62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN LOW NOX BURNER, FLUE GAS RECIRCULATION WITH PLC CONTROL, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE VAPOR PIPING FROM VAPOR CONTROL SYSTEM S-1547-714 (401L) (LOST HILLS 2 LEASE): 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)

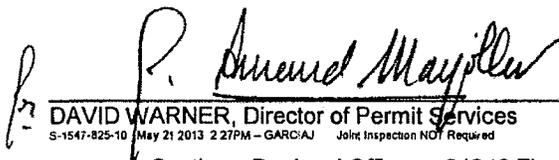
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Seyed Sadredin, Executive Director / APCO



DAVID WARNER, Director of Permit Services
S-1547-825-10 May 21 2013 2:27PM - GARC/AJ Joint Inspection NOT Required



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-830-10

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: NW19 TOWNSHIP: 26S RANGE: 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF: 62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN BURNER, A FLUE GAS RECIRCULATION (FGR) SYSTEM, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE VAPOR PIPING FROM VAPOR CONTROL SYSTEM S-1547-714, (401K) (LOST HILLS 2 LEASE): 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)

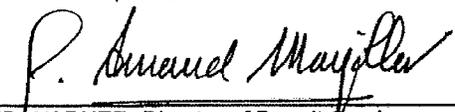
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CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO


 DAVID WARNER, Director of Permit Services
 S-1547-830-10 May 21 2013 2:27PM - GARCIAJ Joint Inspection NOT Required

ATTACHMENT C

Emissions Increases

	SSIPE (lb/yr)				
	NOx	VOC	CO	SOx	PM10
S-1737-794-10	0	0	0	0	0
S-1737-825-10	0	0	0	0	0
S-1737-830-10	0	0	0	0	0
Total	0	0	0	0	0

JUN 26 2013



RECEIVED

JUN 26 2013

SJVAPCD
Southern Region

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

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-1547-794-10
S-1547-825-10
S-1547-830-10

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 cursive script that reads "Brent Winn".

Brent Winn
Environmental Engineer – Belridge
Attachment(s)

ATTACHMENT D

Application

RECEIVED

JUN 26 2013

SJVAPCD
Southern Region

San Joaquin Valley Air Pollution Control District

APPLICATION FOR TITLE V MODIFICATION:

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: _____ 1/4 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-1547-794-10, S-1547-825-10, S-1547-830-10 (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: 6/26/13
10. FAX NUMBER: (661) 665-7437	TELEPHONE NUMBER: (661) 665-4363

FOR APCD USE ONLY:

NO \$

DATE STAMP	FILING FEE RECEIVED: \$ _____ / DATE PAID: _____ PROJECT NO.: S-113 2772 FACILITY REGION & ID: S-1547
------------	---

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- 794-10	401 H
S-1547- 825-10	401 L
S-1547- 830-10	401 K

RECEIVED

JUN 26 2015

SJVAPCD
Southern Region

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE AMENDMENT
 MINOR PERMIT MODIFICATION

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

6-26-15

 Date

E.J Gonzalez

 Name of Responsible Official (please print)

Process Supervisor

 Title of Responsible Official (please print)



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-794-10

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: NW19 TOWNSHIP: 26S RANGE: 21E

EQUIPMENT DESCRIPTION:

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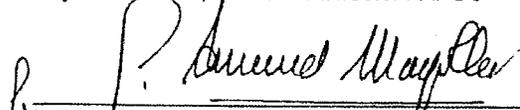
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Seyed Sadredin, Executive Director / APCO


DAVID WARNER, Director of Permit Services
S-1547-794-10 May 21 2013 2:26PM - GARCIAJ Joint Inspection NOT Required



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-825-10

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: NW19 **TOWNSHIP:** 26S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

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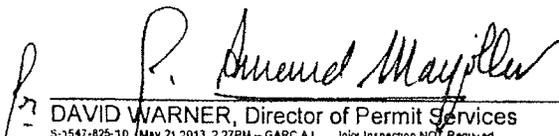
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Seyed Sadredin, Executive Director / APCO


DAVID WARNER, Director of Permit Services
S-1547-825-10 May 21 2013 2:27PM - GARC AJ Joint Inspection NOT Required



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-830-10

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: NW19 TOWNSHIP: 26S RANGE: 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF: 62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN BURNER, A FLUE GAS RECIRCULATION (FGR) SYSTEM, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE VAPOR PIPING FROM VAPOR CONTROL SYSTEM S-1547-714, (401K) (LOST HILLS 2 LEASE): 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)

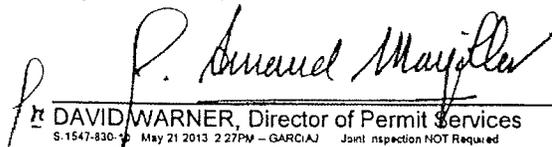
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Seyed Sadredin, Executive Director / APCO


DAVID WARNER, Director of Permit Services
S-1547-830-10 May 21 2013 2:27PM - GARCIAJ Joint Inspection NOT Required

ATTACHMENT E

Previous Title V Operating Permit
(Minor Mod) S-1547-794-16, '-825-16, and '-
830-16

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-794-16

EXPIRATION DATE: 05/31/2016

SECTION: NW19 **TOWNSHIP:** 26S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN LOW NOX BURNER, FLUE GAS RECIRCULATION WITH PLC CONTROL, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE PIPING FROM VAPOR CONTROL SYSTEM S-1547-714 (401H) (LOST HILLS 2 LEASE)

PERMIT UNIT REQUIREMENTS

1. Operator shall notify the District at least (7) days prior to designating this emissions unit as dormant or reactivating this unit from dormant status. [District Rule 4320] Federally Enforceable Through Title V Permit
2. When this unit is dormant, the fuel supply line shall be physically disconnected. [District Rule 4320] Federally Enforceable Through Title V Permit
3. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
4. Copies of all fuel invoices showing quantity and delivery points of supplier-certified gas delivered and copies of quality terms of supplier-certified 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
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 Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
6. 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, 4306, and 4320; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
7. 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 2520, 9.4.2, 4301, 5.2.1 and Rule 4801, 3.1] Federally Enforceable Through Title V Permit
8. {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

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

9. 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
10. Unit shall be equipped with natural gas and TEOR non-condensable gas volume flow meters and flue gas oxygen monitor/controller. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Only natural gas or a combination of natural gas and scrubbed non-condensable gas from sulfur scrubbing system(s) S-1547-714 and/or S-1547-1211 shall be used as fuel in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Maximum vapor recovery gas flow rate for this unit shall not exceed 610.8 Mcf/day. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Total mass flow rate of sulfur compounds from all fuel sources entering District approved steam generators connected to sulfur scrubbing systems of S-1547-714 and/or S-1547-1211 shall not exceed 103.4 lb/day as S. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Fuel sulfur content of all gas sources combined shall not exceed 5 gr-S/100 dscf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. The total fuel burned in this unit shall be less than 50% by volume PUC quality natural gas determined on a calendar month basis. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
16. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following 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. A separate H₂S test is not required if results of Total Sulfur test demonstrates compliance with applicable H₂S limits. [District Rule 4320] Federally Enforceable Through Title V Permit
17. Permittee shall maintain monthly records of the percentage by volume of PUC quality natural gas burned in the unit. [District Rule 4320] Federally Enforceable Through Title V Permit
18. When natural gas and TEOR gas fired, maximum PM₁₀ emissions shall not exceed the lb/hr limit calculated as follows: $PM_{10} = \{(7.2 \text{ lb/day}) + (17.1 \text{ lb/day}) \times (\text{fraction of total TEOR gas incinerated in this unit during testing})\} / (24 \text{ hr/day})$. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Emission rates, except during startup, shutdown, and refractory curing, shall not exceed any of the following: NO_x (as NO₂): 0.014 lb/MMBtu or 12 ppmv @ 3% O₂, , VOC: 0.003 lb/MMBtu, or CO: 50 ppmv @ 3% O₂. [District Rules 2201, 2520, 9.1, 4201, 4301, 5.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Emission rates during 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, 5.0, 4405, 4406, and 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
21. Permittee shall perform District-witnessed or approved fuel gas sulfur analysis of non-TEOR gas combusted in the unit on an annual basis. [District Rule 2201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

23. 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 (amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. 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
27. 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, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. 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
30. Compliance demonstration (source testing) shall be by District witnessed, or authorized. Sample collection shall be by an ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
31. 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

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

32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. Permittee shall maintain records of daily quantity of natural gas/vapor recovery gas consumed and annual sulfur analyses of vapor recovery gas burned in this steam generator. [District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. Permittee shall perform daily sulfur mass balance calculations from records required on vapor control system S-1547-714 and sulfur scrubber '-1211, and such records shall be made readily available for District inspection upon request for a period of five years. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District NSR Rule, District Rules 1070, 2520, 9.4.2; 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. Formerly S-1511-155

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

DRAFT



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-825-10

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: NW19 **TOWNSHIP:** 26S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

MODIFICATION OF: 62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN LOW NOX BURNER, FLUE GAS RECIRCULATION WITH PLC CONTROL, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE VAPOR PIPING FROM VAPOR CONTROL SYSTEM S-1547-714 (401L) (LOST HILLS 2 LEASE): 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

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 supplier-certified gas delivered and copies of quality terms of supplier-certified 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, 9.4.2] Federally Enforceable Through Title V Permit
8. 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
9. 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
10. 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
11. 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
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]
13. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission shall not exceed 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/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. Unit shall be equipped with natural gas and TEOR non-condensable gas volume flow meters and flue gas oxygen monitor/controller. [District NSR Rule] Federally Enforceable Through Title V Permit
15. Only natural gas or a combination of natural gas and scrubbed non-condensable gas shall be used as fuel in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Maximum TEOR gas flowrate for this unit shall not exceed 610,800 cubic feet per day. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Total mass flowrate of sulfur compounds in casing gas entering District approved steam generators connected to sulfur scrubbing systems of S-1547-714 shall not exceed 103.4 lb/day as S. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When fired exclusively on natural gas, emissions from this unit shall not exceed either of the following limits: PM₁₀: 0.005 lb/MMBtu or SO_x (as SO₂): 0.002 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. When natural gas and TEOR gas fired, maximum PM10 emissions shall not exceed the lb/hr limit calculated as follows: $PM10 = \{(7.2 \text{ lb/day}) + (17.1 \text{ lb/day}) \times (\text{fraction of total TEOR gas incinerated in this unit during testing})\} / (24 \text{ hr/day})$. [District NSR Rule] Federally Enforceable Through Title V Permit
20. Emission rates, except during startup, shutdown, and refractory curing, shall not exceed any of the following: NOx (as NO2): 0.011 lb/MMBtu or 9 ppmv @ 3% O2, , VOC: 0.003 lb/MMBtu, or CO: 50 ppmv @ 3% O2. [District NSR Rule and District Rules 2520, 9.1, 4201, 4301, 5.2, 4305, 5.1, and 4306, 5.1] Federally Enforceable Through Title V Permit
21. Emission rates during 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, 5.0, 4405, 4406, and 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
22. Emission rates shall not exceed any of the following: NOx (as NO2): 54.0 lb/day or 6023 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Compliance with SOx emission rate for non-TEOR gas shall be demonstrated annually by gas sulfur analysis and mass balance calculations. [District NSR Rule] Federally Enforceable Through Title V Permit
24. 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, 5.4.2 and 4306, 5.4] Federally Enforceable Through Title V Permit
25. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100 (amended December 17, 1992), the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 5.4.2 and 4306, 5.4] Federally Enforceable Through Title V Permit
26. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 5.4.2 and 4306, 5.4] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 5.4.2 and 4306, 5.4] 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

CONDITIONS CONTINUE ON NEXT PAGE

29. 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
30. 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
31. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1 and 4306, 5.5.1] Federally Enforceable Through Title V Permit
32. 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
33. Compliance demonstration (source testing) shall be by District witnessed, or authorized. Sample collection shall be by an ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
34. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 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
35. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 5.5.5 and 4306, 5.5.5] Federally Enforceable Through Title V Permit
36. 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 and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
37. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
38. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
39. All units in a group for which representative units are source tested for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 2520, 9.3.2, 4305, 6.3.2, and 4306, 6.3.2] Federally Enforceable Through Title V Permit
40. Permittee shall maintain accurate records of annual sulfur analyses of and daily consumption of natural gas/TEOR waste gas, and such records shall be made readily available for District inspection upon request for a period of five years. [District NSR Rule, District Rule 1070 and 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

41. Permittee shall perform daily sulfur mass balance calculations from records required on vapor control system S-1547-714, and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1070, District NSR Rule] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District NSR Rule, District Rules 1070, 2520, 9.4.2; 4305, 6.1; and 4306, 6.1] Federally Enforceable Through Title V Permit
43. NOTE: There are no sulfur compounds daily emission limits (DELs) expressed on this permit for incineration of TEOR gas; sulfur compounds emissions are limited by DELs on permit S-1547-714. [District NSR Rule]
44. Formerly S-1511-235

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-830-16

EXPIRATION DATE: 05/31/2016

SECTION: NW19 **TOWNSHIP:** 26S **RANGE:** 21E

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR GAS-FIRED STEAM GENERATOR, WITH A COEN ULN BURNER, A FLUE GAS RECIRCULATION (FGR) SYSTEM, OXYGEN MONITOR/CONTROLLER, AND NON-CONDENSIBLE VAPOR PIPING FROM VAPOR CONTROL SYSTEM S-1547-714, (401K) (LOST HILLS 2 LEASE)

PERMIT UNIT REQUIREMENTS

1. Operator shall notify the District at least (7) days prior to designating this emissions unit as dormant or reactivating this unit from dormant status. [District Rule 4320] Federally Enforceable Through Title V Permit
2. When this unit is dormant, the fuel supply line shall be physically disconnected. [District Rule 4320] Federally Enforceable Through Title V Permit
3. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
4. Copies of all fuel invoices showing quantity and delivery points of supplier-certified gas delivered and copies of quality terms of supplier-certified 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
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 Rules 2520, 9.4.2 and 4320] Federally Enforceable Through Title V Permit
6. 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, 4306, 4320; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
7. 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 Rules 2520, 9.4.2, 4301, 5.2.1 and Rule 4801, 3.1] Federally Enforceable Through Title V Permit
8. {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

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9. 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
10. Unit shall be equipped with natural gas and TEOR non-condensable gas volume flow meters and flue gas oxygen monitor/controller. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Only natural gas or a combination of natural gas and scrubbed non-condensable gas from sulfur scrubbing system(s) S-1547-714 and/or S-1547-1211 shall be used as fuel in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Maximum vapor recovery gas flow rate for this unit shall not exceed 610.8 Mcf/day. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Total mass flow rate of sulfur compounds from all fuel sources entering District approved steam generators connected to sulfur scrubbing systems of S-1547-714 and/or S-1547-1211 shall not exceed 103.4 lb/day as S. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Fuel sulfur content of all gas sources combined shall not exceed 5 gr-S/100 dscf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. The total fuel burned in this unit shall be less than 50% by volume PUC quality natural gas determined on a calendar month basis. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
16. Fuel H₂S, total sulfur, and methane content shall be determined semi-annually using the following 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. A separate H₂S test is not required if results of Total Sulfur test demonstrates compliance with applicable H₂S limits. [District Rule 4320] Federally Enforceable Through Title V Permit
17. Permittee shall maintain monthly records of the percentage by volume of PUC quality natural gas burned in the unit. [District Rule 4320] Federally Enforceable Through Title V Permit
18. Emission rates, except during startup, shutdown, and refractory curing, shall not exceed any of the following: VOC: 0.003 lb/MMBtu, NO_x (as NO₂): 0.014 lb/MMBtu or 12 ppmv @ 3% O₂, or CO: 50 ppmv @ 3% O₂. [District Rules 2201, 2520, 4301, 4305, 4306, 4320, and 4351] Federally Enforceable Through Title V Permit
19. When natural gas and TEOR gas fired, maximum PM₁₀ emissions shall not exceed the lb/hr limit calculated as follows: $PM_{10} = \{(7.2 \text{ lb/day}) + (17.1 \text{ lb/day}) \times (\text{fraction of total TEOR gas incinerated in this unit during testing})\} / (24 \text{ hr/day})$. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emission rates during 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, and 4801] Federally Enforceable Through Title V Permit
21. Permittee shall perform District-witnessed, or approved fuel gas sulfur analysis of non-TEOR gas combusted in the unit on an annual basis. [District Rule 2201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 2520] Federally Enforceable Through Title V Permit

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23. FGR shall be operated in the open position at all times unless source testing pursuant to District Rule 1081 demonstrates compliance without utilizing the flue gas recirculation. [District Rule 2201] Federally Enforceable Through Title V Permit
24. If the NO_x and/or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
25. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. 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
27. 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
28. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
29. 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
30. 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
31. Permittee shall maintain accurate records of annual sulfur analyses of and daily consumption of natural gas/TEOR waste gas, and such records shall be made readily available for District inspection upon request for a period of five years. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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33. Permittee shall perform daily sulfur mass balance calculations from records required on vapor control system S-1547-714 and sulfur scrubber '-1211, and such records shall be made readily available for District inspection upon request for a period of five years. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
34. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 2201, 2520, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
35. Formerly S-1511-244

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