

JAN 10 2012

Robert Howard
PG & E - Kettleman Compressor Station
P O Box 7640
San Francisco, CA 93204

**Re: Notice of Final Action - Minor Title V Permit Modification
District Facility # C-904
Project # 1095260**

Dear Mr. Howard:

The Air Pollution Control Officer has modified the Title V permit for PG & E - Kettleman Compressor Station by incorporating Authorities to Construct (ATC's) C-904-27-5, '-28-5 and '-29-5. These ATC's authorized the modification of three 58.14 MMBtu/hr gas turbines driving natural gas pipeline compressors to install selective catalytic reduction (SCR) systems on each turbine for compliance with District Rule 4703.

Enclosed is the modified Title V permit. The application and proposal were sent to US EPA Region IX on October 5, 2011. 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. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Sincerely,



David Warner
Director of Permit Services

DW:ddb

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

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



JAN 10 2012

Gerardo C. Rios, Chief
Permits Office (AIR-3)
U.S. EPA - Region IX
75 Hawthorne St
San Francisco, CA 94105

**Re: Notice of Final Action - Minor Title V Permit Modification
District Facility # C-904
Project # 1095260**

Dear Mr. Rios:

The Air Pollution Control Officer has modified the Title V permit for PG & E - Kettleman Compressor Station by incorporating Authorities to Construct (ATC's) C-904-27-5, '-28-5 and '-29-5. These ATC's authorized the modification of three 58.14 MMBtu/hr gas turbines driving natural gas pipeline compressors to install selective catalytic reduction (SCR) systems on each turbine for compliance with District Rule 4703.

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-904-27-6

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, NOX AND O2 ANALYZERS, 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. Start-up shall be defined as the period of time during which a unit is brought from a shutdown status to the unit's emission control systems 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
4. During startup and shutdown, emissions from the gas turbine shall not exceed 171 ppmvd NOx @ 15% O2 or 0.6203 lb-NOx/MMBtu. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
5. 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 NOx (as NO2) @ 15% O2, 0.00280 lb SOx/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
6. 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-NOx/day, 3.9 lb-SOx/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
7. Total duration of startup and shutdown shall not exceed two hours per day. During startup, the emissions control system shall be in operations and emissions shall be minimized insofar as technologically feasible. [District Rules 2201, and 4703] Federally Enforceable Through Title V Permit
8. Emissions shall not exceed either of the following NSPS Subpart GG limits (one hour standard): 171 ppmvd NOx (as NO2) @ 15% O2, or 150 ppmvd SOx (as SO2) @ 15% O2. [40 CFR 60.332 and 60.333] Federally Enforceable Through Title V Permit
9. 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
10. Source testing to determine compliance with the NOx, 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. [District Rule 4703 and 40 CFR 60.335(b)] Federally Enforceable Through Title V Permit
11. Source testing shall be by District witnessed, or authorized, sample collection by a CARB certified testing laboratory. [District Rule 1081, Section 7.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. 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
13. 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
14. 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
15. NOx emissions (ppmv) shall be determined by EPA Methods 7E or 20, or CARB Method 100. [District Rule 4703 and 40 CFR 60.335(b)] Federally Enforceable Through Title V Permit
16. CO emissions (ppmv) shall be determined by EPA Methods 10 or 10B, or CARB Method 100. [District Rule 4703 and 40 CFR 60.335(b)] Federally Enforceable Through Title V Permit
17. Oxygen content of exhaust gas shall be determined by EPA Methods 3, 3A or 20, or CARB Method 100. [District Rule 4703 and 40 CFR 60.335(b)] Federally Enforceable Through Title V Permit
18. Source testing for ammonia slip shall be conducted utilizing BAAQMD Method ST-1B. [District Rule 1081] Federally Enforceable Through Title V Permit
19. PM10 emissions shall be determined by EPA Methods 201A and 202 when PM10 is required by the District. Alternate test methods that are more suitable for the exhaust stack temperature may be used if such methods are approved by the District [District Rule 2201] Federally Enforceable Through Title V Permit
20. Demonstrated percent efficiency shall be determined using the procedures contained in District Rule 4703, Section 6.4.6. [District Rule 4703, Section 6.4.6] Federally Enforceable Through Title V Permit
21. Unit shall be fired exclusively on PUC-quality natural gas, with a maximum sulfur content of 1.0 gr/100 scf. [District Rules 2201, 4801 and 40 CFR 60.333] Federally Enforceable Through Title V Permit
22. 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
23. 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
24. 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
25. Compliance with the ammonia emission limits shall be demonstrated utilizing one of the following procedures: 1) calculate the daily ammonia emissions using the following equation: $(\text{ppmvd @ 15\% O}_2) = ((a - (b \times c / 1,000,000)) \times (1,000,000 / b)) \times d$, 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; 2.) Utilize another District-approved calculation method using measured surrogate parameters to determine the daily ammonia emissions in ppmvd @ 15% O2. If this option is chosen, the permittee shall submit a detailed calculation protocol for District approval at least 60 days prior to commencement of operation; 3.) Alternatively, the permittee may utilize a continuous in-stack ammonia monitor to verify compliance with the ammonia emissions limit. If this option is chosen, the permittee shall submit a monitoring plan for District approval at least 60 days prior to commencement of operation. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

26. The permittee shall monitor and record the stack concentration of NO_x (as NO₂), CO, ammonia (NH₃), and O₂ weekly. If compliance with the NO_x emissions is demonstrated for eight (8) consecutive weeks, then the monitoring frequency will be reduced to monthly. If deviations are observed in two consecutive months, monitoring shall revert to weekly until 8 consecutive weeks show no deviations. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. NO_x, CO and O₂ monitoring shall be conducted utilizing a portable analyzer that meets District specifications. Ammonia monitoring shall be conducted utilizing Draeger tubes or a District approved equivalent method. Monitoring shall be performed within one (1) day of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the week if on a weekly monitoring schedule. [District Rules 2201 and 4703] 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, the fuel consumption, and the exhaust gas NO_x and O₂ concentrations. [District Rule 4703 and 40 CFR 60.334(a)] Federally Enforceable Through Title V Permit
28. The permittee shall maintain the following records: fuel consumption (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). The calculations used to determine ammonia slip and the NO_x mass emission rates shall be derived during the initial source test. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
29. 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 1080, 2201, and 4703 and 40 CFR 60.8(d)] Federally Enforceable Through Title V Permit
30. 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
31. 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-904-28-6

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, NOX AND O2 ANALYZERS, 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. Start-up shall be defined as the period of time during which a unit is brought from a shutdown status to the unit's emission control systems 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
4. During startup and shutdown, emissions from the gas turbine shall not exceed 171 ppmvd NOx @ 15% O2 or 0.6203 lb-NOx/MMBtu. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
5. 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 NOx (as NO2) @ 15% O2, 0.00280 lb SOx/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
6. 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-NOx/day, 3.9 lb-SOx/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
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8. Emissions shall not exceed either of the following NSPS Subpart GG limits (one hour standard): 171 ppmvd NOx (as NO2) @ 15% O2, or 150 ppmvd SOx (as SO2) @ 15% O2. [40 CFR 60.332 and 60.333] Federally Enforceable Through Title V Permit
9. 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
10. Source testing to determine compliance with the NOx, 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. [District Rule 4703 and 40 CFR 60.335(b)] Federally Enforceable Through Title V Permit
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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-904-29-6

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, NOX AND O2 ANALYZERS, DRIVING A NATURAL GAS PIPELINE COMPRESSOR

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22. 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
23. 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
24. 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
25. Compliance with the ammonia emission limits shall be demonstrated utilizing one of the following procedures: 1) calculate the daily ammonia emissions using the following equation: $(\text{ppmvd @ 15\% O}_2) = ((a - (b \times c / 1,000,000)) \times (1,000,000 / b)) \times d$, 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; 2.) Utilize another District-approved calculation method using measured surrogate parameters to determine the daily ammonia emissions in ppmvd @ 15% O2. If this option is chosen, the permittee shall submit a detailed calculation protocol for District approval at least 60 days prior to commencement of operation; 3.) Alternatively, the permittee may utilize a continuous in-stack ammonia monitor to verify compliance with the ammonia emissions limit. If this option is chosen, the permittee shall submit a monitoring plan for District approval at least 60 days prior to commencement of operation. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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26. The permittee shall monitor and record the stack concentration of NO_x (as NO₂), CO, ammonia (NH₃), and O₂ weekly. If compliance with the NO_x emissions is demonstrated for eight (8) consecutive weeks, then the monitoring frequency will be reduced to monthly. If deviations are observed in two consecutive months, monitoring shall revert to weekly until 8 consecutive weeks show no deviations. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. NO_x, CO and O₂ monitoring shall be conducted utilizing a portable analyzer that meets District specifications. Ammonia monitoring shall be conducted utilizing Draeger tubes or a District approved equivalent method. Monitoring shall be performed within one (1) day of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the week if on a weekly monitoring schedule. [District Rules 2201 and 4703] 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, the fuel consumption, and the exhaust gas NO_x and O₂ concentrations. [District Rule 4703 and 40 CFR 60.334(a)] Federally Enforceable Through Title V Permit
28. The permittee shall maintain the following records: fuel consumption (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). The calculations used to determine ammonia slip and the NO_x mass emission rates shall be derived during the initial source test. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
29. 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 1080, 2201, and 4703 and 40 CFR 60.8(d)] Federally Enforceable Through Title V Permit
30. 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
31. 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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