



JUN 08 2017

Mr. Rolando Trevino
PG & E - Kettleman Compressor Station
Attn: Air Permits
PO Box 7640
San Francisco, CA 94120

**Re: Notice of Final Action - Significant Title V Permit Modification
District Facility # C-904
Project # C-1143204**

Dear Mr. Trevino:

The Air Pollution Control Officer has modified the Title V permit for PG & E - Kettleman Compressor Station located at 34453 Plymouth Avenue in Avenal, CA. Your facility proposed to incorporate Authorities to Construct (ATCs) C-904-27-7, '-28-7, and '-29-7 into the Title V operating permit. This project authorizes the modifications of three 58.14 MMBtu/hr natural gas-fired turbines to change their Rule 4703 NOx alternate monitoring requirements to the use of an in-stack monitoring system, remove the monthly Draeger Tube ammonia measurement requirement, and approve an alternative ammonia slip calculation methodology.

Enclosed is the modified Title V permit. The application and proposal were sent to CARB and US EPA Region IX on December 24, 2014. No comments were received following the District's preliminary decision on this project.

The notice of final decision for this project will be published approximately three days from the date of this letter.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Errol Villegas, Permit Services Manager, at (559) 230-5900.

Sincerely,



Arnaud Marjolle
Director of Permit Services

Enclosures

cc: Tung Le, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email
cc: Kou Thao, PG & E (w/enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-904-27-8

EXPIRATION DATE: 11/30/2016

EQUIPMENT DESCRIPTION:

58.14 MMBTU/HR (7,170 HP) SOLAR SOLONOX TAURUS 60-7032S GAS TURBINE ENGINE (K-1) SERVED BY A SOLONOX DRY LOW-NOX COMBUSTION SYSTEM, A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION, AND AN IN-STACK NOX AND O2 MONITORING SYSTEM; ALL DRIVING A NATURAL GAS PIPELINE COMPRESSOR

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. Unit shall be fired exclusively on PUC-quality natural gas, with a maximum sulfur content of 1.0 gr/100 scf. [District Rules 2201 and 4801, and 40 CFR 60.333] Federally Enforceable Through Title V Permit
4. Except during periods of startup, shutdown, reduced load, bypass transition, or primary re-ignition, emission rates shall not exceed any of the following emission limits: 8 ppmv NO_x (as NO₂) @ 15% O₂, 0.00280 lb-SO_x/MMBtu, 0.3 lb-PM₁₀/hr, 50 ppmv CO @ 15% O₂, 25 ppmv VOC @ 15% O₂. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
5. Maximum emissions from the gas turbine, including both steady state and non-steady state periods, shall not exceed any of the following limits: 109.9 lb-NO_x/day, 3.9 lb-SO_x/day, 7.3 lb-PM₁₀/day, 156.4 lb-CO/day, or 44.7 lb-VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. During startup and shutdown, emissions from the gas turbine shall not exceed 171 ppmvd NO_x @ 15% O₂ or 0.6203 lb-NO_x/MMBtu. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
7. The total duration of startup and shutdown shall not exceed two hours per day. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
8. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703] Federally Enforceable Through Title V Permit
9. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703] Federally Enforceable Through Title V Permit
10. Emissions shall not exceed either of the following NSPS Subpart GG limits (one hour standard): 171 ppmvd NO_x (as NO₂) @ 15% O₂, or 150 ppmvd SO_x (as SO₂) @ 15% O₂. [40 CFR 60.332 and 60.333] Federally Enforceable Through Title V Permit
11. The ammonia slip (NH₃) emissions shall not exceed either of the following limits: 0.79 lb/hr or 10 ppmvd @15% O₂. [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.

12. Source testing to determine compliance with the NO_x, CO, and ammonia (NH₃) steady state emission rates (in both lb/hr and ppmvd @ 15% O₂) shall be conducted at least once every 12 months. To ensure accuracy of the ammonia slip calculation specified within this permit, the NO_x emission concentration at the SCR inlet shall be determined at the facility's typical operating load during annual compliance testing by measuring NO_x emissions for a minimum of 10 minutes or until NO_x concentration has stabilized. [District Rules 2201, 4102, and 4703, and 40 CFR 60.335(b)] Federally Enforceable Through Title V Permit
13. Source testing shall be District witnessed, or authorized, and samples shall be collected by a California Air Resources Board certified testing laboratory. [District Rule 1081, Section 7.2] Federally Enforceable Through Title V Permit
14. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081, Sections 5.0, 6.0 and 7.1] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, Section 7.3] Federally Enforceable Through Title V Permit
16. The following test methods shall be used: NO_x - EPA Method 7E or 20 or CARB Method 100; CO - EPA Method 10 or 10B or CARB Method 100; ammonia - BAAQMD ST-1B; and O₂ - EPA Method 3, 3A, or 20, or CARB Method 100. Alternative test methods may also be used to satisfy the source testing requirements of this permit if approved by the District and EPA. [District Rules 1081 and 4703, and 40 CFR 60.335] Federally Enforceable Through Title V Permit
17. HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703 and 40 CFR 60.332(a),(b)] Federally Enforceable Through Title V Permit
18. The sulfur content of each fuel source shall either be: (i) documented in a valid purchase contract, a supplier certification, a tariff sheet or transportation contract, or (ii) monitored within 60 days of the end of the source test and weekly thereafter. If the sulfur content is demonstrated to be less than 1.0 gr/100 scf for eight consecutive weeks, then the monitoring frequency shall be every six months. If the result of any six-month monitoring demonstrates that the fuel does not meet the fuel sulfur content limit, weekly monitoring shall resume. [District Rule 2201 and 40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
19. Fuel sulfur content shall be determined using the following methods: ASTM D 1072, D 3031, D 4084, or D 3246. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
20. The permittee shall monitor and record the stack concentration of NO_x and O₂ at least once per day with the in-stack monitoring system. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rules 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
21. The permittee shall perform NO_x and O₂ accuracy drift checks of the in-stack monitoring system at least once per day in accordance with the requirements of 40 CFR Part 60, Appendices B and F. [District Rules 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
22. During times when the in-stack monitoring system is down for maintenance or repairs, the permittee shall use a District approved portable analyzer to record daily NO_x and O₂ concentration readings. The permittee shall maintain records of the portable analyzer readings and include the date(s) and reasons the in-stack monitoring system was not operational. [District Rules 4703 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of CO and O₂ at least once per week with a District approved portable analyzer. If compliance with the CO emissions concentration is demonstrated for eight (8) consecutive weeks, then the monitoring frequency may be reduced to monthly. If excess emissions are observed during monthly monitoring, monitoring shall revert to weekly until 8 consecutive weeks show no excess emissions. 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 five (5) days of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last week if on a weekly monitoring schedule. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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24. If the monitored NO_x concentrations, as measured by the in-stack monitoring system, or the monitored CO concentrations, as measured by the portable analyzer, exceed the permitted emission limits, the permittee shall return the NO_x or CO concentrations to the permitted emission limits as soon as possible but no longer than one (1) operating hour after detection. If the permittee's analyzer readings continue to exceed the permitted emissions limits after one (1) operating hour, the permittee shall notify the District within the following one (1) hour, and conduct a certified source test within 60 days to demonstrate compliance with the permitted emissions limits. In lieu of conducting a source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must 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 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
25. All in-stack monitoring system and portable analyzer emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
26. Compliance with the ammonia slip emission limit shall be demonstrated at least once per day, concurrently with the in-stack analyzer NO_x concentration readings, utilizing the following calculation: $(\text{ppmvd @ 15\% O}_2) = ((a - (b \times c / 1,000,000)) \times (1,000,000 / b)) \times d$, where a = ammonia injection rate (lb/hr) / (17 lb/lb mol), b = dry exhaust flow rate (lb/hr) / (29 lb/lb mol), c = change in measured NO_x concentration ppmvd @ 15% O₂ across the catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
27. The owner or operator shall operate and maintain in calibration a system which continuously measures and records: emissions control system operating parameters, elapsed time of operation of the gas turbine, and fuel consumption. [District Rule 4703 and 40 CFR 60.334(a)] Federally Enforceable Through Title V Permit
28. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64.7] Federally Enforceable Through Title V Permit
29. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64.8] Federally Enforceable Through Title V Permit
30. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64.9] Federally Enforceable Through Title V Permit
31. The facility shall maintain the following records on a daily basis: the start time, stop time, length and reason for reduced load periods, and total hours of operation. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
32. The permittee shall maintain the following records: date and time, duration, and type of any startup, shutdown, or malfunction; performance testing, evaluations, calibrations, checks, adjustments, any period during which a continuous monitoring system or monitoring device was inoperative, and maintenance of any continuous emission monitor. [District Rules 2201 and 4703, and 40 CFR 60.8(d)] Federally Enforceable Through Title V Permit
33. The permittee shall maintain the following records: type and quantity of fuel used (scf/hr and scf/rolling twelve month period), continuous emission monitoring measurements, calculated ammonia slip (lb/hr or ppmvd @ 15% O₂), and calculated NO_x mass emission rates (lb/hr and lb/twelve month rolling period). [District Rules 2201 and 4703] 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. 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 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, (5) a description of any corrective action taken to maintain the emissions within the acceptable range, and (6) the calculated ammonia slip values and each parameter used to perform the calculation. [District Rule 4703 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
35. All records of required monitoring data and support information shall be maintained and retained on-site for a period of at least (5) five years and shall be made available for District inspection upon request. [District Rules 1070, 2201, and 4703] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Kings County Rule 404, District Rule 4801 and Kings County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, Section 13.2] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-904-28-8

EXPIRATION DATE: 11/30/2016

EQUIPMENT DESCRIPTION:

58.14 MMBTU/HR (7,170 HP) SOLAR SOLONOX TAURUS 60-7032S GAS TURBINE ENGINE (K-2) SERVED BY A SOLONOX DRY LOW-NOX COMBUSTION SYSTEM, A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION, AND AN IN-STACK NOX AND O2 MONITORING SYSTEM; ALL DRIVING A NATURAL GAS PIPELINE COMPRESSOR

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. Unit shall be fired exclusively on PUC-quality natural gas, with a maximum sulfur content of 1.0 gr/100 scf. [District Rules 2201 and 4801, and 40 CFR 60.333] Federally Enforceable Through Title V Permit
4. Except during periods of startup, shutdown, reduced load, bypass transition, or primary re-ignition, emission rates shall not exceed any of the following emission limits: 8 ppmv NO_x (as NO₂) @ 15% O₂, 0.00280 lb-SO_x/MMBtu, 0.3 lb-PM₁₀/hr, 50 ppmv CO @ 15% O₂, 25 ppmv VOC @ 15% O₂. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
5. Maximum emissions from the gas turbine, including both steady state and non-steady state periods, shall not exceed any of the following limits: 109.9 lb-NO_x/day, 3.9 lb-SO_x/day, 7.3 lb-PM₁₀/day, 156.4 lb-CO/day, or 44.7 lb-VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. During startup and shutdown, emissions from the gas turbine shall not exceed 171 ppmvd NO_x @ 15% O₂ or 0.6203 lb-NO_x/MMBtu. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
7. The total duration of startup and shutdown shall not exceed two hours per day. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
8. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703] Federally Enforceable Through Title V Permit
9. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703] Federally Enforceable Through Title V Permit
10. Emissions shall not exceed either of the following NSPS Subpart GG limits (one hour standard): 171 ppmvd NO_x (as NO₂) @ 15% O₂, or 150 ppmvd SO_x (as SO₂) @ 15% O₂. [40 CFR 60.332 and 60.333] Federally Enforceable Through Title V Permit
11. The ammonia slip (NH₃) emissions shall not exceed either of the following limits: 0.79 lb/hr or 10 ppmvd @15% O₂. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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12. Source testing to determine compliance with the NO_x, CO, and ammonia (NH₃) steady state emission rates (in both lb/hr and ppmvd @ 15% O₂) shall be conducted at least once every 12 months. To ensure accuracy of the ammonia slip calculation specified within this permit, the NO_x emission concentration at the SCR inlet shall be determined at the facility's typical operating load during annual compliance testing by measuring NO_x emissions for a minimum of 10 minutes or until NO_x concentration has stabilized. [District Rules 2201, 4102, and 4703, and 40 CFR 60.335(b)] Federally Enforceable Through Title V Permit
13. Source testing shall be District witnessed, or authorized, and samples shall be collected by a California Air Resources Board certified testing laboratory. [District Rule 1081, Section 7.2] Federally Enforceable Through Title V Permit
14. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081, Sections 5.0, 6.0 and 7.1] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, Section 7.3] Federally Enforceable Through Title V Permit
16. The following test methods shall be used: NO_x - EPA Method 7E or 20 or CARB Method 100; CO - EPA Method 10 or 10B or CARB Method 100; ammonia - BAAQMD ST-1B; and O₂ - EPA Method 3, 3A, or 20, or CARB Method 100. Alternative test methods may also be used to satisfy the source testing requirements of this permit if approved by the District and EPA. [District Rules 1081 and 4703, and 40 CFR 60.335] Federally Enforceable Through Title V Permit
17. HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703 and 40 CFR 60.332(a),(b)] Federally Enforceable Through Title V Permit
18. The sulfur content of each fuel source shall either be: (i) documented in a valid purchase contract, a supplier certification, a tariff sheet or transportation contract, or (ii) monitored within 60 days of the end of the source test and weekly thereafter. If the sulfur content is demonstrated to be less than 1.0 gr/100 scf for eight consecutive weeks, then the monitoring frequency shall be every six months. If the result of any six-month monitoring demonstrates that the fuel does not meet the fuel sulfur content limit, weekly monitoring shall resume. [District Rule 2201 and 40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
19. Fuel sulfur content shall be determined using the following methods: ASTM D 1072, D 3031, D 4084, or D 3246. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
20. The permittee shall monitor and record the stack concentration of NO_x and O₂ at least once per day with the in-stack monitoring system. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rules 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
21. The permittee shall perform NO_x and O₂ accuracy drift checks of the in-stack monitoring system at least once per day in accordance with the requirements of 40 CFR Part 60, Appendices B and F. [District Rules 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
22. During times when the in-stack monitoring system is down for maintenance or repairs, the permittee shall use a District approved portable analyzer to record daily NO_x and O₂ concentration readings. The permittee shall maintain records of the portable analyzer readings and include the date(s) and reasons the in-stack monitoring system was not operational. [District Rule 4703 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of CO and O₂ at least once per week with a District approved portable analyzer. If compliance with the CO emissions concentration is demonstrated for eight (8) consecutive weeks, then the monitoring frequency may be reduced to monthly. If excess emissions are observed during monthly monitoring, monitoring shall revert to weekly until 8 consecutive weeks show no excess emissions. 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 five (5) days of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last week if on a weekly monitoring schedule. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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24. If the monitored NOx concentrations, as measured by the in-stack monitoring system, or the monitored CO concentrations, as measured by the portable analyzer, exceed the permitted emission limits, the permittee shall return the NOx or CO concentrations to the permitted emission limits as soon as possible but no longer than one (1) operating hour after detection. If the permittee's analyzer readings continue to exceed the permitted emissions limits after one (1) operating hour, the permittee shall notify the District within the following one (1) hour, and conduct a certified source test within 60 days to demonstrate compliance with the permitted emissions limits. In lieu of conducting a source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must 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 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
25. All in-stack monitoring system and portable analyzer emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
26. Compliance with the ammonia slip emission limit shall be demonstrated at least once per day, concurrently with the in-stack analyzer NOx concentration readings, utilizing the following calculation: $(\text{ppmvd @ 15\% O}_2) = ((a - (b \times c / 1,000,000)) \times (1,000,000 / b)) \times d$, where a = ammonia injection rate (lb/hr) / (17 lb/lb mol), b = dry exhaust flow rate (lb/hr) / (29 lb/lb mol), c = change in measured NOx concentration ppmvd @ 15% O2 across the catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
27. The owner or operator shall operate and maintain in calibration a system which continuously measures and records: emissions control system operating parameters, elapsed time of operation of the gas turbine, and fuel consumption. [District Rule 4703 and 40 CFR 60.334(a)] Federally Enforceable Through Title V Permit
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29. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64.8] Federally Enforceable Through Title V Permit
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32. The permittee shall maintain the following records: date and time, duration, and type of any startup, shutdown, or malfunction; performance testing, evaluations, calibrations, checks, adjustments, any period during which a continuous monitoring system or monitoring device was inoperative, and maintenance of any continuous emission monitor. [District Rules 2201 and 4703, and 40 CFR 60.8(d)] Federally Enforceable Through Title V Permit
33. The permittee shall maintain the following records: type and quantity of fuel used (scf/hr and scf/rolling twelve month period), continuous emission monitoring measurements, calculated ammonia slip (lb/hr or ppmvd @ 15% O2), and calculated NOx mass emission rates (lb/hr and lb/twelve month rolling period). [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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35. All records of required monitoring data and support information shall be maintained and retained on-site for a period of at least (5) five years and shall be made available for District inspection upon request. [District Rules 1070, 2201, and 4703] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Kings County Rule 404, District Rule 4801 and Kings County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, Section 13.2] Federally Enforceable Through Title V Permit

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-904-29-8

EXPIRATION DATE: 11/30/2016

EQUIPMENT DESCRIPTION:

58.14 MMBTU/HR (7,170 HP) SOLAR SOLONOX TAURUS 60-7032S GAS TURBINE ENGINE (K-3) SERVED BY A SOLONOX DRY LOW-NOX COMBUSTION SYSTEM, A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM WITH AMMONIA INJECTION, AND AN IN-STACK NOX AND O2 MONITORING SYSTEM; ALL DRIVING A NATURAL GAS PIPELINE COMPRESSOR

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. Unit shall be fired exclusively on PUC-quality natural gas, with a maximum sulfur content of 1.0 gr/100 scf. [District Rules 2201 and 4801, and 40 CFR 60.333] Federally Enforceable Through Title V Permit
4. Except during periods of startup, shutdown, reduced load, bypass transition, or primary re-ignition, emission rates shall not exceed any of the following emission limits: 8 ppmv NO_x (as NO₂) @ 15% O₂, 0.00280 lb-SO_x/MMBtu, 0.3 lb-PM₁₀/hr, 50 ppmv CO @ 15% O₂, 25 ppmv VOC @ 15% O₂. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
5. Maximum emissions from the gas turbine, including both steady state and non-steady state periods, shall not exceed any of the following limits: 109.9 lb-NO_x/day, 3.9 lb-SO_x/day, 7.3 lb-PM₁₀/day, 156.4 lb-CO/day, or 44.7 lb-VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. During startup and shutdown, emissions from the gas turbine shall not exceed 171 ppmvd NO_x @ 15% O₂ or 0.6203 lb-NO_x/MMBtu. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
7. The total duration of startup and shutdown shall not exceed two hours per day. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
8. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703] Federally Enforceable Through Title V Permit
9. Start-up shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703] Federally Enforceable Through Title V Permit
10. Emissions shall not exceed either of the following NSPS Subpart GG limits (one hour standard): 171 ppmvd NO_x (as NO₂) @ 15% O₂, or 150 ppmvd SO_x (as SO₂) @ 15% O₂. [40 CFR 60.332 and 60.333] Federally Enforceable Through Title V Permit
11. The ammonia slip (NH₃) emissions shall not exceed either of the following limits: 0.79 lb/hr or 10 ppmvd @15% O₂. [District Rule 2201] Federally Enforceable Through Title V Permit

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12. Source testing to determine compliance with the NO_x, CO, and ammonia (NH₃) steady state emission rates (in both lb/hr and ppmvd @ 15% O₂) shall be conducted at least once every 12 months. To ensure accuracy of the ammonia slip calculation specified within this permit, the NO_x emission concentration at the SCR inlet shall be determined at the facility's typical operating load during annual compliance testing by measuring NO_x emissions for a minimum of 10 minutes or until NO_x concentration has stabilized. [District Rules 2201, 4102, and 4703, and 40 CFR 60.335(b)] Federally Enforceable Through Title V Permit
13. Source testing shall be District witnessed, or authorized, and samples shall be collected by a California Air Resources Board certified testing laboratory. [District Rule 1081, Section 7.2] Federally Enforceable Through Title V Permit
14. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081, Sections 5.0, 6.0 and 7.1] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, Section 7.3] Federally Enforceable Through Title V Permit
16. The following test methods shall be used: NO_x - EPA Method 7E or 20 or CARB Method 100; CO - EPA Method 10 or 10B or CARB Method 100; ammonia - BAAQMD ST-1B; and O₂ - EPA Method 3, 3A, or 20, or CARB Method 100. Alternative test methods may also be used to satisfy the source testing requirements of this permit if approved by the District and EPA. [District Rules 1081 and 4703, and 40 CFR 60.335] Federally Enforceable Through Title V Permit
17. HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703 and 40 CFR 60.332(a),(b)] Federally Enforceable Through Title V Permit
18. The sulfur content of each fuel source shall either be: (i) documented in a valid purchase contract, a supplier certification, a tariff sheet or transportation contract, or (ii) monitored within 60 days of the end of the source test and weekly thereafter. If the sulfur content is demonstrated to be less than 1.0 gr/100 scf for eight consecutive weeks, then the monitoring frequency shall be every six months. If the result of any six-month monitoring demonstrates that the fuel does not meet the fuel sulfur content limit, weekly monitoring shall resume. [District Rule 2201 and 40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit
19. Fuel sulfur content shall be determined using the following methods: ASTM D 1072, D 3031, D 4084, or D 3246. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
20. The permittee shall monitor and record the stack concentration of NO_x and O₂ at least once per day with the in-stack monitoring system. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rules 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
21. The permittee shall perform NO_x and O₂ accuracy drift checks of the in-stack monitoring system at least once per day in accordance with the requirements of 40 CFR Part 60, Appendices B and F. [District Rules 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
22. During times when the in-stack monitoring system is down for maintenance or repairs, the permittee shall use a District approved portable analyzer to record daily NO_x and O₂ concentration readings. The permittee shall maintain records of the portable analyzer readings and include the date(s) and reasons the in-stack monitoring system was not operational. [District Rule 4703 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
23. The permittee shall monitor and record the stack concentration of CO and O₂ at least once per week with a District approved portable analyzer. If compliance with the CO emissions concentration is demonstrated for eight (8) consecutive weeks, then the monitoring frequency may be reduced to monthly. If excess emissions are observed during monthly monitoring, monitoring shall revert to weekly until 8 consecutive weeks show no excess emissions. 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 five (5) days of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last week if on a weekly monitoring schedule. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

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24. If the monitored NO_x concentrations, as measured by the in-stack monitoring system, or the monitored CO concentrations, as measured by the portable analyzer, exceed the permitted emission limits, the permittee shall return the NO_x or CO concentrations to the permitted emission limits as soon as possible but no longer than one (1) operating hour after detection. If the permittee's analyzer readings continue to exceed the permitted emissions limits after one (1) operating hour, the permittee shall notify the District within the following one (1) hour, and conduct a certified source test within 60 days to demonstrate compliance with the permitted emissions limits. In lieu of conducting a source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must 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 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
25. All in-stack monitoring system and portable analyzer emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 2201 and 4703, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
26. Compliance with the ammonia slip emission limit shall be demonstrated at least once per day, concurrently with the in-stack analyzer NO_x concentration readings, utilizing the following calculation: $(\text{ppmvd @ 15\% O}_2) = ((a - (b \times c / 1,000,000)) \times (1,000,000 / b)) \times d$, where a = ammonia injection rate (lb/hr) / (17 lb/lb mol), b = dry exhaust flow rate (lb/hr) / (29 lb/lb mol), c = change in measured NO_x concentration ppmvd @ 15% O₂ across the catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
27. The owner or operator shall operate and maintain in calibration a system which continuously measures and records: emissions control system operating parameters, elapsed time of operation of the gas turbine, and fuel consumption. [District Rule 4703 and 40 CFR 60.334(a)] Federally Enforceable Through Title V Permit
28. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64.7] Federally Enforceable Through Title V Permit
29. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR Part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64.8] Federally Enforceable Through Title V Permit
30. The permittee shall comply with the record keeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64.9] Federally Enforceable Through Title V Permit
31. The facility shall maintain the following records on a daily basis: the start time, stop time, length and reason for reduced load periods, and total hours of operation. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
32. The permittee shall maintain the following records: date and time, duration, and type of any startup, shutdown, or malfunction; performance testing, evaluations, calibrations, checks, adjustments, any period during which a continuous monitoring system or monitoring device was inoperative, and maintenance of any continuous emission monitor. [District Rules 2201 and 4703, and 40 CFR 60.8(d)] Federally Enforceable Through Title V Permit
33. The permittee shall maintain the following records: type and quantity of fuel used (scf/hr and scf/rolling twelve month period), continuous emission monitoring measurements, calculated ammonia slip (lb/hr or ppmvd @ 15% O₂), and calculated NO_x mass emission rates (lb/hr and lb/twelve month rolling period). [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit

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34. 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 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, (5) a description of any corrective action taken to maintain the emissions within the acceptable range, and (6) the calculated ammonia slip values and each parameter used to perform the calculation. [District Rule 4703 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
35. All records of required monitoring data and support information shall be maintained and retained on-site for a period of at least (5) five years and shall be made available for District inspection upon request. [District Rules 1070, 2201, and 4703] Federally Enforceable Through Title V Permit
36. Compliance with the conditions in the permit requirements for this unit shall be deemed compliance with District Rule 4201, Kings County Rule 404, District Rule 4801 and Kings County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, Section 13.2] Federally Enforceable Through Title V Permit

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