



SEP 09 2015

Brent Winn
Aera Energy LLC
P O Box 11164
Bakersfield, CA 93389-1164

Re: Notice of Final Action - Minor Title V Permit Modification
District Facility # S-1547
Project # 1153486

Dear Mr. Winn:

The Air Pollution Control Officer has modified the Title V permit for Aera Energy LLC by incorporating S-1547-1162-1, '1163-1, '1164-1, '1173-3, '1174-3, '1175-3, '1176-3, '1177-3, '1178-3 and '1180-2. The ATCs lowered the annual fuel use limits of ten steam generators.

Enclosed is the modified Title V permit. The application and proposal were sent to US EPA Region IX on 8/20/15. No comments were received following the District's preliminary decision on this project.

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

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:dbt

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
www.valleyair.org www.healthyliving.com

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-1162-2

EXPIRATION DATE: 05/31/2016

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME GLE ULTRA LOW NOX BURNER, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

PERMIT UNIT REQUIREMENTS

1. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
2. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
3. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [Public Resources Code 21000-21177: California Environmental Quality Act]
4. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [Public Resources Code 21000-21177: California Environmental Quality Act]
5. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
7. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
8. The total PM₁₀ emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
10. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
11. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Emissions from the natural gas-fired unit shall not exceed any of the following limits: NO_x: 5 ppmvd @ 3% O₂ or 0.0061 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

14. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 672,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
16. Duration of refractory curing shall not exceed 30 hours per each occurrence. Permittee shall keep accurate records of refractory curing duration and make records readily available to the District upon request. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320] Federally Enforceable Through Title V Permit
18. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-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
19. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. 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
21. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H₂S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. 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
24. 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 analyzer 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
25. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the allowable emissions limit, 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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

26. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume 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
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 PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
30. 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
31. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
32. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
33. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
34. Permittee shall maintain annual records of the quantity of fuel combusted by the steam generator. [District Rule 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 Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-1163-2

EXPIRATION DATE: 05/31/2016

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME GLE ULTRA LOW NOX BURNER, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

PERMIT UNIT REQUIREMENTS

1. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
2. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
3. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [Public Resources Code 21000-21177; California Environmental Quality Act]
4. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [Public Resources Code 21000-21177; California Environmental Quality Act]
5. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
7. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
8. The total PM₁₀ emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
10. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
11. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
12. Emissions from the natural gas-fired unit shall not exceed any of the following limits: NO_x: 5 ppmvd @ 3% O₂ or 0.0061 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit

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14. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 672,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
16. Duration of refractory curing shall not exceed 30 hours per each occurrence. Permittee shall keep accurate records of refractory curing duration and make records readily available to the District upon request. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320] Federally Enforceable Through Title V Permit
18. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-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
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20. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H₂S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
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23. 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
24. 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 analyzer 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
25. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the allowable emissions limit, 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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27. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume 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
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 PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
30. 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
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32. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
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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, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-1164-2

EXPIRATION DATE: 05/31/2016

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME GLE ULTRA LOW NOX BURNER, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

PERMIT UNIT REQUIREMENTS

1. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
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12. Emissions from the natural gas-fired unit shall not exceed any of the following limits: NO_x: 5 ppmvd @ 3% O₂ or 0.0061 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit

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17. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320] Federally Enforceable Through Title V Permit
18. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-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
19. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. 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
21. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H₂S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. 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
24. 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 analyzer 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
25. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the allowable emissions limit, 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 4102, 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.

26. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume 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
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 PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
30. 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
31. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
32. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
33. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
34. Permittee shall maintain annual records of the quantity of fuel combusted by the steam generator. [District Rule 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 Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-1173-4

EXPIRATION DATE: 05/31/2016

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME G-LE ULTRA LOW NOX BURNER, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

PERMIT UNIT REQUIREMENTS

1. The refractory curing period is the time required to gradually increase the firing rate and internal temperature of a unit to thermally temper and set the optimal properties of new refractory material that has been installed as part of a unit's initial commissioning or has been replaced as part of a subsequent maintenance or repair procedure. The refractory curing period following the replacement of material as part of a maintenance or repair procedure shall not exceed 30 hours total of actual burner operation per occurrence. [District Rule 2201] Federally Enforceable Through Title V Permit
2. During any refractory curing period, operator shall limit emissions to the extent possible by optimizing the performance of the low NOx burner and flue gas recirculation system as can be accommodated by individual refractory curing activities, by following good work practices and fuel conserving measures and by completing all work in an expeditious manner. Operator shall keep a record of the specific activities undertaken as part of all refractory curing periods and the duration of each activity and shall make the records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
3. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [Public Resources Code 21000-21177: California Environmental Quality Act]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [Public Resources Code 21000-21177: California Environmental Quality Act]
7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
11. The total PM₁₀ emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]

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

12. Permittee shall maintain records of daily PM10 emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
13. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates, except during startup, shutdown, initial commissioning and refractory curing, shall not exceed any of the following limits: NOx: 7 ppmvd @ 3% O2 or 0.008 lb-NOx/MMBtu; PM10: 0.0076 lb-PM10/MMBtu; CO: 25 ppmvd @ 3% O2 or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 672,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-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
18. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
19. 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
20. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H2S and mercaptans performed in laboratory, fuel gas hhv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. 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 analyzer 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.

24. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] 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 by volume 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
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 PTO, 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. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
29. 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
30. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
31. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
32. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
33. Permittee shall maintain annual records of the quantity of fuel combusted by the steam generator. [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.

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, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-1174-4

EXPIRATION DATE: 05/31/2016

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL MAGNA FLAME G-LE ULTRA LOW NOX BURNER APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

PERMIT UNIT REQUIREMENTS

1. The refractory curing period is the time required to gradually increase the firing rate and internal temperature of a unit to thermally temper and set the optimal properties of new refractory material that has been installed as part of a unit's initial commissioning or has been replaced as part of a subsequent maintenance or repair procedure. The refractory curing period following the replacement of material as part of a maintenance or repair procedure shall not exceed 30 hours total of actual burner operation per occurrence. [District Rule 2201] Federally Enforceable Through Title V Permit
2. During any refractory curing period, operator shall limit emissions to the extent possible by optimizing the performance of the low NOx burner and flue gas recirculation system as can be accommodated by individual refractory curing activities, by following good work practices and fuel conserving measures and by completing all work in an expeditious manner. Operator shall keep a record of the specific activities undertaken as part of all refractory curing periods and the duration of each activity and shall make the records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
3. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [Public Resources Code 21000-21177: California Environmental Quality Act]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [Public Resources Code 21000-21177: California Environmental Quality Act]
7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
11. The total PM₁₀ emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]

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

12. Permittee shall maintain records of daily PM10 emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
13. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates, except during startup, shutdown and refractory curing, shall not exceed any of the following limits: NOx: 7 ppmvd @ 3% O2 or 0.008 lb-NOx/MMBtu; PM10: 0.0076 lb-PM10/MMBtu; CO: 25 ppmvd @ 3% O2 or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 672,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-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
18. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
19. 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
20. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H2S and mercaptans performed in laboratory, fuel gas hhv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. 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 analyzer 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.

24. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] 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 by volume 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
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 PTO, 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. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
29. 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
30. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
31. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
32. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
33. Permittee shall maintain annual records of the quantity of fuel combusted by the steam generator. [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.

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, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-1175-4

EXPIRATION DATE: 05/31/2016

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME G-LE ULTRA LOW NOX BURNER, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

PERMIT UNIT REQUIREMENTS

1. The refractory curing period is the time required to gradually increase the firing rate and internal temperature of a unit to thermally temper and set the optimal properties of new refractory material that has been installed as part of a unit's initial commissioning or has been replaced as part of a subsequent maintenance or repair procedure. The refractory curing period following the replacement of material as part of a maintenance or repair procedure shall not exceed 30 hours total of actual burner operation per occurrence. [District Rule 2201] Federally Enforceable Through Title V Permit
2. During any refractory curing period, operator shall limit emissions to the extent possible by optimizing the performance of the low NOx burner and flue gas recirculation system as can be accommodated by individual refractory curing activities, by following good work practices and fuel conserving measures and by completing all work in an expeditious manner. Operator shall keep a record of the specific activities undertaken as part of all refractory curing periods and the duration of each activity and shall make the records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
3. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [Public Resource Code 21000-21177: California Environmental Quality Act]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [Public Resource Code 21000-21177: California Environmental Quality Act]
7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
11. The total PM₁₀ emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]

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

12. Permittee shall maintain records of daily PM10 emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
13. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates, except during startup, shutdown and refractory curing, shall not exceed any of the following limits: NOx: 7 ppmvd @ 3% O2 or 0.008 lb-NOx/MMBtu; PM10: 0.0076 lb-PM10/MMBtu; CO: 25 ppmvd @ 3% O2 or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 672,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-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
18. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
19. 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
20. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H2S and mercaptans performed in laboratory, fuel gas hhv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. 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 analyzer 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.

24. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] 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 by volume 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
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 PTO, 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. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
29. 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
30. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
31. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
32. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
33. Permittee shall maintain annual records of the quantity of fuel combusted by the steam generator. [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.

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, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-1176-4

EXPIRATION DATE: 05/31/2016

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME G-LE ULTRA LOW NOX BURNER, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

PERMIT UNIT REQUIREMENTS

1. The refractory curing period is the time required to gradually increase the firing rate and internal temperature of a unit to thermally temper and set the optimal properties of new refractory material that has been installed as part of a unit's initial commissioning or has been replaced as part of a subsequent maintenance or repair procedure. The refractory curing period following the replacement of material as part of a maintenance or repair procedure shall not exceed 30 hours total of actual burner operation per occurrence. [District Rule 2201] Federally Enforceable Through Title V Permit
2. During any refractory curing period, operator shall limit emissions to the extent possible by optimizing the performance of the low NOx burner and flue gas recirculation system as can be accommodated by individual refractory curing activities, by following good work practices and fuel conserving measures and by completing all work in an expeditious manner. Operator shall keep a record of the specific activities undertaken as part of all refractory curing periods and the duration of each activity and shall make the records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
3. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [Public Resources Code 21000-21177: California Environmental Quality Act]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [Public Resources Code 21000-21177: California Environmental Quality Act]
7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162-0 through '1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
11. The total PM₁₀ emissions from Units S-1547-1162 through '1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]

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

12. Permittee shall maintain records of daily PM10 emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
13. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates, except during startup, shutdown, initial commissioning and refractory curing, shall not exceed any of the following limits: NOx: 7 ppmvd @ 3% O2 or 0.008 lb-NOx/MMBtu; PM10: 0.0076 lb-PM10/MMBtu; CO: 25 ppmvd @ 3% O2 or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 672,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-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
18. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
19. 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
20. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H2S and mercaptans performed in laboratory, fuel gas hhv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. 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 analyzer 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.

24. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] 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 by volume 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
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 PTO, 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. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
29. 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
30. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
31. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
32. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
33. Permittee shall maintain annual records of the quantity of fuel combusted by the steam generator. [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.

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, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-1177-4

EXPIRATION DATE: 05/31/2016

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

PERMIT UNIT REQUIREMENTS

1. The refractory curing period is the time required to gradually increase the firing rate and internal temperature of a unit to thermally temper and set the optimal properties of new refractory material that has been installed as part of a unit's initial commissioning or has been replaced as part of a subsequent maintenance or repair procedure. The refractory curing period following the replacement of material as part of a maintenance or repair procedure shall not exceed 30 hours total of actual burner operation per occurrence. [District Rule 2201] Federally Enforceable Through Title V Permit
2. During any refractory curing period, operator shall limit emissions to the extent possible by optimizing the performance of the low NOx burner and flue gas recirculation system as can be accommodated by individual refractory curing activities, by following good work practices and fuel conserving measures and by completing all work in an expeditious manner. Operator shall keep a record of the specific activities undertaken as part of all refractory curing periods and the duration of each activity and shall make the records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
3. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [Public Resources Code 21000-21177:California Environmental Quality Act]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [Public Resources Code 21000-21177:California Environmental Quality Act]
7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
10. The total PM10 emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
11. The total PM10 emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. Permittee shall maintain records of daily PM10 emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
13. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates, except during startup, shutdown and refractory curing, shall not exceed any of the following limits: NOx: 7 ppmvd @ 3% O2 or 0.008 lb-NOx/MMBtu; PM10: 0.0076 lb-PM10/MMBtu; CO: 25 ppmvd @ 3% O2 or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 672,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-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
18. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
19. 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
20. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H2S and mercaptans performed in laboratory, fuel gas hhv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. 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 analyzer 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.

24. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] 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 by volume 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
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 PTO, 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. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
29. 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
30. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
31. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
32. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
33. Permittee shall maintain annual records of the quantity of fuel combusted by the steam generator. [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.

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, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-1178-4

EXPIRATION DATE: 05/31/2016

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

PERMIT UNIT REQUIREMENTS

1. The refractory curing period is the time required to gradually increase the firing rate and internal temperature of a unit to thermally temper and set the optimal properties of new refractory material that has been installed as part of a unit's initial commissioning or has been replaced as part of a subsequent maintenance or repair procedure. The refractory curing period following the replacement of material as part of a maintenance or repair procedure shall not exceed 30 hours total of actual burner operation per occurrence. [District Rule 2201] Federally Enforceable Through Title V Permit
2. During any refractory curing period, operator shall limit emissions to the extent possible by optimizing the performance of the low NOx burner and flue gas recirculation system as can be accommodated by individual refractory curing activities, by following good work practices and fuel conserving measures and by completing all work in an expeditious manner. Operator shall keep a record of the specific activities undertaken as part of all refractory curing periods and the duration of each activity and shall make the records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
3. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [Public Resources Code 21000-21177:California Environmental Quality Act]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [Public Resources Code 21000-21177:California Environmental Quality Act]
7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
11. The total PM₁₀ emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]

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

12. Permittee shall maintain records of daily PM10 emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
13. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates, except during startup, shutdown, initial commissioning and refractory curing, shall not exceed any of the following limits: NOx: 7 ppmvd @ 3% O2 or 0.008 lb-NOx/MMBtu; PM10: 0.0076 lb-PM10/MMBtu; CO: 25 ppmvd @ 3% O2 or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 672,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-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
18. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
19. 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
20. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H2S and mercaptans performed in laboratory, fuel gas hhv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. 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 analyzer 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.

24. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] 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 by volume 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
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 PTO, 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. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
29. 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
30. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
31. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
32. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
33. Permittee shall maintain annual records of the quantity of fuel combusted by the steam generator. [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.

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, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-1180-3

EXPIRATION DATE: 05/31/2016

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME GLE ULTRA LOW NOX BURNER, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

PERMIT UNIT REQUIREMENTS

1. The refractory curing period is the time required to gradually increase the firing rate and internal temperature of a unit to thermally temper and set the optimal properties of new refractory material that has been installed as part of a unit's initial commissioning or has been replaced as part of a subsequent maintenance or repair procedure. The refractory curing period following the replacement of material as part of a maintenance or repair procedure shall not exceed 30 hours total of actual burner operation per occurrence. [District Rule 2201] Federally Enforceable Through Title V Permit
2. During any refractory curing period, operator shall limit emissions to the extent possible by optimizing the performance of the low NOx burner and flue gas recirculation system as can be accommodated by individual refractory curing activities, by following good work practices and fuel conserving measures and by completing all work in an expeditious manner. Operator shall keep a record of the specific activities undertaken as part of all refractory curing periods and the duration of each activity and shall make the records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
3. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [Public Resources Code 21000-21177: California Environmental Quality Act]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [Public Resources Code 21000-21177: California Environmental Quality Act]
7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
10. The total PM10 emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
11. The total PM10 emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]

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

12. Permittee shall maintain records of daily PM10 emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
13. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates, except during startup, shutdown, initial commissioning and refractory curing, shall not exceed any of the following limits: NOx: 7 ppmvd @ 3% O2 or 0.008 lb-NOx/MMBtu; PM10: 0.0076 lb-PM10/MMBtu; CO: 25 ppmvd @ 3% O2 or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 672,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-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
18. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
19. 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
20. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H2S and mercaptans performed in laboratory, fuel gas hhv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. 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
22. 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
23. 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 analyzer 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.

24. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, 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 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. All NO_x, CO, and O₂ 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 NO_x, CO, and O₂ 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 sample 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 4102, 4305, 4306 and 4320] 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 by volume 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
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 PTO, 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. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
29. 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
30. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
31. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
32. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
33. Permittee shall maintain annual records of the quantity of fuel combusted by the steam generator. [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.

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, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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

Facility Name: AERA ENERGY LLC

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

S-1547-1180-3 : Sep 2 2015 8:40AM -- TORID